Sewer Acct.#: **1011728100**

Company: **SPECGX LLC**

Address: **3600 N 2nd St**

City: **St. Louis**

State and Zip: **MO 63147**

Industry ID	File Code	File Description
35331	31	INDUSTRY OVERFLOW

ACCOUNT NUMBER: **10117281-00**

COMPANY NAME: **SPECGX LLC**

CORRESPONDENCE

FROM 12-28-15 THRU 04-21-17

X	CORRESPONDANCE LOCATED IN OVERFLOW INDUSTRY FILE

Mallinckrodt
Pharmaceuticals

SR
4/21

April 19th, 2017

Mr. Doug Mendoza
Metropolitan St. Louis Sewer District
Department of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147

Re: 2017 1st Quarter Self-Monitoring Report for Permit No. 1011728100-2

Dear Mr. Mendoza,

Please find enclosed the 2017 1st Quarter Self-Monitoring report for Mallinckrodt LLC.

The following sample points received no pharmaceutical process water flow during the second quarter: SP008, SP011, SP080, SP920, SP930, and SP933. The lab encountered interference with the Cyanide Amenable to Chlorination method for SP010 and provided a total Cyanide result of <0.005 mg/L, which is well below the permit limit of 1.2 mg/L. This result is noted for reference.

If you have any questions or require more detailed information, please contact me at 314-654-0138 or via email at jonathan.eckles@mallinckrodt.com.

Sincerely,

Jonathan Eckles
Environmental Manager

ENCLOSURES

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MALLINCKRODT
3600 NORTH SECOND STREET
ST. LOUIS, MO 63147

TELEPHONE: 314-654-2000
FAX: 314-654-1251

METROPOLITAN ST LOUIS SEWER DISTRICT
INDUSTRIAL USER RADIOACTIVE MATERIALS DISCHARGE REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **MALLINCKRODT LLC**

Permit No: 1011728100-2

Premise Address: 3600 North Second Street, St. Louis, MO 63147

Reporting Period: ☒ JAN-MAR ☐ APR-JUN ☐ JUL-SEP ☐ OCT-DEC

PART II: RECORD OF DISPOSAL OF RADIOACTIVE MATERIALS TO THE SEWER SYSTEM

RADIONUCLIDE	ACTIVITY DISCHARGED (millicuries)
TOTAL ACTIVITY DISCHARGED:	**No activity recorded this period.**

PART III: CERTIFICATION STATEMENTS

Place your initials in the box under item A.

Everyone must complete the information under items A & B and sign this report.

A. CERTIFICATION OF COMPLIANCE WITH STATE AND FEDERAL REGULATIONS

☑ I certify that to the best of my knowledge & belief, all requirements of 10 CFR Part 20.2003 and 19 CSR Part 20-10.090 governing disposal by release into sanitary sewage for material regulated by the Nuclear Regulatory Commission and the Missouri Department of Health, respectively, have been met for the period covered by this report.

B. RADIOACTIVE MATERIALS DISCHARGE REPORT CERTIFICATION

I certify under penalty of Law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

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Print/type name of signing official: John Leonard

Title: Senior Site Director

Telephone: 314-654-1879

Signature: John Leonard

Date: 4/19/2017

PART III: SPECIAL CERTIFICATION STATEMENTS

Based on the special conditions contained in your discharge permit you may be required to certify the following. Please review your permit and **PLACE YOUR INITIALS ON THE LINES NEXT TO THE CERTIFICATIONS**.

A	NO CHANGE IN WASTEWATER DISCHARGE AT SAMPLE POINTS WITH NO MONITORING REQUIRED
	For permit special conditions that waive monitoring at any sample point(s) specified in your permit, you are required to make the following certification for each report in which monitoring is waived: __JL__ I certify, since the last discharge monitoring report, there has been no change in the character of the wastes discharged at sample points **001 and 002 and 930**. __JL__ I certify, since the last discharge monitoring report, there has been no discharge from sample points **008 and 011**.
B	NO CHANGE IN WASTEWATER DISCHARGE AT ACTIVE CONNECTIONS WITHOUT SAMPLE POINTS
	For permit special conditions that waive monitoring at active connection points which are not specified as sample points in your permit, you are required to make the following certification: __JL__ I certify, since the last discharge monitoring report, there has been no change in the character of wastes discharged at those active connection points which are not specified in my permit.
E	NO DISCHARGE OF CATEGORICAL WASTE
	For permit special conditions that prohibit discharge of wastes which are subject to certain categorical pretreatment standards, you are required to make the following certification: __JL__ I certify, since the last discharge monitoring report, there has been no discharge of wastes which are subject to pretreatment standards in 40 CFR 414 (except for those wastes conveyed by Sample Point **905**).
F	CYANIDE NOT USED OR GENERATED IN 40 CFR 439 OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from limitations and monitoring for Total Cyanide at the Pharmaceutical sample points **080, 915, and 936,** subject to the following certification: __JL__ I certify, since the last discharge monitoring report, cyanide has not been used or generated in any pharmaceutical manufacturing process subject to Categorical Standards in 40 CFR 439.
H	CATEGORICAL POLLUTANTS NOT USED OR GENERATED IN CATEGORICAL OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from monitoring for certain 40 CFR 439-regulated pollutants at the Pharmaceutical sample points **915 and 936,** subject to the following certification: __JL__ I certify, since the last discharge monitoring report, the 40 CFR 439-regulated pollutants, as determined in permittee's report dated March 17, 2015, have not been used or generated in any pharmaceutical manufacturing process subject to Categorical Standards in 40 CFR 439. In addition, the above-referenced report remains valid.
I	SURROGATE MONITORING ALLOWED FOR 40 CFR 439 OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from monitoring for certain 40 CFR 439-regulated pollutants, and replaced by monitoring for surrogate pollutant(s), at the Pharmaceutical sample points **920 and 937** subject to the following certification: __JL__ I certify, since the last discharge monitoring report, the 40 CFR 439-regulated pollutants, as determined in permittee's report dated March 17, 2015, continue to receive the same degree of treatment as the surrogate pollutant(s). In addition, the above-referenced report remains valid.

PART IV: GENERAL CERTIFICATION STATEMENTS

B	DISCHARGE MONITORING REPORT CERTIFICATION
	All permittees must sign and complete the information below: I certify under penalty of Law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Print or type name of signing official: John Leonard Title: Senior Site Director Telephone: 314-654-1879 RECEIVED Signature: John Leonard Date: 4/19/17 APR 21 2017

DIVISION OF ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: Teklab

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**001**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	1,000					gal/day
NO MONITORING REQUIRED (Sanitary Only)								
There have been no change in the character of the wastes discharged since the last report.								

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ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) __(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: Teklab

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**002**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	2,200					gal/day
NO MONITORING REQUIRED (Sanitary Only)								
There have been no change in the character of the wastes discharged since the last report.								

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

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Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS ----->			003		009		099	
DATES ON WHICH SAMPLES WERE COLLECTED ----->			1/18/2017		1/18/2017		Calculated	
TIMES AT WHICH SAMPLES WERE COLLECTED ----->			Grab: 1:35; Comp Start: 1:25; End:1:25		Grab: 2:20; Comp Start: 1:45; Stop: 1:45		N/A	
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	20,327	E	7,700	E	12,627	gal/day
Oil & Grease	200	G	23	G	25	E	22	mg/l
Biochemical Oxygen Demand[1]	****	C	56	C	98	E	30	mg/l
Chemical Oxygen Demand	****	C	167	C	248	E	118	mg/l
Total Suspended Solids	****	C	15	C	27	E	8	mg/l
Temperature	60	G	18.8	G	16.1	E	17.5	deg C
pH	5.5-11.5	G	9.0	G	8.2	E	8.6	S.U.
**** No limits for SP003 or SP009; monitoring requirement only for calculation at SP099								
Shaded values represent detection limits								
Lab Dilution Factor			1		1		N/A	

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METROPOLITAN ST. LOUIS SEWER DISTRICT
2013 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-1.1 Effective Date: 07-01-2013 Expiration Date: 05-31-2015

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ____(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS				----->		003		009		099	
DATES ON WHICH SAMPLES WERE COLLECTED				----->		1/18/2017		1/18/2017		calculated	
TIMES AT WHICH SAMPLES WERE COLLECTED				----->		Grab: 1:35; Comp Start: 1:25; End:1:25		Grab: 2:20; Comp Start: 1:45; Stop: 1:45			
PARAMETER				LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated fl						UNITS
FLOW				****	E	20,327	E	7,700		12,627	gal/day
1,1,1-Trichloroethane				****	G	<0.005	G	<0.005		0.005	mg/l
1,1,2,2-Tetrachloroethane				****	G	<0.005	G	<0.005		0.005	mg/l
1,1,2-Trichloroethane				****	G	<0.005	G	<0.005		0.005	mg/l
1,1-Dichloroethane				****	G	<0.005	G	<0.005		0.005	mg/l
1,1-Dichloroethene				****	G	<0.005	G	<0.005		0.005	mg/l
1,2-Dichlorobenzene				****	G	<0.005	G	<0.005		0.005	mg/l
1,2-Dichloroethane				****	G	<0.005	G	<0.005		0.005	mg/l
1,2-Dichloropropane				****	G	<0.005	G	<0.005		0.005	mg/l
1,3-Dichlorobenzene				****	G	<0.005	G	<0.005		0.005	mg/l
1,4-Dichlorobenzene				****	G	<0.005	G	<0.005		0.005	mg/l
2-Chloroethylvinylether				****	G	<0.02	G	<0.02		0.020	mg/l
Acrolein				****	G	<0.1	G	<0.1		0.100	mg/l
Acrylonitrile				****	G	<0.005	G	<0.005		0.005	mg/l
Benzene				****	G	<0.002	G	<0.002		0.002	mg/l
Bromodichloromethane				****	G	<0.005	G	<0.005		0.005	mg/l
Bromoform				****	G	<0.005	G	<0.005		0.005	mg/l
Bromomethane				****	G	<0.01	G	<0.01		0.010	mg/l
Carbon Tetrachloride				****	G	<0.005	G	<0.005		0.005	mg/l
Chlorobenzene				****	G	<0.005	G	<0.005		0.005	mg/l
Chloroethane				****	G	<0.01	G	<0.01		0.010	mg/l
Chloroform				****	G	<0.005	G	<0.005		0.005	mg/l
Chloromethane				****	G	<0.01	G	<0.01		0.010	mg/l
cis-1,3-Dicholropropene				****	G	<0.005	G	<0.005		0.005	mg/l
Dibromochloromethane				****	G	<0.005	G	<0.005		0.005	mg/l
Ethylbenzene				****	G	<0.005	G	<0.005		0.005	mg/l
Methylene Chloride				****	G	<0.005	G	<0.005		0.005	mg/l
Tetrachloroethene				****	G	<0.005	G	<0.005		0.005	mg/l
Toluene				****	G	<0.005	G	<0.005		0.005	mg/l
1,2-Dichloroethene				****	G	<0.005	G	<0.005		0.005	mg/l
trans-1,3-Dichloropropene				****	G	<0.005	G	<0.005		0.005	mg/l
Trichloroethene				****	G	<0.005	G	<0.005		0.005	mg/l
Vinyl Chloride				****	G	<0.002	G	<0.002		0.002	mg/l
Xylenes				****	G	<0.005		<0.005			

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METROPOLITAN ST. LOUIS SEWER DISTRICT
2013 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-1.1 Effective Date: 07-01-2013 Expiration Date: 05-31-2015

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ____(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS ----->			003		009		099	
DATES ON WHICH SAMPLES WERE COLLECTED ----->			1/18/2017		1/18/2017		calculated	
TIMES AT WHICH SAMPLES WERE COLLECTED ----->			Grab: 1:35; Comp Start: 1:25; End:1:25		Grab: 2:20; Comp Start: 1:45; Stop: 1:45			
PARAMETER	LIMIT		RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW G=grab,C=composite,M=measured flow,E=estimated fl					UNITS
FLOW	****	E	20,327	E	7,700		12,627	gal/day
1,2,4-Trichlorobenzene	****	C	<0.010	C	<0.010		0.010	mg/l
2,4,6-Trichlorophenol	****	C	<0.010	C	<0.010		0.010	mg/l
2,4-Dichlorophenol	****	C	<0.010	C	<0.010		0.010	mg/l
2,4-Dimethylphenol	****	C	<0.010	C	<0.010		0.010	mg/l
2,4-Dinitrophenol	****	C	<0.020	C	<0.020		0*	mg/l
2,4-Dinitrotoluene	****	C	<0.010	C	<0.010		0.010	mg/l
2,6-Dinitrotoluene	****	C	<0.010	C	<0.010		0.010	mg/l
2-Chloronapthalene	****	C	<0.010	C	<0.010		0.010	mg/l
2-Chlorophenol	****	C	<0.010	C	<0.010		0.010	mg/l
2-Nitrophenol	****	C	<0.020	C	<0.020		0*	mg/l
3,3-Dichlorobenzidine	****	C	<0.010	C	<0.010		0.010	mg/l
2-Methyl-4,6-dinitrophenol	****	C	<0.020	C	<0.020		0*	mg/l
4-Bromophenyl-phenylether	****	C	<0.010	C	<0.010		0.010	mg/l
4-Chloro-3-methylphenol	****	C	<0.020	C	<0.020		0*	mg/l
4-Chlorophenyl-phenylether	****	C	<0.010	C	<0.010		0.010	mg/l
4-Nitrophenol	****	C	<0.020	C	<0.020		0*	mg/l
Acenapthene	****	C	<0.010	C	<0.010		0.010	mg/l
Acenaphthylene	****	C	<0.010	C	<0.010		0.010	mg/l
Anthracene	****	C	<0.010	C	<0.010		0.010	mg/l
Benzidine	****	C	<0.040	C	<0.040		0.040	mg/l
Benzo(a)anthracene	****	C	<0.010	C	<0.010		0.010	mg/l
Benzo(a)pyrene	****	C	<0.010	C	<0.010		0.010	mg/l
Benzo(b)fluoranthene	****	C	<0.010	C	<0.010		0.010	mg/l
Benzo(g,h,i)perylene	****	C	<0.010	C	<0.010		0.010	mg/l
Benzo(k)fluoranthene	****	C	<0.010	C	<0.010		0.010	mg/l
Bis(2-chloroethoxy)methane	****	C	<0.010	C	<0.010		0.010	mg/l
Bis(2-chloroethyl)ether	****	C	<0.010	C	<0.010		0.010	mg/l
Bis(2-chloroisopropyl)ether	****	C	<0.010	C	<0.010		0.010	mg/l
Bis(2-ethylhexyl)phthalate	****	C	<0.006	C	0.008		0.005	mg/l
Butyl benzyl phthalate	****	C	<0.010	C	<0.010		0.010	mg/l
Chrysene	****	C	<0.010	C	<0.010		0.010	mg/l
Dibenzo(a,h)anthracene	****	C	<0.010	C	<0.010		0.010	mg/l
Diethyl phthalate	****	C	<0.010	C	<0.010		0.010	mg/l
Dimethyl phthalate	****	C	<0.010	C	<0.010		0.010	mg/l
Di-n-butyl phthalate	****	C	<0.010	C	<0.010		0.010	mg/l
Di-n-octyl-phthalate	****	C	<0.010	C	<0.010		0.010	mg/l
Fluorene	****	C	<0.010	C	<0.010		0.010	mg/l
Fluoranthene	****	C	<0.010	C	<0.010		0.010	mg/l
Hexachlorobenzene	****	C	<0.010	C	<0.010		0.010	mg/l
Hexachlorobutadiene	****	C	<0.010	C	<0.010		0.010	mg/l
Hexachlorocyclopentadiene	****	C	<0.020	C	<0.020		0.020	mg/l
Hexachloroethane	****	C	<0.010	C	<0.010		0.010	mg/l
Ideno(1,2,3-cd)pyrene	****	C	<0.010	C	<0.010		0.010	mg/l
Isophorone	****	C	<0.010	C	<0.010		0.010	mg/l
Naphthalene	****	C	<0.010	C	<0.010		0.010	mg/l
Nitrobenzene	****	C	<0.010	C	<0.010		0.010	mg/l
N-nitrosodimethylamine	****	C	<0.020	C	<0.020		0.020	mg/l
N-nitrosodi-n-propylamine	****	C	<0.010	C	<0.010		0.010	mg/l
N-nitrosodiphenylamine	****	C	<0.010	C	<0.010		0.010	mg/l
Pentachlorophenol	****	C	<0.020	C	<0.020		0.020	mg/l
Phenanthrene	****	C	<0.010	C	<0.010		0.010	mg/l
Phenol	****	C	<0.005	C	<0.005		0.005	mg/l
Pyrene	****	C	<0.010	C	<0.010		0.010	mg/l
1,2-Diphenylhydrazine	****	C	<0.010	C	<0.010		0.010	mg/l
* If calculated number was negative, it was reported as 0.								
Total Toxic Organics	5.844	--	0.835	--	0.000	--	0.814	mg/l
**** No limits for SP003 or SP009;								
monitoring requirement only for calculation at SP099								
Lab Dilution Factor			1		1 (G), 5 (C)		NA	

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**005**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		2/23/2017					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 2:10; Comp Start: 2:40; End: 2:20					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	1,000					gal/day
Oil & Grease	200	G	9					mg/l
Biochemical Oxygen Demand[1]	****	C	18					mg/l
Chemical Oxygen Demand	****	C	50					mg/l
Total Suspended Solids	****	C	6					mg/l
Temperature	60	G	20.5					deg C
pH	5.5 - 11.5	G	7.2					S.U.
**** No limits for SP005								
Shaded values represent detection limits								
Lab Dilution Factor			1					

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
2013 INDUSTRIAL USER SELF MONITORING REPORT

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Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		005					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		2/23/2017					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 2:10; Comp Start: 2:40; End: 2:20					
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	1,000					gal/day
1,1,1-Trichloroethane		G	<0.005					mg/l
1,1,2,2-Tetrachloroethane		G	<0.005					mg/l
1,1,2-Trichloroethane		G	<0.005					mg/l
1,1-Dichloroethane		G	<0.005					mg/l
1,1-Dichloroethene		G	<0.005					mg/l
1,2-Dichlorobenzene		G	<0.005					mg/l
1,2-Dichloroethane		G	<0.005					mg/l
1,2-Dichloropropane		G	<0.005					mg/l
1,3-Dichlorobenzene		G	<0.005					mg/l
1,4-Dichlorobenzene		G	<0.005					mg/l
2-Chloroethylvinylether		G	<0.02					mg/l
Acrolein		G	<0.1					mg/l
Acrylonitrile		G	<0.005					mg/l
Benzene		G	<0.002					mg/l
Bromodichloromethane		G	<0.005					mg/l
Bromoform		G	<0.005					mg/l
Bromomethane		G	<0.01					mg/l
Carbon Tetrachloride		G	<0.005					mg/l
Chlorobenzene		G	<0.005					mg/l
Chloroethane		G	<0.01					mg/l
Chloroform		G	<0.005					mg/l
Chloromethane		G	<0.01					mg/l
cis-1,3-Dicholropropene		G	<0.005					mg/l
Dibromochloromethane		G	<0.005					mg/l
Ethylbenzene		G	<0.005					mg/l
Methylene Chloride		G	<0.005					mg/l
Tetrachloroethene		G	<0.005					mg/l
Toluene		G	<0.005					mg/l
trans-1,2-Dichloroethene		G	<0.005					mg/l
trans-1,3-Dichloropropene		G	<0.005					mg/l
Trichloroethene		G	<0.005					mg/l
Vinyl Chloride		G	<0.002					mg/l
Xylenes		G	<0.005					

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APR 21 2017
DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
2013 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-1.1 Effective Date: 07-01-2013 Expiration Date: 05-31-2015

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	---->		005					
DATES ON WHICH SAMPLES WERE COLLECTED	---->		2/23/2017					
TIMES AT WHICH SAMPLES WERE COLLECTED	---->		Grab: 2:10; Comp Start: 2:40; End: 2:20					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated fl						UNITS
FLOW		E	1,000					gal/day
1,2,4-Trichlorobenzene		C	<0.008					mg/l
2,4,6-Trichlorophenol		C	<0.008					mg/l
2,4-Dichlorophenol		C	<0.008					mg/l
2,4-Dimethylphenol		C	<0.008					mg/l
2,4-Dinitrophenol		C	<0.017					mg/l
2,4-Dinitrotoluene		C	<0.008					mg/l
2,6-Dinitrotoluene		C	<0.008					mg/l
2-Chloronapthalene		C	<0.008					mg/l
2-Chlorophenol		C	<0.008					mg/l
2-Nitrophenol		C	<0.017					mg/l
3,3-Dichlorobenzidine		C	<0.008					mg/l
2-Methyl-4,6-dinitrophenol		C	<0.017					mg/l
4-Bromophenyl-phenylether		C	<0.008					mg/l
4-Chloro-3-methylphenol		C	<0.017					mg/l
4-Chlorophenyl-phenylether		C	<0.008					mg/l
4-Nitrophenol		C	<0.017					mg/l
Acenapthene		C	<0.008					mg/l
Acenaphthylene		C	<0.008					mg/l
Anthracene		C	<0.008					mg/l
Benzidine		C	<0.033					mg/l
Benzo(a)anthracene		C	<0.008					mg/l
Benzo(a)pyrene		C	<0.008					mg/l
Benzo(b)fluoranthene		C	<0.008					mg/l
Benzo(g,h,i)perylene		C	<0.008					mg/l
Benzo(k)fluoranthene		C	<0.008					mg/l
Bis(2-chloroethoxy)methane		C	<0.008					mg/l
Bis(2-chloroethyl)ether		C	<0.008					mg/l
Bis(2-chloroisopropyl)ether		C	<0.008					mg/l
Bis(2-ethylhexyl)phthalate		C	0.015					mg/l
Butyl benzyl phthalate		C	<0.008					mg/l
Chrysene		C	<0.008					mg/l
Dibenzo(a,h)anthracene		C	<0.008					mg/l
Diethyl phthalate		C	<0.008					mg/l
Dimethyl phthalate		C	<0.008					mg/l
Di-n-butyl phthalate		C	<0.008					mg/l
Di-n-octyl-phthalate		C	<0.008					mg/l
Fluoranthene		C	<0.008					mg/l
Fluorene		C	<0.008					mg/l
Hexachlorobenzene		C	<0.008					mg/l
Hexachlorobutadiene		C	<0.008					mg/l
Hexachlorocyclopentadiene		C	<0.017					mg/l
Hexachloroethane		C	<0.008					mg/l
Ideno(1,2,3-cd)pyrene		C	<0.008					mg/l
Isophorone		C	<0.008					mg/l
Naphthalene		C	<0.008					mg/l
Nitrobenzene		C	<0.008					mg/l
N-nitrosodimethylamine		C	<0.017					mg/l
N-nitrosodi-n-propylamine		C	<0.008					mg/l
N-nitrosodiphenylamine		C	<0.008					mg/l
Pentachlorophenol		C	<0.017					mg/l
Phenanthrene		C	<0.008					mg/l
Phenol		C	<0.004					mg/l
Pyrene		C	<0.008					mg/l
1,2-Diphenylhydrazine		C	<0.008					mg/l
Total Toxic Organics	5.844	--	0					mg/l
Lab Dilution Factor			1					

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**008**						
DATES ON WHICH SAMPLES WERE COLLECTED	----->		N/A						
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		N/A						
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW		E	*						gal/day
Oil & Grease	200	G	*						mg/l
Biochemical Oxygen Demand[1]	****	G	*						mg/l
Chemical Oxygen Demand	****	G	*						mg/l
Temperature	60	G	*						deg C
Total Suspended Solids	****	G	*						mg/L
pH	5.5 - 11.5	G	*						S.U.
***No flow for SP008 in 1st QTR 2017**									
Lab Dilution Factor									

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: __X__(JAN-MAR) ____(APR-JUNE) ____(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->	008						
DATES ON WHICH SAMPLES WERE COLLECTED	----->	N/A						
TIMES AT WHICH SAMPLES WERE COLLECTED	----->	N/A						
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	*					gal/day
1,1,1-Trichloroethane		G	*					mg/l
1,1,2,2-Tetrachloroethane		G	*					mg/l
1,1,2-Trichloroethane		G	*					mg/l
1,1-Dichloroethane		G	*					mg/l
1,1-Dichloroethene		G	*					mg/l
1,2-Dichlorobenzene		G	*					mg/l
1,2-Dichloroethane		G	*					mg/l
1,2-Dichloropropane		G	*					mg/l
1,3-Dichlorobenzene		G	*					mg/l
1,4-Dichlorobenzene		G	*					mg/l
2-Chloroethylvinylether		G	*					mg/l
Acrolein		G	*					mg/l
Acrylonitrile		G	*					mg/l
Benzene		G	*					mg/l
Bromodichloromethane		G	*					mg/l
Bromoform		G	*					mg/l
Bromomethane		G	*					mg/l
Carbon Tetrachloride		G	*					mg/l
Chlorobenzene		G	*					mg/l
Chloroethane		G	*					mg/l
Chloroform		G	*					mg/l
Chloromethane		G	*					mg/l
cis-1,3-Dichloropropene		G	*					mg/l
Dibromochloromethane		G	*					mg/l
Ethylbenzene		G	*					mg/l
Methylene Chloride		G	*					mg/l
Tetrachloroethene		G	*					mg/l
Toluene		G	*					mg/l
1,2-Dichloroethene		G	*					mg/l
trans-1,3-Dichloropropene		G	*					mg/l
Trichloroethene		G	*					mg/l
Vinyl Chloride		G	*					mg/l
1,2,4-Trichlorobenzene		G	*					mg/l
2,4,6-Trichlorophenol		G	*					mg/l
2,4-Dichlorophenol		G	*					mg/l
2,4-Dimethylphenol		G	*					mg/l
2,4-Dinitrophenol		G	*					mg/l
2,4-Dinitrotoluene		G	*					mg/l
2,6-Dinitrotoluene		G	*					mg/l
2-Chloronapthalene		G	*					mg/l
2-Chlorophenol		G	*					mg/l
2-Nitrophenol		G	*					mg/l
3,3-Dichlorobenzidine		G	*					mg/l
2-Methyl-4,6-dinitrophenol		G	*					mg/l
4-Bromophenyl-phenylether		G	*					mg/l
4-Chloro-3-methylphenol		G	*					mg/l
4-Chlorophenyl-phenylether		G	*					mg/l
4-Nitrophenol		G	*					mg/l

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

MSD 014204

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**008**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		N/A					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		N/A					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	*					gal/day
Acenapthene		G	*					mg/l
Acenaphthylene		G	*					mg/l
Anthracene		G	*					mg/l
Benzidine		G	*					mg/l
Benzo(a)anthracene		G	*					mg/l
Benzo(a)pyrene		G	*					mg/l
Benzo(b)fluoranthene		G	*					mg/l
Benzo(g,h,i)perylene		G	*					mg/l
Benzo(k)fluoranthene		G	*					mg/l
Bis(2-chloroethoxy)methane		G	*					mg/l
Bis(2-chloroethyl)ether		G	*					mg/l
Bis(2-chloroisopropyl)ether		G	*					mg/l
Bis(2-ethylhexyl)phthalate		G	*					mg/l
Butyl benzyl phthalate		G	*					mg/l
Chrysene		G	*					mg/l
Dibenzo(a,h)anthracene		G	*					mg/l
Diethyl phthalate		G	*					mg/l
Dimethyl phthalate		G	*					mg/l
Di-n-butyl phthalate		G	*					mg/l
Di-n-octyl-phthalate		G	*					mg/l
Fluorene		G	*					mg/l
Fluoranthene		G	*					mg/l
Hexachlorobenzene		G	*					mg/l
Hexachlorobutadiene		G	*					mg/l
Hexachlorocyclopentadiene		G	*					mg/l
Hexachloroethane		G	*					mg/l
Ideno(1,2,3-cd)pyrene		G	*					mg/l
Isophorone		G	*					mg/l
Naphthalene		G	*					mg/l
Nitrobenzene		G	*					mg/l
N-nitrosodimethylamine		G	*					mg/l
N-nitrosodi-n-propylamine		G	*					mg/l
N-nitrosodiphenylamine		G	*					mg/l
Pentachlorophenol		G	*					mg/l
Phenanthrene		G	*					mg/l
Phenol		G	*					mg/l
Pyrene		G	*					mg/l
1,2-Diphenylhydrazine		G	*					mg/l
Total Toxic Organics	5.844	--	*					mg/l
Lab Dilution Factor								
***There were no overflow events in Qtr 1.**								

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

MSD 014205

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: _X_(JAN-MAR) ___(APR-JUNE) __JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**010**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		1/18/2017					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 2:40; Comp Start: 2:05; End: 2:05					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	1,197,295					gal/day
Oil & Grease	200	G	<6					mg/l
Biochemical Oxygen Demand[1]	****	C	495					mg/l
Chemical Oxygen Demand	****	C	998					mg/l
Total Suspended Solids	****	C	20					mg/l
Temperature	60	G	21.1					deg C
pH	5.5 - 11.5	G	8.3					S.U.
Chromium	5.0	C	<0.0050					mg/l
Copper	2.7	C	0.0081					mg/l
Nickel	2.3	C	0.0121					mg/l
Zinc	3.0	C	<0.0100					mg/l
Cyanide **	1.2	G	<0.005					mg/l
Shaded values represent detection limits								
** Total Cyanide result. Interference prevented analysis of Cyanide Amenable to Chlorination								
Lab Dilution Factor			1,5,1,1,1,1,1,1,1					

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ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
2013 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-1.1 Effective Date: 07-01-2013 Expiration Date: 05-31-2015

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		010					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		1/18/2017					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 2:40; Comp Start: 2:05; End: 2:05					
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW osite,M=measured flow,E=estimated flow						UNITS
FLOW		E	1,197,295	E		E		gal/day
1,1,1-Trichloroethane		G	<0.005	G		G		mg/l
1,1,2,2-Tetrachloroethane		G	<0.005	G		G		mg/l
1,1,2-Trichloroethane		G	<0.005	G		G		mg/l
1,1-Dichloroethane		G	<0.005	G		G		mg/l
1,1-Dichloroethene		G	<0.005	G		G		mg/l
1,2-Dichlorobenzene		G	<0.005	G		G		mg/l
1,2-Dichloroethane		G	<0.005	G		G		mg/l
1,2-Dichloropropane		G	<0.005	G		G		mg/l
1,3-Dichlorobenzene		G	<0.005	G		G		mg/l
1,4-Dichlorobenzene		G	<0.005	G		G		mg/l
2-Chloroethylvinylether		G	<0.02	G		G		mg/l
Acrolein		G	<0.1	G		G		mg/l
Acrylonitrile		G	<0.005	G		G		mg/l
Benzene		G	<0.002	G		G		mg/l
Bromodichloromethane		G	<0.005	G		G		mg/l
Bromoform		G	<0.005	G		G		mg/l
Bromomethane		G	<0.01	G		G		mg/l
Carbon Tetrachloride		G	<0.005	G		G		mg/l
Chlorobenzene		G	<0.005	G		G		mg/l
Chloroethane		G	<0.01	G		G		mg/l
Chloroform		G	<0.005	G		G		mg/l
Chloromethane		G	<0.1	G		G		mg/l
cis-1,3-Dicholropropene		G	<0.005	G		G		mg/l
Dibromochloromethane		G	<0.005	G		G		mg/l
Ethylbenzene		G	<0.005	G		G		mg/l
Methylene Chloride		G	<0.005	G		G		mg/l
Tetrachloroethene		G	<0.005	G		G		mg/l
Toluene		G	<0.005	G		G		mg/l
trans-1,2-Dichloroethene		G	<0.005	G		G		mg/l
trans-1,3-Dichloropropene		G	<0.005	G		G		mg/l
Trichloroethene		G	<0.005	G		G		mg/l
Vinyl Chloride		G	<0.002	G		G		mg/l
Xylenes			<0.005					

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METROPOLITAN ST. LOUIS SEWER DISTRICT
2013 INDUSTRIAL USER SELF MONITORING REPORT

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Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->	010						
DATES ON WHICH SAMPLES WERE COLLECTED	----->	1/18/2017						
TIMES AT WHICH SAMPLES WERE COLLECTED	----->	Grab: 2:40; Comp Start: 2:05; End: 2:05						
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW osite,M=measured flow,E=estimated flow						UNITS
FLOW		E	1,197,295	E		E		gal/day
1,2,4-Trichlorobenzene		C	<0.010	G		G		mg/l
2,4,6-Trichlorophenol		C	<0.010	G		G		mg/l
2,4-Dichlorophenol		C	<0.010	G		G		mg/l
2,4-Dimethylphenol		C	<0.010	G		G		mg/l
2,4-Dinitrophenol		C	<0.020	G		G		mg/l
2,4-Dinitrotoluene		C	<0.010	G		G		mg/l
2,6-Dinitrotoluene		C	<0.010	G		G		mg/l
2-Chloronapthalene		C	<0.010	G		G		mg/l
2-Chlorophenol		C	<0.010	G		G		mg/l
2-Nitrophenol		C	<0.020	G		G		mg/l
3,3-Dichlorobenzidine		C	<0.010	G		G		mg/l
2-Methyl-4,6-dinitrophenol		C	<0.020	G		G		mg/l
4-Bromophenyl-phenylether		C	<0.010	G		G		mg/l
4-Chloro-3-methylphenol		C	<0.020	G		G		mg/l
4-Chlorophenyl-phenylether		C	<0.010	G		G		mg/l
4-Nitrophenol		C	<0.020	G		G		mg/l
Acenapthene		C	<0.010	G		G		mg/l
Acenaphthylene		C	<0.010	G		G		mg/l
Anthracene		C	<0.010	G		G		mg/l
Benzidine		C	<0.040	G		G		mg/l
Benzo(a)anthracene		C	<0.010	G		G		mg/l
Benzo(a)pyrene		C	<0.010	G		G		mg/l
Benzo(b)fluoranthene		C	<0.010	G		G		mg/l
Benzo(g,h,i)perylene		C	<0.010	G		G		mg/l
Benzo(k)fluoranthene		C	<0.010	G		G		mg/l
Bis(2-chloroethoxy)methane		C	<0.010	G		G		mg/l
Bis(2-chloroethyl)ether		C	<0.010	G		G		mg/l
Bis(2-chloroisopropyl)ether		C	<0.010	G		G		mg/l
Bis(2-ethylhexyl)phthalate		C	<0.006	G		G		mg/l
Butyl benzyl phthalate		C	<0.010	G		G		mg/l
Chrysene		C	<0.010	G		G		mg/l
Dibenzo(a,h)anthracene		C	<0.010	G		G		mg/l
Diethyl phthalate		C	<0.010	G		G		mg/l
Dimethyl phthalate		C	<0.010	G		G		mg/l
Di-n-butyl phthalate		C	<0.010	G		G		mg/l
Di-n-octyl-phthalate		C	<0.010	G		G		mg/l
Fluoranthene		C	<0.010	G		G		mg/l
Fluorene		C	<0.010	G		G		mg/l
Hexachlorobenzene		C	<0.010	G		G		mg/l
Hexachlorobutadiene		C	<0.010	G		G		mg/l
Hexachlorocyclopentadiene		C	<0.020	G		G		mg/l
Hexachloroethane		C	<0.010	G		G		mg/l
Ideno(1,2,3-cd)pyrene		C	<0.010	G		G		mg/l
Isophorone		C	<0.010	G		G		mg/l
Naphthalene		C	<0.010	G		G		mg/l
Nitrobenzene		C	<0.010	G		G		mg/l
N-nitrosodimethylamine		C	<0.020	G		G		mg/l
N-nitrosodi-n-propylamine		C	<0.010	G		G		mg/l
N-nitrosodiphenylamine		C	<0.010	G		G		mg/l
Pentachlorophenol		C	<0.020	G		G		mg/l
Phenanthrene		C	<0.010	G		G		mg/l
Phenol		C	<0.005	G		G		mg/l
Pyrene		C	<0.010	G		G		mg/l
1,2-Diphenylhydrazine		C	<0.010	G		G		mg/l
Total Toxic Organics	5.844	--	0.000000					mg/l
Lab Dilution Factor			1, BOD (5)					

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DIVISION OF
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Mallinckrodt pH Monitoring for SP010 January 2017

Date / Time	pH	Total for Event in Minutes
1/2/17 20:15	5.0	
1/2/17 20:20	4.2	10
1/9/17 3:45	5.0	5
1/13/17 17:40	4.8	5
1/14/17 4:55	4.0	5
1/14/17 14:25	5.4	5
1/15/17 12:55	3.7	5
1/15/17 17:30	5.3	5
1/16/17 2:15	11.6	5
1/18/17 9:40	11.8	
1/18/17 9:45	11.7	10
1/21/17 22:35	3.4	10
1/28/17 22:40	5.1	5
1/31/17 13:50	3.7	
1/31/17 13:55	3.7	10
	January Total	**80**

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Mallinckrodt pH Monitoring for SP010: February 2017

Date / Time	pH	Total for Event in Minutes
2/11/17 8:05	5.4	5
2/13/17 1:05	11.5	5
2/13/17 1:10	11.5	
2/13/17 1:15	11.6	
2/13/17 1:20	11.6	15
2/19/17 8:40	4.5	5
2/19/17 9:15	5.0	5
2/22/17 9:00	5.4	5
2/27/17 2:50	3.9	5
2/28/17 20:55	5.2	5
	February Total	**50**

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ENVIRONMENTAL COMPLIANCE

Mallinckrodt pH Monitoring for SP010: March 2017

Date / Time	pH	Total for Event in Minutes
3/3/17 9:50	4.7	
3/3/17 9:55	4.6	10
3/4/17 1:55	5.2	5
3/4/17 2:10	5.2	5
3/6/17 10:50	4.9	5
3/7/17 21:30	5.4	5
3/7/17 22:15	4.3	5
3/9/17 9:00	4.9	5
3/9/17 9:05	3.4	
3/9/17 9:10	2.7	
3/9/17 9:15	2.5	
3/9/17 9:20	2.9	15
3/10/17 20:50	3.9	5
3/17/17 20:55	5.4	5
3/18/17 14:45	5.4	5
3/20/17 10:20	4.4	5
3/23/17 11:55	3.2	
3/23/17 12:00	3.1	
3/23/17 12:05	3.4	
3/23/17 12:10	3.8	20
3/26/17 23:45	5.4	5
	March Total	**100**

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ____(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**011**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		N/A					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		N/A					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	*					gal/day
Oil & Grease	200	G	*					mg/l
Biochemical Oxygen Demand	****	G	*					mg/l
Chemical Oxygen Demand	****	G	*					mg/l
Total Suspended Solids	****	G	*					mg/l
Temperature	60	G	*					deg C
pH	5.5 - 11.5	G	*					S.U.
*** No flow from SP011 in 1st QTR 2017**								
Shaded values represent detection limits								
Lab Dilution Factor			1		1		1	

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
2013 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: __X__(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**011**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		N/A					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		N/A					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	*					gal/day
1,1,1-Trichloroethane		G	*					mg/l
1,1,2,2-Tetrachloroethane		G	*					mg/l
1,1,2-Trichloroethane		G	*					mg/l
1,1-Dichloroethane		G	*					mg/l
1,1-Dichloroethene		G	*					mg/l
1,2-Dichlorobenzene		G	*					mg/l
1,2-Dichloroethane		G	*					mg/l
1,2-Dichloropropane		G	*					mg/l
1,3-Dichlorobenzene		G	*					mg/l
1,4-Dichlorobenzene		G	*					mg/l
2-Chloroethylvinylether		G	*					mg/l
Acrolein		G	*					mg/l
Acrylonitrile		G	*					mg/l
Benzene		G	*					mg/l
Bromodichloromethane		G	*					mg/l
Bromoform		G	*					mg/l
Bromomethane		G	*					mg/l
Carbon Tetrachloride		G	*					mg/l
Chlorobenzene		G	*					mg/l
Chloroethane		G	*					mg/l
Chloroform		G	*					mg/l
Chloromethane		G	*					mg/l
cis-1,3-Dicholropropene		G	*					mg/l
Dibromochloromethane		G	*					mg/l
Ethylbenzene		G	*					mg/l
Methylene Chloride		G	*					mg/l
Tetrachloroethene		G	*					mg/l
Toluene		G	*					mg/l
trans-1,2-Dichloroethene		G	*					mg/l
trans-1,3-Dichloropropene		G	*					mg/l
Trichloroethene		G	*					mg/l
Vinyl Chloride		G	*					mg/l
1,2,4-Trichlorobenzene		G	*					mg/l
2,4,6-Trichlorophenol		G	*					mg/l
2,4-Dichlorophenol		G	*					mg/l
2,4-Dimethylphenol		G	*					mg/l
2,4-Dinitrophenol		G	*					mg/l
2,4-Dinitrotoluene		G	*					mg/l
2,6-Dinitrotoluene		G	*					mg/l
2-Chloronapthalene		G	*					mg/l
2-Chlorophenol		G	*					mg/l
2-Nitrophenol		G	*					mg/l
3,3-Dichlorobenzidine		G	*					mg/l
2-Methyl-4,6-dinitrophenol		G	*					mg/l
4-Bromophenyl-phenylether		G	*					mg/l
4-Chloro-3-methylphenol		G	*					mg/l
4-Chlorophenyl-phenylether		G	*					mg/l
4-Nitrophenol		G	*					mg/l

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
2013 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	------>		**011**						
DATES ON WHICH SAMPLES WERE COLLECTED	------>		N/A						
TIMES AT WHICH SAMPLES WERE COLLECTED	------>		N/A						
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo							UNITS
FLOW		E	*						gal/day
Acenapthene		G	*						mg/l
Acenaphthylene		G	*						mg/l
Anthracene		G	*						mg/l
Benzidine		G	*						mg/l
Benzo(a)anthracene		G	*						mg/l
Benzo(a)pyrene		G	*						mg/l
Benzo(b)fluoranthene		G	*						mg/l
Benzo(g,h,i)perylene		G	*						mg/l
Benzo(k)fluoranthene		G	*						mg/l
Bis(2-chloroethoxy)methane		G	*						mg/l
Bis(2-chloroethyl)ether		G	*						mg/l
Bis(2-chloroisopropyl)ether		G	*						mg/l
Bis(2-ethylhexyl)phthalate		G	*						mg/l
Butyl benzyl phthalate		G	*						mg/l
Chrysene		G	*						mg/l
Dibenzo(a,h)anthracene		G	*						mg/l
Diethyl phthalate		G	*						mg/l
Dimethyl phthalate		G	*						mg/l
Di-n-butyl phthalate		G	*						mg/l
Di-n-octyl-phthalate		G	*						mg/l
Fluoranthene		G	*						mg/l
Fluorene		G	*						mg/l
Hexachlorobenzene		G	*						mg/l
Hexachlorobutadiene		G	*						mg/l
Hexachlorocyclopentadiene		G	*						mg/l
Hexachloroethane		G	*						mg/l
Ideno(1,2,3-cd)pyrene		G	*						mg/l
Isophorone		G	*						mg/l
Naphthalene		G	*						mg/l
Nitrobenzene		G	*						mg/l
N-nitrosodimethylamine		G	*						mg/l
N-nitrosodi-n-propylamine		G	*						mg/l
N-nitrosodiphenylamine		G	*						mg/l
Pentachlorophenol		G	*						mg/l
Phenanthrene		G	*						mg/l
Phenol		G	*						mg/l
Pyrene		G	*						mg/l
1,2-Diphenylhydrazine		G	*						mg/l
Total Toxic Organics	5.844	--	*						mg/l
*** No flow from SP011 in 1st QTR 2017**									
Lab Dilution Factor									

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147
Monitoring Period: X (JAN-MAR) __(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)
Samples Collected By: Mallinckrodt Inc
Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS					**080**					
DATES ON WHICH SAMPLES WERE COLLECTED					NA					
TIMES AT WHICH SAMPLES WERE COLLECTED					NA					
PARAMETER	EPA METHOD	DAILY MAX	AVG MONTHLY	**RECORD SAMPLE TYPES (G, C, M OR E) & RESULTS** G=Grab, C-composite, M=measured flow, E=estimated						UNITS
FLOW				E	*					gal/day
Acetone	524.2	20.70	8.20	G	*					mg/L
n-Amyl Acetate	1666	20.70	8.20	G	*					mg/L
Benzene	524.2	3.00	0.70	G	*					mg/L
n-Butyl acetate	1666	20.70	8.20	G	*					mg/L
Chlorobenzene	524.2	3.00	0.70	G	*					mg/L
Chloroform*	524.2	0.10	0.03	G	*					mg/L
1,2-Dichlorobenzene	524.2	20.70	8.20	G	*					mg/L
1,2-Dichloroethane	524.2	20.70	8.20	G	*					mg/L
Diethyl amine	1671	255.00	100.00	G	*					mg/L
Ethyl Acetate	1666	20.70	8.20	G	*					mg/L
n-Heptane	1666	3.00	0.70	G	*					mg/L
n-Hexane	1666	3.00	0.70	G	*					mg/L
Isobutyraldehyde	1666	20.70	8.20	G	*					mg/L
Isopropyl acetate	1666	20.70	8.20	G	*					mg/L
Isopropyl ether	1666	20.70	8.20	G	*					mg/L
Methylene chloride	524.2	3.00	0.70	G	*					mg/L
Methyl formate	1666	20.70	8.20	G	*					mg/L
4-Methyl-2-pentanone	1666	20.70	8.20	G	*					mg/L
Tetrahydrofuran	1666	9.20	3.40	G	*					mg/L
Toluene	524.2	0.30	0.20	G	*					mg/L
Triethyl amine	1671	255.00	100.00	G	*					mg/L
Xylenes	1666	3.00	0.70	G	*					mg/L
Oil & Grease	1664	200		G	*					mg/L
Biochemical Oxygen Demand		****		C	*					mg/L
Chemical Oxygen Demand		****		C	*					mg/L
Total Suspended Solids		****		C	*					mg/L
Temperature		60		G	*					deg C
pH		5.5 - 11.5		G	*					S.U.
*** No flow from SP080 in 1st QTR 2017**										
Dilution by lab					NA					

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
2011 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**080**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=						UNITS
FLOW		E	*					gal/day
1,1,1-Trichloroethane		G	*					mg/l
1,1,2,2-Tetrachloroethane		G	*					mg/l
1,1,2-Trichloroethane		G	*					mg/l
1,1-Dichloroethane		G	*					mg/l
1,1-Dichloroethene		G	*					mg/l
1,2-Dichlorobenzene		G	*					mg/l
1,2-Dichloroethane		G	*					mg/l
1,2-Dichloropropane		G	*					mg/l
1,3-Dichlorobenzene		G	*					mg/l
1,4-Dichlorobenzene		G	*					mg/l
2-Chloroethylvinylether		G	*					mg/l
Acrolein		G	*					mg/l
Acrylonitrile		G	*					mg/l
Benzene		G	*					mg/l
Bromodichloromethane		G	*					mg/l
Bromoform		G	*					mg/l
Bromomethane		G	*					mg/l
Carbon Tetrachloride		G	*					mg/l
Chlorobenzene		G	*					mg/l
Chloroethane		G	*					mg/l
Chloroform		G	*					mg/l
Chloromethane		G	*					mg/l
cis-1,3-Dicholropropene		G	*					mg/l
Dibromochloromethane		G	*					mg/l
Ethylbenzene		G	*					mg/l
Methylene Chloride		G	*					mg/l
Tetrachloroethene		G	*					mg/l
Toluene		G	*					mg/l
trans-1,2-Dichloroethene		G	*					mg/l
trans-1,3-Dichloropropene		G	*					mg/l
Trichloroethene		G	*					mg/l
Vinyl Chloride		G	*					mg/l
1,2,4-Trichlorobenzene		G	*					mg/l
2,4,6-Trichlorophenol		G	*					mg/l
2,4-Dichlorophenol		G	*					mg/l
2,4-Dimethylphenol		G	*					mg/l
2,4-Dinitrophenol		G	*					mg/l
2,4-Dinitrotoluene		G	*					mg/l
2,6-Dinitrotoluene		G	*					mg/l
2-Chloronapthalene		G	*					mg/l
2-Chlorophenol		G	*					mg/l
2-Nitrophenol		G	*					mg/l
3,3-Dichlorobenzidine		G	*					mg/l
2-Methyl-4,6-dinitrophenol		G	*					mg/l
4-Bromophenyl-phenylether		G	*					mg/l
4-Chloro-3-methylphenol		G	*					mg/l
4-Chlorophenyl-phenylether		G	*					mg/l
4-Nitrophenol		G	*					mg/l

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
2011 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: __X__(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	---->		**080**					
DATES ON WHICH SAMPLES WERE COLLECTED	---->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	---->		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=						UNITS
FLOW		E	*					gal/day
Acenapthene		G	*					mg/l
Acenaphthylene		G	*					mg/l
Anthracene		G	*					mg/l
Benzidine		G	*					mg/l
Benzo(a)anthracene		G	*					mg/l
Benzo(a)pyrene		G	*					mg/l
Benzo(b)fluoranthene		G	*					mg/l
Benzo(g,h,i)perylene		G	*					mg/l
Benzo(k)fluoranthene		G	*					mg/l
Bis(2-chloroethoxy)methane		G	*					mg/l
Bis(2-chloroethyl)ether		G	*					mg/l
Bis(2-chloroisopropyl)ether		G	*					mg/l
Bis(2-ethylhexyl)phthalate		G	*					mg/l
Butyl benzyl phthalate		G	*					mg/l
Chrysene		G	*					mg/l
Dibenzo(a,h)anthracene		G	*					mg/l
Diethyl phthalate		G	*					mg/l
Dimethyl phthalate		G	*					mg/l
Di-n-butyl phthalate		G	*					mg/l
Di-n-octyl-phthalate		G	*					mg/l
Fluoranthene		G	*					mg/l
Fluorene		G	*					mg/l
Hexachlorobenzene		G	*					mg/l
Hexachlorobutadiene		G	*					mg/l
Hexachlorocyclopentadiene		G	*					mg/l
Hexachloroethane		G	*					mg/l
Ideno(1,2,3-cd)pyrene		G	*					mg/l
Isophorone		G	*					mg/l
Naphthalene		G	*					mg/l
Nitrobenzene		G	*					mg/l
N-nitrosodimethylamine		G	*					mg/l
N-nitrosodi-n-propylamine		G	*					mg/l
N-nitrosodiphenylamine		G	*					mg/l
Pentachlorophenol		G	*					mg/l
Phenanthrene		G	*					mg/l
Phenol		G	*					mg/l
Pyrene		G	*					mg/l
1,2-Diphenylhydrazine		G	*					mg/l
Total Toxic Organics	5.844	--	*					mg/l
*** No flow from SP080 in 1st QTR 2017**								
Lab Dilution Factor			NA					

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		----->		905			
DATES ON WHICH SAMPLES WERE COLLECTED		----->		2/2/2017			
TIMES AT WHICH SAMPLES WERE COLLECTED		----->		9:05 AM			
	MONTHLY LIMIT (ave)	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow				
PARAMETER	(gm/day)	(gm/day)		Results mg/L	Results gm/day		UNITS
FLOW			M	46038	46038		gal/day
1,2,4-Trichlorobenzene	45	182	G	0.009	1.568		gm/day
1,2-Dichlorobenzene	45	182	G	0.005	0.871		gm/day
1,3-Dichlorobenzene	33	87	G	0.005	0.871		gm/day
1,4-Dichlorobenzene	33	87	G	0.005	0.871		gm/day
2-Nitrophenol	15	53	G	0.019	3.311		gm/day
2-Methyl-4,6-dinitrophenol	18	64	G	0.019	3.311		gm/day
4-Nitrophenol	37	132	G	0.019	3.311		gm/day
Acenapthene	4	11	G	0.009	1.568		gm/day
Anthracene	4	11	G	0.009	1.568		gm/day
Bis(2-ethylhexyl)phthalate	22	59	G	0.006	1.046		gm/day
Diethyl phthalate	11	26	G	0.009	1.568		gm/day
Dimethyl phthalate	4	11	G	0.009	1.568		gm/day
Di-n-butyl phthalate	5	10	G	0.009	1.568		gm/day
Fluoranthene	5	12	G	0.009	1.568		gm/day
Fluorene	4	11	G	0.009	1.568		gm/day
Hexachlorobenzene	45	182	G	0.009	1.568		gm/day
Hexachlorobutadiene	33	87	G	0.009	1.568		gm/day
Hexachloroethane	45	182	G	0.009	1.568		gm/day
Naphthalene	4	11	G	0.009	1.568		gm/day
Phenanthrene	4	11	G	0.009	1.568		gm/day
Pyrene	5	11	G	0.009	1.568		gm/day
1,1,1-Trichloroethane	5	14	G	0.005	0.871		gm/day
1,1,2-Trichloroethane	7	29	G	0.005	0.871		gm/day
1,1-Dichloroethane	5	14	G	0.005	0.871		gm/day
1,1-Dichloroethene	5	14	G	0.005	0.871		gm/day
1,2-Dichloroethane	41	132	G	0.005	0.871		gm/day
1,2-Dichloropropane	45	182	G	0.005	0.871		gm/day
Benzene	13	31	G	0.002	0.349		gm/day
Carbon Tetrachloride	33	87	G	0.005	0.871		gm/day
Chlorobenzene	33	87	G	0.005	0.871		gm/day
Chloroethane	25	68	G	0.010	1.743		gm/day
Chloroform	25	75	G	0.005	0.871		gm/day
Chloromethane	25	68	G	0.010	1.743		gm/day
cis-1,3-Dichloropropene	45	182	G	0.005	0.871		gm/day
Ethylbenzene	33	87	G	0.005	0.871		gm/day
Methylene Chloride	8	39	G	0.005	0.871		gm/day
Nitrobenzene	514	1470	G	0.009	1.568		gm/day
Tetrachloroethene	12	38	G	0.005	0.871		gm/day
Toluene	6	17	G	0.005	0.871		gm/day
trans-1,2-Dichloroethene	6	16	G	0.005	0.871		gm/day
trans-1,3-Dichloropropene	45	182	G	0.005	0.871		gm/day
Trichloroethene	6	16	G	0.005	0.871		gm/day
Vinyl Chloride	22	44	G	0.002	0.349		gm/day
Shaded values represent detection limits							
Lab Dilution Factor:				1	1		

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: __X__(JAN-MAR) ____(APR-JUNE) ____(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		912		912		912	
DATES ON WHICH SAMPLES WERE COLLECTED	----->		1/17/2017		2/15/2017		3/10/2017	
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		2:35 PM		9:30 AM		3:10 PM	
		RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW						
PARAMETER	LIMIT	G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		M	64295	M	54201	M	48955	gal/day
DMAC (daily max)	7091	G	983	G	690	G	956	lb/day
DMAC (monthly average)	5459	G	983	G	690	G	956	lb/day
			1836		1529		2345	mg/L
Lab Dilution Factor			1		2		2	

$\frac{LB}{DAY} \times \frac{1}{flow} \frac{DAY}{GAL} \times \frac{1\,KG}{2.2\,LB} \times \frac{10^6\,mg}{1\,KG} \times \frac{1\,GAL}{3.78\,L}$

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Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ____(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**915**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		1/24/2017						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		12:15						
PARAMETER	MONTHLY AVG LIMIT (mg/L)	DAILY MAX LIMIT (mg/L)	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW			E	4,746						gal/day
Cyanide (Total)	9.4	33.5	G	0.005						mg/L
Nitrogen, Ammonia (as N)	****	****	G	1380						N
Diethylamine	100	255	G	5						mg/L
Triethylamine	100	255	G	10						mg/L
4-Methyl-2-pentanone	8.2	20.7	G	0.200						mg/L
Diisopropyl ether	8.2	20.7	G	0.100						mg/L
Ethyl acetate	8.2	20.7	G	0.200						mg/L
Isobutyraldehyde	8.2	20.7	G	0.200						mg/L
Isopropyl acetate	8.2	20.7	G	0.100						mg/L
m,p Xylene	0.7	3	G	0.160						mg/L
Methyl formate	8.2	20.7	G	1.000						mg/L
n-Amyl acetate	8.2	20.7	G	0.100						mg/L
n-Butyl acetate	8.2	20.7	G	0.100						mg/L
n-Heptane	0.7	3	G	0.200						mg/L
n-Hexane	0.7	3	G	0.200						mg/L
o-Xylene	0.7	3	G	0.100						mg/L
Tetrahydrofuran	9.2	3.4	G	0.400						mg/L
1,2-Dichlorobenzene	8.2	20.7	G	0.100						mg/L
1,2-Dichloroethane	8.2	20.7	G	0.100						mg/L
Acetone	8.2	20.7	G	1.000						mg/L
Benzene	0.7	3	G	0.100						mg/L
Chlorobenzene	0.7	3	G	0.100						mg/L
Chloroform	0.03	0.1	G	0.020						mg/L
Methylene Chloride	0.7	3	G	0.100						mg/L
Toluene	0.2	0.3	G	0.100						mg/L
Temperature	****	****	E	30						deg C
Shaded values represent detection limits										
Lab Dilution Factors: 1(EPA 335.4, 600 167A) 20 (EPA 600 350, 1666A, 524.2)				1, 20						

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

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Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: __X__(JAN-MAR) ____(APR-JUNE) ____(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		----->		**920**						
DATES ON WHICH SAMPLES WERE COLLECTED		----->		NA						
TIMES AT WHICH SAMPLES WERE COLLECTED		----->		NA						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	*						gal/day
Cyanide (Total)	9.4	33.5	G	*						mg/l
Tetrahydrofuran	3.4	9.2	G	*						mg/l
Toluene	0.2	0.3	G	*						mg/l
*No Flow from SP920 for Q1 2017.										
**** No limits for SP920										
Shaded values represent detection limi										
Lab Dilution Factor: 1 (Cyanide), 20 (Tetrahydrofuran, Toluene)				1, 20						

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Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: __X__(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**927**					
DATES ON WHICH SAMPLES WERE COLLECTED		---->		1/17/2017					
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		14:10					
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW	****	****	E	4,746					gal/day
Acetone	8.2	20.7	G	1.00					mg/l
Ethyl acetate	8.2	20.7	G	0.200					mg/l
Isopropul acetate	8.2	20.7	G	0.100					mg/l
Methylene chloride	0.7	3	G	0.100					mg/l
n-Amyl acetate	8.2	20.7	G	0.100					mg/l
* No flow from SP927 in 1st QTR 2016									
Not in use in 1st QTR 2016									
Shaded values represent detection limi									
Lab Dilution Factor:									

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Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**930**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		NA						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		NA						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	*						gal/day
Acetone	8.2	20.7	G	*						mg/L
Ethyl acetate	8.2	20.7	G	*						mg/L
Isopropyl acetate	8.2	20.7	G	*						mg/L
Methylene chloride	0.7	3	G	*						mg/L
n-Amyl acetate	8.2	20.7	G	*						mg/L
* No flow from SP930 in 1st QTR 2017										
Building not in operation										
Shaded values represent detection limit										
Lab Dilution Factor:										

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Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: __X__(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**933**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		NA						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		NA						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	*						gal/day
Acetone	8.2	20.7	G	*						mg/L
Ethyl acetate	8.2	20.7	G	*						mg/L
Isopropyl acetate	8.2	20.7	G	*						mg/L
Methylene chloride	0.7	3	G	*						mg/L
n-Amyl acetate	8.2	20.7	G	*						mg/L
* No flow from SP933 in 1st QTR 2017										
Building not in operation										
Shaded values represent detection limits										
Lab Dilution Factor:										

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

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Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: __X__(JAN-MAR) ____(APR-JUNE) ____(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**936**							
DATES ON WHICH SAMPLES WERE COLLECTED		---->		2/2/2017							
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		09:25 AM							
PARAMETER	MONTHLY AVG LIMIT (mg/L)	DAILY MAX LIMIT (mg/L)	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow								UNITS
FLOW			E	13,957							gal/day
Diethylamine	100	255	G	5							mg/L
Triethylamine	100	255	G	10							mg/L
4-Methyl-2-pentanone	8.2	20.7	G	0.200							mg/L
Diisopropyl ether	8.2	20.7	G	0.100							mg/L
Ethyl acetate	8.2	20.7	G	0.200							mg/L
Isobutyraldehyde	8.2	20.7	G	0.200							mg/L
Isopropyl acetate	8.2	20.7	G	0.194							mg/L
m,p Xylene	0.7	3	G	0.160							mg/L
Methyl formate	8.2	20.7	G	1.000							mg/L
n-Amyl acetate	8.2	20.7	G	0.100							mg/L
n-Butyl acetate	8.2	20.7	G	0.100							mg/L
n-Heptane	0.7	3	G	0.200							mg/L
n-Hexane	0.7	3	G	0.200							mg/L
o-Xylene	0.7	3	G	0.100							mg/L
Tetrahydrofuran	9.2	3.4	G	0.400							mg/L
1,2-Dichlorobenzene	8.2	20.7	G	0.100							mg/L
1,2-Dichloroethane	8.2	20.7	G	0.100							mg/L
Acetone	8.2	20.7	G	3.080							mg/L
Benzene	0.7	3	G	0.100							mg/L
Chlorobenzene	0.7	3	G	0.100							mg/L
Chloroform*	0.03	0.1	G	<0.020							mg/L
Methylene Chloride	0.7	3	G	0.100							mg/L
Toluene	0.2	0.3	G	0.100							mg/L
Temperature	****	****	G	30							deg C
***Chloroform Results**	**Raw Water**	**SP936**	**SP936-Raw Water**								
	0.020	**0.020**		**<0.0200**							
Shaded values represent detection limits											
Lab Dilution Factors: 1(EPA 600 167A) 20 (EPA 600 350, 1666A, 524.2)				1, 20							

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

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Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**937**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		2/13/2017						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		13:20						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	65,820						gal/day
Cyanide (Total)	9.4	33.5	G	0.005						mg/l
Tetrahydrofuran	3.4	9.2	G	0.400						mg/l
Toluene	0.2	0.3	G	0.100						mg/l
Shaded values represent detection limi										
Lab Dilution Factor: 1 (Cyanide), 20 (Tetrahydrofuran, Toluene)				1, 20						

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METROPOLITAN ST. LOUIS SEWER DISTRICT
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Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**938**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		3/10/2017						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		7:30						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	40						gal/day
Acetone	8.2	20.7	G	<1.00						mg/L
Ethyl acetate	8.2	20.7	G	<0.200						mg/L
Isopropyl acetate	8.2	20.7	G	<0.100						mg/L
Methylene chloride	0.7	3	G	<0.100						mg/L
n-Amyl acetate	8.2	20.7	G	<0.100						mg/L
Shaded values represent detection limits										
Lab Dilution Factor:				20						

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APR 21 2017

DIVISION OF
ENVIRONMENTAL COMPLIANCE

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
314-768-6200 www.stlmsd.com

April 5, 2017

Jonathan Eckles
MALLINCKRODT LLC
3600 North 2nd St.
St. Louis, MO 63147

Dear Mr. Eckles:

We have reviewed your application dated April 5, 2017 requesting approval to discharge 1,800 gallons of wastewater to the Metropolitan St. Louis Sewer District for treatment. This wastewater is an approximate 26% magnesium sulfate solution from Building X of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri. Information provided on the application indicates the solution in question was generated during stearate production in Building X, and will be discharged through sampling point 010.

Based on the information you provided, this wastewater meets MSD Ordinance 12559 standards and is approved for discharge into a sanitary sewer on site. **This approval is valid for 30 days from the date of this letter.**

You must be certain the waste is discharged into a sanitary or combined sewer inlet only. This letter does not authorize any discharge to a separate storm sewer, or to any watercourse, as any such discharge would be in violation of state and federal laws. **Please notify me at the number below when the discharge is to commence, and please ensure the onsite personnel discharging the wastewater in question are provided with a copy of this letter.**

This discharge has been approved based upon the information and sample analysis you provided, and is subject to the conditions stated above. This approval may be revoked by the District at any time if any of the information is found to be incorrect, or if the conditions of this approval are violated. Also, if the discharge causes any operational or maintenance problem within the District's collection or treatment system, or results in violations of any conditions of the District's NPDES permit, Mallinckrodt will be considered responsible for damages.

If you have any questions, please call me at (314) 436-8755.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace

Steve Grace
Environmental Assistant Engineer

bv

ec: Brian Gibson
Doug Mendoza

File: IU, MALLINCKRODT LLC [1011728100], 3600 N. 2nd St., St. Louis

Steve Grace

From: Blaies, Jeff T <Jeff.Blaies@mallinckrodt.com>
Sent: Wednesday, April 05, 2017 10:57 AM
To: Steve Grace; Special Discharge
Cc: Eckles, Jonathan; Schneider, Natalie J
Subject: Magnesium Sulfate (Epsom Salt and Water) Special Discharge Permit Request
Attachments: MagSulfate SDP Application Signed 04052017.pdf; Mag Sulfate SPD Issued 05102016.pdf; MagSulfate_5-6-16.pdf; MagSulfate-SDS.pdf

Importance: High

Hi Steve;
We have an out of specification batch of Magnesium Sulfate in water similar to the incident in May 2016 (See attached permit and application). The entire building is down since it occurred at the beginning of the process that feeds the process vessels. If you could expedite the permit we would greatly appreciate it.

Please contact me as soon as the permit is issued either by phone or email so they can start operations back up.

Please let me know if you have any questions or concerns.

Thank you very much.

Jeff Blaies | Principal EHS Engineer
Mallinckrodt Pharmaceuticals
Mallinckrodt Pharmaceuticals
3600 N Second St | Z-4
St. Louis, MO | USA 63147
T: 314.654.2149 | M: 314.239.2736

Jeff.blaies@mallinckrodt.com | www.mallinckrodt.com

This information may be confidential and/or privileged. Use of this information by anyone other than the intended recipient is prohibited. If you receive this in error, please inform the sender and remove any record of this message.

C1A

SD EVALUATION CHECKLIST - ON SITE

APPLICATION INFORMATION

Source Name: Mallinckrodt LLC Evaluated by: SMG

Premise Address: 3600 N. 2nd St. Date: 4/5/17

Send approval letter to applicant

Application Dated: 4/5/17 Received: 4/5/17 All Requested Info. Received: 4/5/17

SOURCE FILING/DESCRIPTION

1 - Source in PIMS? (Y) / N
2 - If No, on IU Cross-Ref list? * Y / N
3 - If No, MSD Account # from E-CIS? Y / N
4 - If none, on "Source" list (pre-IMS)? ** Y / N
5 - If No, assigned SOUR# from PIMS.

SOURCE TYPE (circle): (IU) / Dead IU / SD

INDUSTRY ID: 1011728100

* o:\costrecovery\cross reference xls file

** o:\costrecovery\sourlist xls file

Sample Point: No. Assigned: 844 Description: 26% mag. sulfate soln. from Bldg. X (off spec. batch)

Normal WW flow from premise? N/A _____ ccf/month, 1,118,137 GPD, _____ GPH. @SP010

REGULATORY STATUS

Is waste a Hazardous Waste? (N) / Y _____

Categorical standards apply? (N) / Y _____

Contain PCB/ asbestos/ radioactive/ dioxin/ used oil? (N) / Y _____

Regulatory Agency Oversight? (N) / Y _____

DISCHARGE CONSIDERATIONS At MSD's connection:

Ordinance Limits (12559, p. 32) exceeded? (N) / Y _____

Ordinance other limits exceeded (dye, flash pt <140° F, temp >140° F, obstruction, nuisance foaming/odor, corrosion causing): (N) / Y _____

Water Quality Standard exceeded? (N) / Y _____

Fumes in sewer exceed PEL/TLV limits? (N) / Y _____

Vapors in sewer exceed 10% of LEL? (N) / Y _____

RECOMMENDATION: (APPROVE) / DENY (cc WWTP Mgr for timed discharge)

APPROVAL CONDITIONS:

Timed Discharge (COD/BOD/WQ/foam): (N) / Y Limit = _____ gal/hour

Require Treatment before Discharge? (N) / Y _____

Laboratory analysis fee due? (N) / Y $_____

SMR required? (N) / Y Frequency/analysis: _____

SMR log: (N/A) / Remediation.xls / Nonremediation.xls

Volume Billing applies (water unmetered or credited)? (N) / Y

Bill High Strength? (N) / Y Yes, If use >60,000 gal/month water ___and, > norm WW strgth

Surcharge calculation attached: N/A / (N) / Y

Expiration log updated: (N/A) / N / Y

O:\CostRecovery\Special Discharge\C1a.Checklist.doc

Metropolitan St. Louis Sewer District
2350 Market Street
St. Louis, MO 63103

APPLICATION FOR SPECIAL DISCHARGE APPROVAL

I. WASTEWATER SOURCE IDENTIFICATION:

Site Name: Mallinckrodt LLC
Premise Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Owner: Mallinckrodt LLC
Contact Person: Jeff Blaies
Title: Principal EHS Engineer
Phone: 314.654.2149 Fax: 314.654.1251

II. APPLICANT (mailing information):

Applicant Name: Jeff Blaies
Title: Principal EHS Engineer
Company Name: Mallinckrodt LLC
Mailing Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Phone: 314.654.2149 Fax: 314.654.1251

III. A. MATERIAL TO BE DISCHARGED (check all applicable boxes):

1. Wastewater description/location: Approx. 26% Solution of Magnesium Sulfate (epsom salt) in water
2. Process/activity generating wastewater: Off spec magnesium sulfate solution from Building X manufacturing
3. Physical and chemical composition: List all constituents, and known or potentially present regulated contaminants below.
   ☐ See separate listing enclosed, and/or ☐ See analytical results enclosed, and/or ■ Material Safety Data Sheet enclosed.

DESCRIPTION	RANGE	UNIT
Magnesium Sulfate	26-30	%
Water	70-75	%

DESCRIPTION *(continued)*	RANGE	UNIT

4. Is this wastewater from a process subject to EPA's categorical standards in 40 CFR Subchapter N? ☐ Yes ☑ No
   a. If yes, the applicable standards are in: 40 CFR Part _____, Subpart _____ ☐ Existing source ☐ New source
5. Does this wastewater contain polychlorinated biphenyls, asbestos or radioactive material? ☐ Yes ☑ No
   a. If yes, describe: _____
6. Representative sample: ☐ Laboratory results attached, and/or ☐ Sample provided (1/2 gallon minimum, clear container)
   a. Sample collection point/location: _____ Collection method: _____
   b. Sampler's name/Co.: _____ Sample date/time: _____
   c. Attach chain of custody as available
7. Discharge will occur over the following time period: ■ < 30 days ☐ ≥ Two years ☐ Other: _____
   a. Expected total volume of wastewater to be discharged over the time period above: _____ Gallons
   b. Proposed discharge volume: 1800 Gallons, at a frequency of: ■ One time ☐ Daily ☐ Weekly ☐ Monthly ☐ Once/three months ☐ Once/six months ☐ Other: _____
8. Pretreatment of wastewater prior to discharge: ☐ None ■ Yes, describe: pH adjustment at main plant outfall SP010
   a. If yes, attach site plan, pretreatment system schematic, and design specifications.
9. Wastewater from a remediation project under: ☐ Superfund/CERCLA ☐ RCRA ☐ Voluntary program ☐ UST ■ Not applicable
   a. If from a remediation project, briefly describe the past and present utilization of the property: _____

III.B. MATERIAL FROM UNDERGROUND STORAGE TANK SOURCE

■ Not applicable (go to Section IV)

Please answer the following questions if you are requesting to discharge wastewater associated with an underground storage tank system.

1. a. Wastewater from: ☐ Inside UST(s) ☐ UST system pit ☐ Excavation outside UST system pit ☐ Monitoring well ☐ Groundwater remediation system

   b. UST project involves wastewater from: ☐ UST(s) closed in place ☐ UST(s) removed ☐ Remediation ☐ Upgrade ☐ Maintenance activities ☐ Well monitoring ☐ Other, explain: _____

   c. If wastewater is from a closure project, how long has UST(s) been out of service: _____ years

2. a. State assigned UST site identification number: _____ ☐ Not applicable

   b. Number of USTs affected: _____ ☐ Unknown

   c. For the UST(s) involved, their state identification number(s): _____ ☐ Not applicable

   d. Service Station Identification Number, as applicable: _____

3. Tank contents/former contents: ☐ Gasoline ☐ #2 diesel ☐ Used oil ☐ Unknown ☐ Other: _____

IV. DISCHARGE LOCATION

1. ■ On-site. Describe proposed point of entry to sewer and the discharge rate (must be a sanitary or combined sewer): _____
Plant sewer to main outfall SP010 Note: Range of discharge must not surcharge sewer line.

2. ☐ Haul to MSD Bissell Point Hauled Waste Receiving Station at 10 E. Grand, St. Louis, MO.

   a. Transporters Name: _____ and MSD Hauler ID Number: _____

   b. Hazardous Waste Certification:

   For wastewater which is hauled to MSD's Bissell Point Hauled Waste Receiving Station, I hereby certify that to the best of my knowledge and belief, the above hauled waste is not classified as a RCRA "hazardous waste" as defined by the MDNR in 10 CSR 25 or USEPA in 40 CFR Part 261.

   Applicant Name (print): _____

   Signature: _____ **Date:** _____

ADDITIONAL INFORMATION:

_____

_____

_____

_____

_____

_____

V. APPLICANT SIGNATURE AND CERTIFICATION

This application must be signed by the applicant: either the source contact, or a contractor or agent directly responsible for site activities.

I hereby certify that I am directly responsible for activities at the site regarding the wastewater to be discharged, and to the best of my knowledge and belief, based on appropriate inquiry, the information in this application is true, complete, and accurate. The samples or analyses submitted are representative of the materials to be discharged. If granted approval to discharge, I agree to abide by the MSD Ordinances, and all applicable federal, state and local regulations. I agree to pay the costs of any pre-approval analyses performed by MSD and to pay any applicable disposal charges for the volume and strength of the wastes discharged.

Applicant Name (print): Jeff Blaies

Signature: Jeff Blaies **Date:** 04/05/17

FOR MSD USE ONLY:

File Name: Mallinckrodt LLC ID No. 1011728100 Sample Point No. 844

Doug Mendoza

From: Doug Mendoza
Sent: Wednesday, March 01, 2017 8:51 AM
To: 'McAllister, Bill'
Subject: RE: 2016 Industrial Pretreatment Award Nominations
Attachments: MWEA Industrial PT Awardees - St. Louis.xlsx

Bill,

Here is the awardee nomination list for the 2016 MWEA Industrial Pretreatment Award. I have designated which ones are for silver awards, which are for gold awards, and which are for platinum awards. Please note that the platinum awardees are also gold awardees, since platinum is for the 5th consecutive gold award. (You might notice that I also indicated how many consecutive years each gold awardee has won a gold award).

Doug Mendoza
MSD Industrial Pretreatment Manager

From: McAllister, Bill [mailto:bmcallister@burnsmcd.com]
Sent: Wednesday, December 28, 2016 9:20 AM
To: Bill Jacobs-Wentzville; Craig Perry; David Erwin-Jeff City WWTP; David Sims-Monett; David Weant; Denise Burkett (Denise_Burkett@kcmo.org); Dennis Ottman-Fenton; Doug Mendoza; Dustin Sterling; Dwayne Linch; gblakey@cityofmoberly.com; Gene Stanton; Jeff Stephens-Carthage; Jimmy Coles; John O'Dell; John Waitman; John; Karla Pierce; Kent Spainhour-Chillicothe (kentspainhour@sbcglobal.net); Kevin Devenport; Lisa O'Dell; Lynn Calton; Mark Grose-Sedalia; Orvil Maples-Aurora; Phil Adlich-Warrensburg; Richard Stephan-O'Fallon; Rick Bailey-Marshall; Robert Schaffer; Ronnie Smith; SGuthrie@peopleservice.com; Sherri Irving; Steve Schweitzer-St. Louis; Susan Haywood; Water Fett-MDNR; Wendy Dalton
Cc: Karla Pierce
Subject: 2016 Industrial Pretreatment Award Nominations

I hope you are enjoying the holidays with family & friends. This is a reminder we need your help in the nomination of industrial contributors in your collection system for an industrial wastewater pretreatment award. Attached is the nomination bundle that includes the announcement letter, award criteria, and nomination form for your use in nominating industrial contributors for performance in 2016.

Please email or mail your nomination forms to me by February 16, 2017. If you are unable to meet the February 16 timeframe, please notify me. Thanks again for your help in making this awards program a success again this year.

If you have any questions, please contact me.

Bill

William (Bill) McAllister, P.E.
Project Manager
(816) 822-3031 (Office)
(816) 591-7993 (Cell)
bmcallister@burnsmcd.com

GOLD 3	1045110500	LAIRD TECHNOLOGIES	3481 Rider Trail South
GOLD 1	1036503400	LAMBERT-ST LOUIS INTERNATIONAL AIRPORT	10701 Lambert International Blvd.
SILVER	1007564900	LEE BIOSOLUTIONS INC	10850 Metro Ct.
GOLD 1	7777705001	LMC INDUSTRIES	100-110 Manufacturers Dr.
GOLD 2	1012070200	LOUISA FOOD PRODUCTS INC	1918 Switzer
GOLD 1	1024322300	MADISON FARMS BUTTER COMPANY	4112 Papin St.
GOLD 2	1007641600	MALLINCKRODT LLC	2703 Wagner Place
GOLD 1	1011728100	MALLINCKRODT LLC	3600 N 2nd St
GOLD 1	1048568800	MALLINCKRODT LLC	385 Marshall Ave.
GOLD 1	1040996400	MARK ANDY INC	18081 Chesterfield Airport Road
GOLD 2	1008643100	MERIDIAN MEDICAL TECHNOLOGIES	2555 Hermelin Dr.
SILVER	1043376500	MERRELL BROS INC ST LOUIS DISPOSAL	6400 McKissock Ave.
SILVER	7777703801	METAL CONTAINER CORPORATION	42 Tenbrook Industrial Park Court
SILVER	1046162000	MICROFINISH CO INC	8353 Courtney Ave.
GOLD 1	1024433901	MICROFINISH IPC LLC	4001 Gratiot Street
SILVER	1011895400	MIDWEST PLATING COMPANY INC	513 E Gano Ave
GOLD 1	1020766100	MISSOURI METALS LLC	9970 Page Avenue
GOLD 1	1016341900	MONSANTO COMPANY	800 N. Lindbergh Boulevard
GOLD 2	1037538200	MONSANTO COMPANY	700 Chesterfield Parkway West
GOLD 2	1007620300	NESHER PHARMACEUTICALS (USA) LLC	2303 Schuetz Road
GOLD 1	1020516400	NESTLE PURINA PETCARE CO	901 Chouteau Ave.
SILVER	1046096500	OBCORP LLC	1900-1910 Crystal Industrial Court
GOLD 2	1007540400	ORIGINAL CAST LIGHTING INC	11902 & 11888 Lackland Rd.
GOLD 1	1038391300	PATHEON BIOLOGICS LLC	4751 & 4777 LeBourget Drive/ 4766 LaGuardia Drive
GOLD 1	1020588900	PAULO PRODUCTS COMPANY	5711 West Park Ave
GOLD 1	1008642401	PD INTERNATIONAL LLC	2629-35 S. Hanley Rd.
GOLD 2	1046394800	PEPSI BEVERAGES COMPANY	One Union 70 Center Drive
PLATINUM	1036698500	PERFORMANCE POWDER COATING	8838 Frost Ave.
GOLD 1	1003798000	PM RESOURCES INC	13001 St. Charles Rock Road
GOLD 1	1011809700	PQ CORPORATION	4238 Geraldine Ave
GOLD 2	1016201600	PRECOAT METALS	4301 South Spring Ave.
GOLD 1	1011833600	PROCTER & GAMBLE MFG COMPANY	169 E. Grand Avenue
GOLD 1	1040168000	REICHHOLD LLC 2	249 St. Louis Avenue
GOLD 1	1020801700	RELIABLE BIOPHARMACEUTICAL CORP	1945 Walton Road
SILVER	1020764300	SCHNUCKS BAKERY	8590 Page Ave.
SILVER	1011765000	SENSIENT COLORS INC	2515 N. Jefferson Ave.
SILVER	1044787300	SENSORY EFFECTS FLAVOR SYSTEMS	231 Rock Industrial Park Dr
SILVER	1007562400	SENTIO BIOSCIENCES LLC	218 B Millwell Dr.
SILVER	1020650801	SERVICE STARS	222 S 21st Street
SILVER	1016015000	SIGMA ALDRICH MFG LLC	3500 Dekalb St
GOLD 1	1016207600	SIGMA ALDRICH MFG LLC	3300 South 2nd Street
GOLD 1	1024440800	STANDARD MACHINE & MFG CO	10014 Big Bend Blvd
GOLD 1	1007646100	STANGE COMPANY	2324 Weldon Parkway
GOLD 2	1011953300	STERICYCLE INC	6240 McKissock
GOLD 1	1012048000	STERIS CORP ST LOUIS OPERATIONS	7373 - 7525 Page Ave
PLATINUM	1008654100	SUNNEN PRODUCTS COMPANY	7910 Manchester Road
GOLD 2	1030906400	THEISS PLATING CORP	9314 Manchester Road
GOLD 2	1015960101	TRUCK TRANSPORT INC	119 E Loughborough Avenue
GOLD 4	1048207200	UNITED PARCEL SERVICE AIR CARGO FACILITY	6097 McDonnell Blvd
GOLD 1	1043601500	YOUNG DENTAL MFG LLC	13705-13737 Shoreline Ct. East

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
314-768-6200 www.stlmsd.com

March 1, 2017

Jeff Blaies
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Re: Wastewater User Charge Billing for Special Discharge

Dear Mr. Blaies:

This is to advise you of the wastewater user charges applicable to an on-site special discharge approved in our letter to you dated January 23, 2017 and extended in my email to you dated 2/27/17. That charge was determined using the ethylene glycol percentage outlined in your application for special discharge. The discharge dates and quantities are from information submitted by you in an email dated March 1, 2017.

Our Finance Department will bill you by invoice for the charges described below. These charges are based on the rates in MSD Wastewater User Charge Ordinance 14395. For your convenience, using the volume and strength of the waste discharged, the ordinance rates have been converted to a per-gallon basis.

PARTY TO BILL: Addressee

BILLING IS FOR: On-Site Special Discharge

DISCHARGE PERIOD: March 1, 2017

SOURCE OF WASTE: 7% ethylene glycol solution from the chiller system associated with Building 250 of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri.

Discharge Period	Billing Item	Quantity	Units	Rate	Charge
3/1/17	Extra-Strength Surcharge	1,980	Gal	$0.20	$396.00
Total:	------	**1,980**	Gal	-----	**$396.00**

Please do not pay until you receive our invoice. Payments made without invoice could potentially be misapplied.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace

Steve Grace
Environmental Assistant Engineer

bv

ec: Doug Mendoza, Brian Gibson
File: IU, MALLINCKRODT LLC [1011728100], 3600 N. 2nd Street, St. Louis

Steve Grace

From: Blaies, Jeff T <Jeff.Blaies@mallinckrodt.com>
Sent: Wednesday, March 01, 2017 1:55 PM
To: Steve Grace
Cc: Eckles, Jonathan
Subject: FW: Mallinckrodt SP815 1-23-17.docx

Steve;
This email serves as notification that Mallinckrodt has complied with the Special Discharge Permit issued on January 23, 2017 (extended on February 27, 2017 4:46 pm) for the 15% glycol mixture to the sanitary sewer. The dilute glycol and water mixture was discharged to the sewer today starting at 8:15 am and did not exceed 18 gpm. The discharge was completed around 12:15pm.

Please let me know if you have any questions.

Thank you,

Jeff Blaies | Principal EHS Engineer
Mallinckrodt Pharmaceuticals
Mallinckrodt Pharmaceuticals
3600 N Second St | Z-4
St. Louis, MO | USA 63147
T: 314.654.2149 | M: 314.239.2736

Jeff.blaies@mallinckrodt.com | www.mallinckrodt.com

This information may be confidential and/or privileged. Use of this information by anyone other than the intended recipient is prohibited. If you receive this in error, please inform the sender and remove any record of this message.

From: Brown, Justin
Sent: Wednesday, March 01, 2017 1:35 PM
To: Blaies, Jeff T
Cc: Shank, Brett; Fitzgerald, Peter J; Hake, Brian
Subject: RE: Mallinckrodt SP815 1-23-17.docx

1980 gallons of 15% glycol went to the sewer starting at 0815 and ending at 1215.

Thanks
Justin

From: Blaies, Jeff T
Sent: Wednesday, March 01, 2017 7:40 AM
To: Steve Grace
Cc: Eckles, Jonathan; Brown, Justin
Subject: RE: Mallinckrodt SP815 1-23-17.docx

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
314-768-6200 www.stlmsd.com

February 27, 2017

Jonathan Eckles
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Re: Wastewater User Charge Billing for Special Discharge

Dear Mr. Eckles:

This is to advise you of the wastewater user charges applicable to an on-site special discharge approved in our letter to you dated December 6, 2016. That charge was determined using the MP104 concentration in your application for special discharge. The discharge dates and quantities are from information submitted by you in an email dated December 21, 2016.

Our Finance Department will bill you by invoice for the charges described below. These charges are based on the rates in MSD Wastewater User Charge Ordinance 14395. For your convenience, using the volume and strength of the waste discharged, the ordinance rates have been converted to a per-gallon basis.

PARTY TO BILL: Addressee

BILLING IS FOR: On-Site Special Discharge

DISCHARGE PERIOD: December 20, 2016

SOURCE OF WASTE: Out of specification batch of MP104 and water from Building 504 of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri.

Discharge Period	Billing Item	Quantity	Units	Rate	Charge
12/20/16	Extra-Strength Surcharge	1,835	Gal	$0.18	$330.30
Total:	------	**1,835**	Gal	-----	**$330.30**

Please do not pay until you receive our invoice. Payments made without invoice could potentially be misapplied.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace

Steve Grace
Environmental Assistant Engineer

bv

ec: Doug Mendoza, Brian Gibson
File: IU, MALLINCKRODT LLC [1011728100], 3600 N. 2nd Street, St. Louis

Steve Grace

From: Eckles, Jonathan <Jonathan.Eckles@mallinckrodt.com>
Sent: Wednesday, December 21, 2016 9:11 AM
To: Steve Grace
Cc: Blaies, Jeff T
Subject: RE: Blaies.Mallinckrodt SP845 12-6-16.docx

Hello Steve,

We discharged the additional wastewater yesterday evening.

We started draining RX300 at 14:44 and we finished draining the tank at 21:51 on 12/20/16. A total of 1835 gallons was drained. The drain time and volume equate to a discharge rate of 4.3 gpm.

Let me know if you have any additional questions.

Thanks,
Jonathan

Jonathan Eckles, CHMM
Environmental Manager
Mallinckrodt Pharmaceuticals
3600 North Second Street I St. Louis, MO, 63147
T: 314.654.0138 I C: 314.267.1812 | F: 314.654.1251
www.mallinckrodt.com

From: Steve Grace [mailto:sgrace@stlmsd.com]
Sent: Tuesday, December 20, 2016 1:25 PM
To: Eckles, Jonathan
Cc: Blaies, Jeff T
Subject: RE: Blaies.Mallinckrodt SP845 12-6-16.docx

No need. This email exchange can serve as approval. I suspect a hard copy of the letter below has already arrived to you. As far as the District is concerned, this waste stream is approved for discharge under the 12/6/16 approval letter.

Steve Grace

From: Eckles, Jonathan [mailto:Jonathan.Eckles@mallinckrodt.com]
Sent: Tuesday, December 20, 2016 12:40 PM
To: Steve Grace
Cc: Blaies, Jeff T
Subject: RE: Blaies.Mallinckrodt SP845 12-6-16.docx

Thanks Steve,

Should we wait for approval confirmation before discharging?

Doug Mendoza Mallinckrodt 10/17/2017

From: Doug Mendoza
Sent: Tuesday, February 21, 2017 7:32 AM
To: Ed Cope
Cc: Mike Merli; Scott Rehmer; Michael S. Kynion; John Lodderhose
Subject: RE: Mallinckrodt Notes from 1/30/17 Meeting

Ed,

Mallinckrodt's sample points basically consist of two types: locations where their wastewater discharges to MSD, and federally-regulated points for their pharmaceutical operations. All of them are driven by regulations, and our standard practice already is to keep the number of points to the minimum possible. After all, it costs MSD to sample and analyze them, too.

The locations where their wastewater discharges come to MSD are located around the boundaries of Mallinckrodt. So I don't believe there are any points that could be eliminated, since they don't appear to capture wastewater that is also sampled somewhere downstream.

The number of pharmaceutical sample points is driven by Mallinckrodt's own decisions. One subset of regulated pharmaceutical wastewater streams is piped to a central point for pretreatment and then sampling. For the other subset of regulated pharmaceutical wastewater, those streams do not require pretreatment. So Mallinckrodt had determined it best to sample each of them individually in the bldgs where they are generated, rather than piping them all to a centralized sampling location.

I'm certainly open to suggestions or discussions with Mallinckrodt, and we can look at maps for possible reductions. However, we can't treat them differently from the other regulated industries.

---Doug

From: Ed Cope
Sent: Friday, February 17, 2017 8:29 AM
To: Doug Mendoza
Cc: Mike Merli
Subject: FW: Mallinckrodt Notes from 1/30/17 Meeting

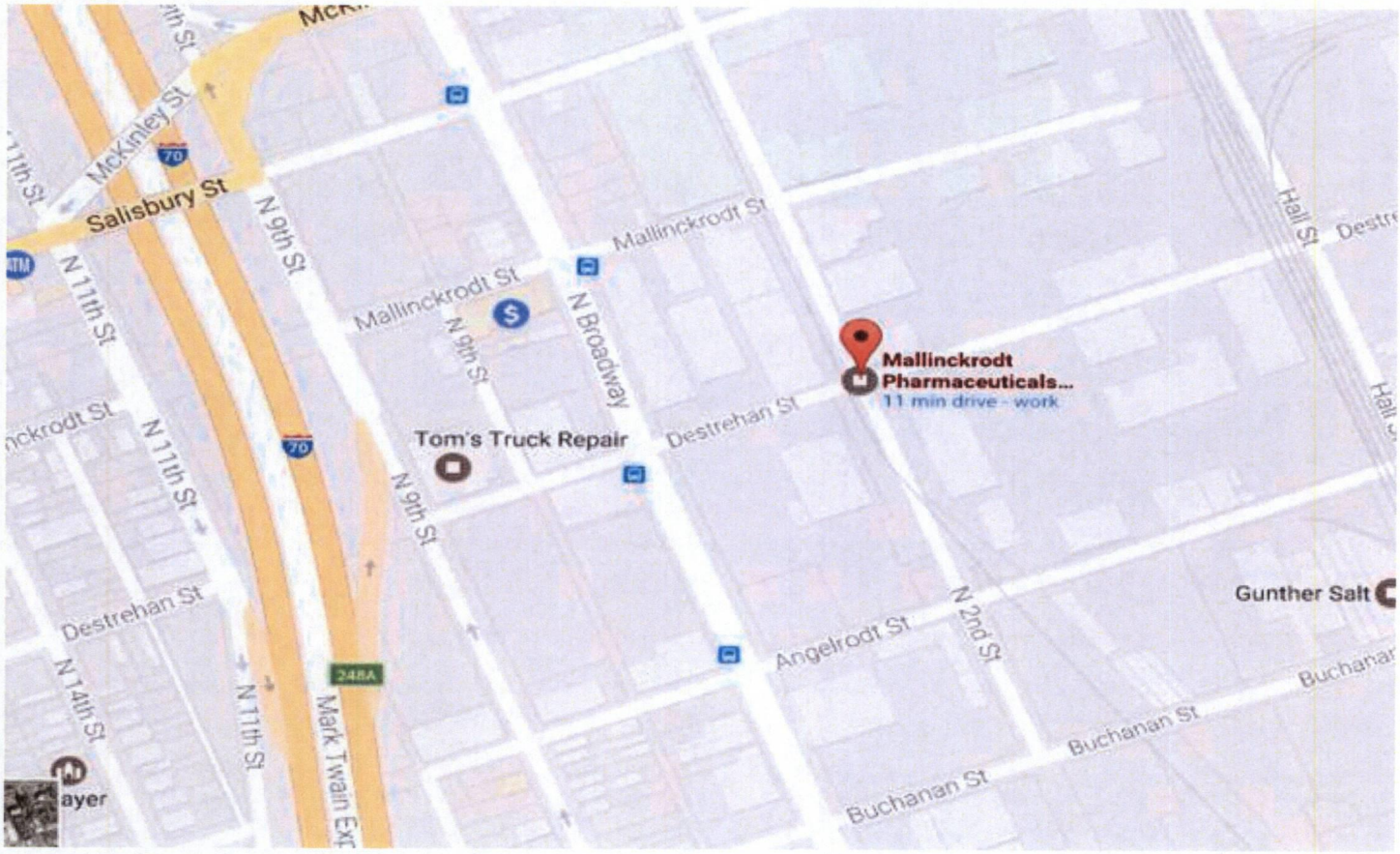
Doug, we have started discussions with Mallinckrodt downtown to determine see if they will take ownership of sewers now within and only serving them. Over time they have gotten streets abandoned which are now contained within their fenced in area. They have been doing repairs on sewers instead of letting us come in and do them. One item they have brought up is the number of sampling points they currently have. If they owned additional sewers within their site (that only service them) would they be able to reduce these sampling points and their reporting requirements? If so, this would help us in our discussions.

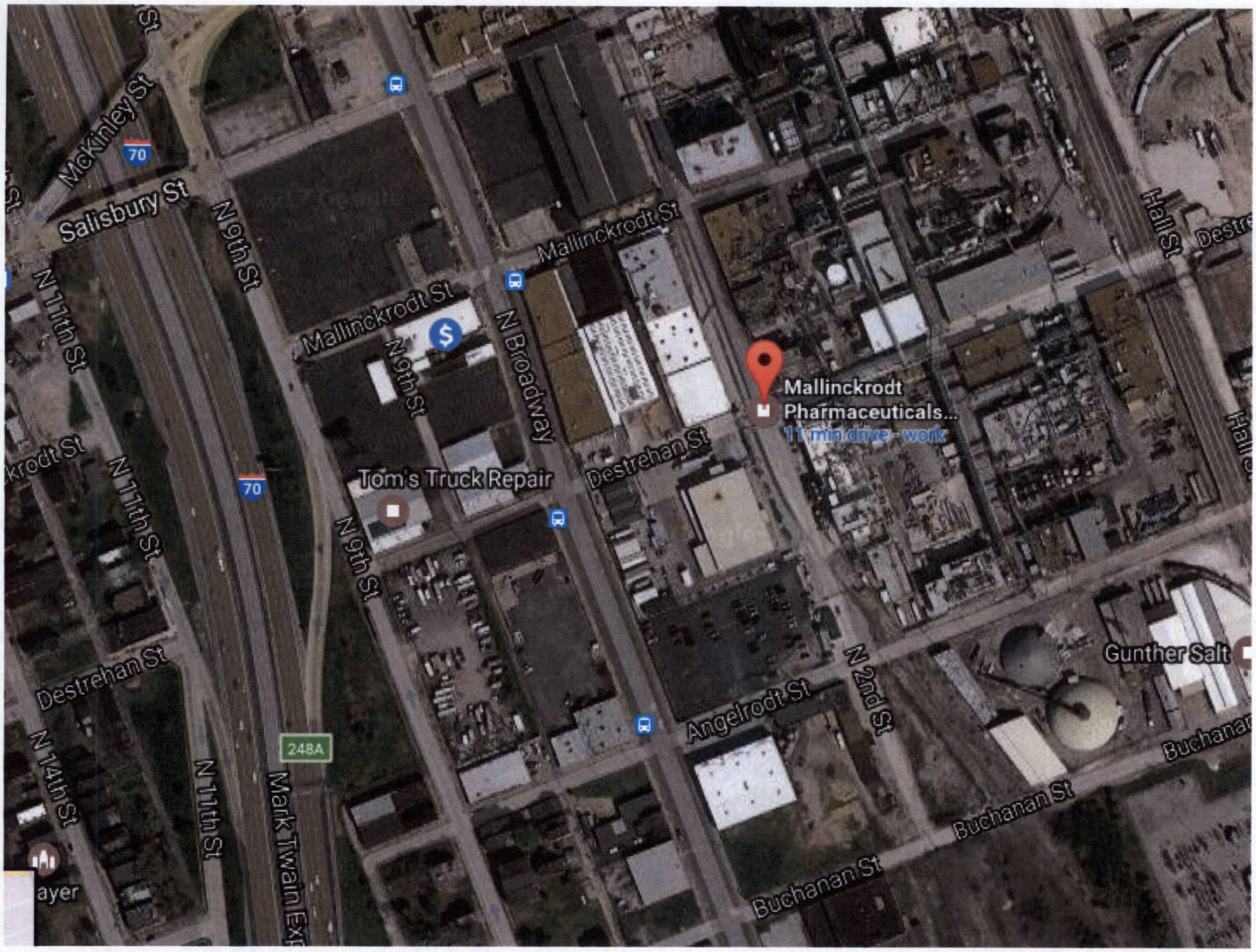
From: Brian C. Stone
Sent: Thursday, February 16, 2017 2:22 PM
To: Ed Cope; Mike Merli; Dan Shepard
Subject: Mallinckrodt Notes from 1/30/17 Meeting

Overview of 1/30/17 with Mallinckrodt (please supplement with any additional notes/information):

- **Mallinckrodt compared its maps of the existing sewers to MSD's maps of the Mallinckrodt property. There were some discrepancies but in general, MSD's maps are a fairly accurate representation of the sewers on the Mallinckrodt property. The following are discrepancies that need to be updated on MSD's maps (along with the additional property owned by Mallinckrodt):**

    - Discrepancy at Hall St. and Angelrodt St. (Plant 5) – Mallinckrodt is not aware of any functional sewers that run North/South near 7th Street. All existing and functional sewers run East/West. Need to confirm.
    - Discrepancy at Destrehan St. – sewer running to North is used but sewer running to South is not used. Per an agreement with MSD in circa 1980, the sewer was blocked and plugged at Destrehan St. Need to confirm.
    - Approximately 3-5 years ago, Mallinckrodt had some surface flooding and obtained a permit from MSD to install a wier (high water overflow device). Need to confirm.





- Mallinckrodt has 18-20 sample points for discharge into the sewers – would DEC consider any reduction in fees if sewers were private? Need to confirm.

- Mallinckrodt does **not** routinely inspect the <u>sewers</u> on its property – has made repairs when sewers collapse and had some sewers lined (at its own cost).

- Mallinckrodt does **not** routinely inspect the <u>manholes</u> on its property – no major issues and has made minor repairs to brick manholes.

- When Mallinckrodt inspects sewers/manholes and discovers an issue, it needs to be fixed ASAP. If MSD inspects sewers/manholes, what is MSD's process and timeframe for making repairs? Need to confirm. Mallinckrodt typically requires 1 week lead time for outside companies/personnel to come on site (need to coordinate schedules, watch safety video, etc.). Acceptable to MSD?

- Confirm last date that MSD inspected Mallinckrodt sewers – 3 years ago? Need to confirm.

- Mallinckrodt is willing to make some of the sewers "private" and is willing to inspect and make minor/routine repairs to the sewers – however, Mallinckrodt is concerned about financial responsibility for major repairs and/or replacement.
    - Is MSD willing to inspect and line sewers if needed prior to Mallinckrodt "taking over" sewers? Need to discuss.
    - Is MSD willing to enter into cost-share agreement for major repairs/replacement of sewers? Need to discuss.

Brian C. Stone

The Metropolitan St. Louis Sewer District
Office of the General Counsel
2350 Market Street, St. Louis, MO 63103
Phone: 314-768-6241
Fax: 314-768-6279
bstone@stlmsd.com

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
314-768-6200 www.stlmsd.com

February 9, 2017

Jeff Blaies
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Re: Wastewater User Charge Billing for Special Discharge

Dear Mr. Blaies:

This is to advise you of the wastewater user charges applicable to an on-site special discharge approved in our letter to you dated January 23, 2017. That charge was determined using the ethylene glycol percentage outlined in your application for special discharge. The discharge dates and quantities are from information submitted by you in an email dated February 8, 2017.

Our Finance Department will bill you by invoice for the charges described below. These charges are based on the rates in MSD Wastewater User Charge Ordinance 14395. For your convenience, using the volume and strength of the waste discharged, the ordinance rates have been converted to a per-gallon basis.

PARTY TO BILL: Addressee

BILLING IS FOR: On-Site Special Discharge

DISCHARGE PERIOD: January 26 – February 3, 2017

SOURCE OF WASTE: 7% ethylene glycol solution from the chiller system associated with Building 250 of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri.

Discharge Period	Billing Item	Quantity	Units	Rate	Charge
1/26 – 2/3/17	Extra-Strength Surcharge	955	Gal	$0.09	$85.95
Total:	------	**955**	Gal	-----	**$85.95**

Please do not pay until you receive our invoice. Payments made without invoice could potentially be misapplied.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steve Grace
Environmental Assistant Engineer

bv

ec: Doug Mendoza, Brian Gibson

File: IU, MALLINCKRODT LLC [1011728100], 3600 N. 2nd Street, St. Louis

Steve Grace

From: Blaies, Jeff T <Jeff.Blaies@mallinckrodt.com>
Sent: Wednesday, February 08, 2017 11:25 AM
To: Steve Grace
Cc: Eckles, Jonathan
Subject: RE: Mallinckrodt SP815 1-23-17.docx

Steve;
A portion of the ethylene glycol permitted discharge has been completed. On Thursday, January 26th, 730 gallons were discharged between the hours of 7a.m -2:30p.m and another discharge of 225 gallons was completed in Friday, February 3rd 225 gallons between the hours of 11a.m-2p.m. The site was well within the permitted discharge rate and based on testing of the water, the average ethylene glycol content was 7 percent (60 lbs).

Let me know if you have any questions.

Thanks,

Jeff Blaies | Principal EHS Engineer
Mallinckrodt Pharmaceuticals
Mallinckrodt Pharmaceuticals
3600 N Second St | Z-4
St. Louis, MO | USA 63147
T: 314.654.2149 | M: 314.239.2736

Jeff.blaies@mallinckrodt.com | www.mallinckrodt.com

This information may be confidential and/or privileged. Use of this information by anyone other than the intended recipient is prohibited. If you receive this in error, please inform the sender and remove any record of this message.

From: Steve Grace [mailto:sgrace@stlmsd.com]
Sent: Thursday, January 26, 2017 2:19 PM
To: Blaies, Jeff T
Subject: FW: Mallinckrodt SP815 1-23-17.docx

Hello Jeff,

Hard copy to follow via snail mail.

Thanks,
Steve Grace

From: Rebecca Vitelli
Sent: Monday, January 23, 2017 3:19 PM
Cc: Steve Grace; Brian G. Gibson; Doug Mendoza
Subject: Mallinckrodt SP815 1-23-17.docx

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
314-768-6200 www.stlmsd.com

February 6, 2017

Jonathan Eckles
Principal EHS Engineer
MALLINCKRODT LLC
3600 N. Second Street
St. Louis, MO 63147

RE: NOTICE OF VIOLATIONS – WASTEWATER DISCHARGE PERMIT NO. 1011728100 - 2
For premise at: 3600 N. Second Street, 63147

Dear Mr. Eckles:

We have reviewed the fourth quarter self-monitoring report, which is regulated under the permit above, and which included the continuous pH monitoring reports. Unfortunately, and as you have already noted in your report, we identified the following violations:

VIOLATION OF DISCHARGE LIMITATIONS:

DATE	SAMPLE POINT	MSD ORDINANCE 12559 LIMIT (Article X, Section 2, Part D)	pH Excursion Reported for 4th Quarter 2016
12-25-16	010	No individual excursion exceeds 60 minutes	105 minutes (from 2120-2255 hrs)

001 = MH with square lid 50' N of neutralization control building at Hall & Salisbury

VIOLATION OF SEWER USE ORDINANCE TERMS/CONDITIONS:

Sewer Use Ordinance Article X, Section Two, Part D - When a user employs continuous monitoring techniques for pH, the user shall meet the pH limitations specified in Article V, except that temporary excursions are allowed so long as:

- The total time outside limitation levels does not exceed Eight (8) hours in a calendar month;
- No individual excursion exceeds Sixty (60) minutes in length.

REQUIRED ACTION/RESPONSE:

Your continuous pH monitoring shows a return to compliance, therefore no additional sampling is required at this time. You have reported the cause and corrective action, which included the release of sodium hydroxide to the sewer, the repaired flange, and the evaluation of the speed of the diversion system and ability to neutralize the high pH wastewater. Please keep us informed of your progress.

1. Refer to the enclosure for additional information on:

    a. Potential enforcement actions should noncompliance continue
    b. Percentages applicable to Significant Noncompliance, when planning for additional sampling

2. Submit your response no later than **March 6, 2017**.

Thank you for helping us to comply with state and federal regulations. If you have any questions, please contact me at 314.436.8756.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Scott Rehmer
Assistant Engineer

Enclosures: SNC enclosure, SP map

cc: Doug Mendoza
Tom Boehm

Mallinckrodt
Pharmaceuticals

SR
2/3/17

January 24, 2017

Mr. Doug Mendoza
Metropolitan St. Louis Sewer District
Department of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147

Re: 2016 4th Quarter Self-Monitoring Report for Permit No. 1011728100-2; Initial and 5-day Follow-up Letter for High pH Incident

Dear Mr. Mendoza,

Please find enclosed the 2016 4th Quarter Self-Monitoring report for Mallinckrodt LLC.

The following sample points received no pharmaceutical process water flow during the second quarter: SP080, SP930, and SP933. The lab encountered interference with the Cyanide Amenable to Chlorination method for SP010 and provided a Total Cyanide result of <0.007 mg/L, which is well below the permit limit of 1.2 mg/L.

This letter also serves at the Initial and 5-day follow-up letter for a high pH incident that occurred during the Christmas holiday. On 12/25/16 the site experienced a 30% Sodium Hydroxide (NaOH) release to the sewer and diverted the spill to our holding tanks. The spill was captured in our diversion tanks, but there was enough residual NaOH in the system to cause pH at SP010 to exceed 11.5 for about 105 minutes. The permit exceedance was not discovered until the data was compiled for the quarterly report. The cause of the spill was a flange leak in our NaOH pipeline, which has been repaired. The site is also evaluating additional corrective measures related to the speed of our diversion system and ability to neutralize high pH wastewater.

If you have any questions or require more detailed information, please contact me at 314-654-0138 or via email at jonathan.eckles@mallinckrodt.com.

Sincerely,

Jonathan Eckles
Environmental Manager

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

ENCLOSURES

MALLINCKRODT
3600 NORTH SECOND STREET
ST. LOUIS, MO 63147

TELEPHONE: 314-654-2000
FAX: 314-654-1251

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **MALLINCKRODT LLC**

Permit No: **1011728100-2** Effective Date: June 01, 2015 Expiration Date: May 31, 2020

Premise Address: 3600 North Second Street, 63147

Monitoring Period: ☐(JAN-MAR) ☐ (APR-JUNE) ☐ (JULY-SEPT) ☒ (OCT-DEC)

Samples Collected By: _____

Analyses Performed By: _____

PART II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS ⇨								
DATES ON WHICH SAMPLES WERE COLLECTED ⇨								
TIMES AT WHICH SAMPLES WERE COLLECTED ⇨								
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G, C, M OR E) AND RESULTS BELOW (G=grab, C=composite, M=measured flow, E=estimated flow)						UNITS
FLOW								

You must complete and sign the certification statements on the second page.

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ENVIRONMENTAL COMPLIANCE

PART III: SPECIAL CERTIFICATION STATEMENTS

Based on the special conditions contained in your discharge permit you may be required to certify the following. Please review your permit and **PLACE YOUR INITIALS ON THE LINES NEXT TO THE CERTIFICATIONS**.

A	NO CHANGE IN WASTEWATER DISCHARGE AT SAMPLE POINTS WITH NO MONITORING REQUIRED
	For permit special conditions that waive monitoring at any sample point(s) specified in your permit, you are required to make the following certification for each report in which monitoring is waived: __JL__ I certify, since the last discharge monitoring report, there has been no change in the character of the wastes discharged at sample points **001 and 002 and 930**. __JL__ I certify, since the last discharge monitoring report, there has been no discharge from sample points **008 and 011**.
B	NO CHANGE IN WASTEWATER DISCHARGE AT ACTIVE CONNECTIONS WITHOUT SAMPLE POINTS
	For permit special conditions that waive monitoring at active connection points which are not specified as sample points in your permit, you are required to make the following certification: __JL__ I certify, since the last discharge monitoring report, there has been no change in the character of wastes discharged at those active connection points which are not specified in my permit.
E	NO DISCHARGE OF CATEGORICAL WASTE
	For permit special conditions that prohibit discharge of wastes which are subject to certain categorical pretreatment standards, you are required to make the following certification: __JL__ I certify, since the last discharge monitoring report, there has been no discharge of wastes which are subject to pretreatment standards in 40 CFR 414 (except for those wastes conveyed by Sample Point **905**).
F	CYANIDE NOT USED OR GENERATED IN 40 CFR 439 OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from limitations and monitoring for Total Cyanide at the Pharmaceutical sample points **080, 915, and 936,** subject to the following certification: __JL__ I certify, since the last discharge monitoring report, cyanide has not been used or generated in any pharmaceutical manufacturing process subject to Categorical Standards in 40 CFR 439.
H	CATEGORICAL POLLUTANTS NOT USED OR GENERATED IN CATEGORICAL OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from monitoring for certain 40 CFR 439-regulated pollutants at the Pharmaceutical sample points **915 and 936,** subject to the following certification: __JL__ I certify, since the last discharge monitoring report, the 40 CFR 439-regulated pollutants, as determined in permittee's report dated March 17, 2015, have not been used or generated in any pharmaceutical manufacturing process subject to Categorical Standards in 40 CFR 439. In addition, the above-referenced report remains valid.
I	SURROGATE MONITORING ALLOWED FOR 40 CFR 439 OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from monitoring for certain 40 CFR 439-regulated pollutants, and replaced by monitoring for surrogate pollutant(s), at the Pharmaceutical sample points **920 and 937** subject to the following certification: __JL__ I certify, since the last discharge monitoring report, the 40 CFR 439-regulated pollutants, as determined in permittee's report dated March 17, 2015, continue to receive the same degree of treatment as the surrogate pollutant(s). In addition, the above-referenced report remains valid.

PART IV: GENERAL CERTIFICATION STATEMENTS

B	DISCHARGE MONITORING REPORT CERTIFICATION
	All permittees must sign and complete the information below: I certify under penalty of Law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Print or type name of signing official: John Leonard Title: Senior Site Director Telephone: 314-654-1879 RECEIVED Signature: John Leonard Date: 1/20/17 JAN 25 2017

DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST LOUIS SEWER DISTRICT
INDUSTRIAL USER RADIOACTIVE MATERIALS DISCHARGE REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **MALLINCKRODT LLC**

Permit No: 1011728100-2

Premise Address: 3600 North Second Street, St. Louis, MO 63147

Reporting Period: ☐ JAN-MAR ☐ APR-JUN ☐ JUL-SEP ☒ OCT-DEC

PART II: RECORD OF DISPOSAL OF RADIOACTIVE MATERIALS TO THE SEWER SYSTEM

RADIONUCLIDE	ACTIVITY DISCHARGED (millicuries)
TOTAL ACTIVITY DISCHARGED:	**No activity recorded this period.**

PART III: CERTIFICATION STATEMENTS

Place your initials in the box under item A.

Everyone must complete the information under items A & B and sign this report.

A. CERTIFICATION OF COMPLIANCE WITH STATE AND FEDERAL REGULATIONS

☑ I certify that to the best of my knowledge & belief, all requirements of 10 CFR Part 20.2003 and 19 CSR Part 20-10.090 governing disposal by release into sanitary sewage for material regulated by the Nuclear Regulatory Commission and the Missouri Department of Health, respectively, have been met for the period covered by this report.

B. RADIOACTIVE MATERIALS DISCHARGE REPORT CERTIFICATION

I certify under penalty of Law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Print/type name of signing official: John Leonard

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Title: Senior Site Director

Telephone: 314-654-1879

Signature: John Leonard

Date: 1/20/17

JAN 25 2017

DIVISION OF ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) _X_(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: Teklab

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	---->		**001**					
DATES ON WHICH SAMPLES WERE COLLECTED	---->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	---->		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	1,000					gal/day
NO MONITORING REQUIRED (Sanitary Only)								
There have been no change in the character of the wastes discharged since the last report.								

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JAN 25 2017

DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) __(APR-JUNE) __(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: Teklab

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**002**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	2,200					gal/day
NO MONITORING REQUIRED (Sanitary Only)								
There have been no change in the character of the wastes discharged since the last report.								

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) _X___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**003**		**009**		**099**	
DATES ON WHICH SAMPLES WERE COLLECTED	----->		10/11/2016		10/11/2016		Calculated	
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 1:15; Comp Start: 1:50; End: 1:20		Grab: 1:50; Comp Start: 2:10; End: 1:55		N/A	
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	20,327	E	7,700	E	12,627	gal/day
Oil & Grease	200	G	21	G	8	E	29	mg/l
Biochemical Oxygen Demand	****	C	106	C	91	E	115	mg/l
Chemical Oxygen Demand	****	C	246	C	246	E	246	mg/l
Total Suspended Solids	****	C	32	C	36	E	30	mg/l
Temperature	60	G	26.1	G	25.5	E	25.8	deg C
pH	5.5-11.5	G	6.7	G	7.0	E	6.9	S.U.
**** No limits for SP003 or SP009; monitoring requirement only for calculation at SP099								
Shaded values represent detection limits								
Lab Dilution Factor			1		1		N/A	

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JAN 25 2017

DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) ___(APR-JUNE) __(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**005**						
DATES ON WHICH SAMPLES WERE COLLECTED	----->		10/12/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 1:15; Comp Start: 1:35; End: 12:35						
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo							UNITS
FLOW		E	1,000						gal/day
Oil & Grease	200	G	8						mg/l
Biochemical Oxygen Demand[1]	****	C	149						mg/l
Chemical Oxygen Demand	****	C	241						mg/l
Total Suspended Solids	****	C	<6						mg/l
Temperature	60	G	25.5						deg C
pH	5.5 - 11.5	G	6.9						S.U.
**** No limits for SP005									
Shaded values represent detection limits									

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ENVIRONMENTAL COMPLIANCE

1

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) X___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**008**						
DATES ON WHICH SAMPLES WERE COLLECTED	----->		10/17/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		12:00 PM						
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW		E	14,000						gal/day
Oil & Grease	200	G	43						mg/l
Biochemical Oxygen Demand[1]	****	G	62						mg/l
Chemical Oxygen Demand	****	G	169						mg/l
Temperature	60	M	21.0						deg C
Total Suspended Solids	****	G	105						mg/L
pH	5.5 - 11.5	G	see attached pH log						S.U.
Lab Dilution Factor			1						

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JAN 25 2017

DIVISION OF
ENVIRONMENTAL COMPLIANCE

Overflow pH Monitoring

Starting Date: 10/17/2016
Ending Date: 10/19/2016

Sample Point	Date	Time	pH	Sample Point	Date	Time	pH
SP008	10/17/2016	11:00 AM	8.51	SP008	10/18/2016	6:00 AM	9.36
SP008	10/17/2016	11:30 AM	8.09	SP008	10/18/2016	6:30 AM	9.34
SP008	10/17/2016	12:00 PM	8.50	SP008	10/18/2016	7:00 AM	9.17
SP008	10/17/2016	12:30 PM	8.19	SP008	10/18/2016	7:24 AM	9.00
SP008	10/17/2016	1:00 PM	8.27	SP008	10/18/2016	7:54 AM	9.06
SP008	10/17/2016	1:30 PM	8.38	SP008	10/18/2016	8:24 AM	8.75
SP008	10/17/2016	2:00 PM	8.78	SP008	10/18/2016	8:54 AM	9.39
SP008	10/17/2016	2:30 PM	9.03	SP008	10/18/2016	9:24 AM	9.31
SP008	10/17/2016	3:00 PM	9.12	SP008	10/18/2016	9:54 AM	9.33
SP008	10/17/2016	3:30 PM	9.57	SP008	10/18/2016	10:24 AM	8.99
SP008	10/17/2016	4:00 PM	8.81	SP008	10/18/2016	10:54 AM	9.41
SP008	10/17/2016	4:30 PM	8.65	SP008	10/18/2016	11:24 AM	9.19
SP008	10/17/2016	5:00 PM	8.84	SP008	10/18/2016	11:54 AM	9.05
SP008	10/17/2016	5:30 PM	8.83	SP008	10/18/2016	12:24 PM	9.01
SP008	10/17/2016	6:00 PM	8.81	SP008	10/18/2016	12:54 PM	9.04
SP008	10/17/2016	6:30 PM	9.14	SP008	10/18/2016	1:24 PM	8.98
SP008	10/17/2016	7:00 PM	10.55	SP008	10/18/2016	1:54 PM	9.17
SP008	10/17/2016	7:30 PM	10.76	SP008	10/18/2016	2:24 PM	9.28
SP008	10/17/2016	8:00 PM	10.56	SP008	10/18/2016	2:54 PM	8.68
SP008	10/17/2016	8:30 PM	10.42	SP008	10/18/2016	3:24 PM	9.35
SP008	10/17/2016	9:00 PM	9.74	SP008	10/18/2016	3:54 PM	9.20
SP008	10/17/2016	9:30 PM	9.49	SP008	10/18/2016	4:24 PM	8.89
SP008	10/17/2016	10:00 PM	9.40	SP008	10/18/2016	4:54 PM	9.02
SP008	10/17/2016	10:30 PM	9.36	SP008	10/18/2016	5:24 PM	9.32
SP008	10/17/2016	11:00 PM	9.33	SP008	10/18/2016	5:54 PM	9.19
SP008	10/17/2016	11:30 PM	9.28	SP008	10/18/2016	6:24 PM	9.20
SP008	10/17/2016	12:00 AM	9.26	SP008	10/18/2016	6:54 PM	9.38
SP008	10/17/2016	12:30 AM	9.28	SP008	10/18/2016	7:24 PM	9.20
SP008	10/17/2016	1:00 AM	9.23	SP008	10/18/2016	7:54 PM	9.26
SP008	10/17/2016	1:30 AM	9.36	SP008	10/18/2016	8:24 PM	9.20
SP008	10/17/2016	2:00 AM	8.82	SP008	10/18/2016	8:54 PM	8.93
SP008	10/17/2016	2:30 AM	9.15	SP008	10/18/2016	9:24 PM	9.11
SP008	10/17/2016	3:00 AM	9.40	SP008	10/18/2016	9:54 PM	9.39
SP008	10/18/2016	3:30 AM	9.26	SP008	10/18/2016	10:24 PM	8.99
SP008	10/18/2016	4:00 AM	9.39	SP008	10/18/2016	10:54 PM	9.56
SP008	10/18/2016	4:30 AM	9.39	SP008	10/18/2016	11:24 PM	9.27
SP008	10/18/2016	5:00 AM	8.99	SP008	10/18/2016	11:54 PM	9.19
SP008	10/18/2016	5:30 AM	9.39				

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) __JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**010**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		10/11/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 2:15; Comp Start: 2:30; End: 2:20					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	1,197,295					gal/day
Oil & Grease	200	G	13					mg/l
Biochemical Oxygen Demand	****	C	400					mg/l
Chemical Oxygen Demand	****	C	859					mg/l
Total Suspended Solids	****	C	23					mg/l
Temperature	60	G	32.2					deg C
pH	5.5 - 11.5	G	6.8					S.U.
Chromium	5.0	C	<0.0050					mg/l
Copper	2.7	C	0.0098					mg/l
Nickel	2.3	C	0.0291					mg/l
Zinc	3.0	C	0.0247					mg/l
Cyanide **	1.2	G	<0.007					mg/l
Shaded values represent detection limits								
** Total Cyanide result. Interference prevented analysis of Cyanide Amenable to Chlorination								
Lab Dilution Factor			1,5,1,1,1,1,1,1,1					

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Mallinckrodt pH Monitoring for SP010 October 2016

Date / Time	pH	Total for Event in Minutes
10/1/16 1:05	4.1	5
10/1/16 1:20	3.3	5
10/3/16 22:40	5.4	5
10/5/16 0:25	4.8	5
10/5/16 0:40	5.2	5
10/11/16 0:20	4.8	5
10/11/16 23:15	5.4	5
10/14/16 1:25	5.2	5
10/14/16 23:05	5.3	5
10/15/16 2:45	3.2	5
10/19/16 20:15	4.5	5
10/19/16 21:00	3.5	5
10/19/16 21:15	2.9	5
10/20/16 21:10	4.1	5
10/21/16 9:30	5.4	5
10/21/16 9:55	3.9	5
10/22/16 7:50	3.8	5
10/22/16 8:10	4.9	5
10/22/16 20:50	3.4	5
10/23/16 23:15	4.8	5
10/24/16 1:30	5.0	5
10/24/16 9:30	4.4	5
10/27/16 12:00	4.5	5
	October Total	**115**

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ENVIRONMENTAL COMPLIANCE

Mallinckrodt pH Monitoring for SP010: November 2016

Date / Time	pH	Total for Event in Minutes
11/1/16 17:15	5.3	5
11/2/16 8:30	5.4	5
11/7/16 14:10	5.1	5
11/7/16 14:20	3.5	
11/7/16 14:25	5.4	10
11/7/16 23:50	5.3	5
11/8/16 0:10	3.3	5
11/10/16 17:15	5.2	5
11/11/16 18:10	4.5	5
11/14/16 9:25	3.3	5
11/14/16 9:30	3.3	
11/14/16 12:35	4.1	5
11/15/16 22:30	4.7	5
11/16/16 9:20	3.8	5
11/17/16 12:40	4.4	5
11/17/16 13:10	2.7	5
11/19/16 6:05	3.6	5
11/23/16 9:45	3.4	5
11/24/16 5:05	4.7	5
11/28/16 20:30	4.9	
11/28/16 20:35	3.8	10
11/28/16 20:50	4.0	
11/28/16 20:55	3.5	10
	November Total	**110**

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

Mallinckrodt pH Monitoring for SP010: December 2016

Date / Time	pH	Total for Event in Minutes
12/1/16 17:30	4.4	5
12/2/16 0:00	4.7	5
12/4/16 4:30	5.4	5
12/5/16 19:55	5.5	5
12/6/16 21:00	4.6	5
12/8/16 12:10	5.3	5
12/9/16 5:30	3.7	
12/9/16 5:35	3.7	10
12/9/16 16:35	5.2	5
12/10/16 4:30	3.3	
12/10/16 4:35	3.3	
12/10/16 4:40	4.6	15
12/12/16 16:15	3.3	
12/12/16 16:20	4.0	10
12/13/16 1:10	3.6	5
12/13/16 22:05	3.3	
12/13/16 22:10	4.4	10
12/15/16 0:20	11.5	5
12/17/16 9:55	4.9	5
12/17/16 15:50	5.1	5
12/17/16 16:25	4.9	5
12/18/16 12:15	5.3	
12/18/16 12:20	4.3	10
12/18/16 12:30	3.9	5
12/20/16 11:00	5.3	5
12/20/16 13:05	4.2	5
12/21/16 16:50	4.3	5
12/24/16 20:35	4.6	5
12/24/16 20:45	4.7	5
12/25/16 21:20	11.6	
12/25/16 21:25	11.7	
12/25/16 21:30	11.8	
12/25/16 21:35	11.9	
12/25/16 21:40	11.9	
12/25/16 21:45	11.9	
12/25/16 21:50	11.9	
12/25/16 21:55	11.9	
12/25/16 22:00	11.9	
12/25/16 22:05	11.9	
12/25/16 22:10	11.8	
12/25/16 22:15	11.8	
12/25/16 22:20	11.8	
12/25/16 22:25	11.8	
12/25/16 22:30	11.8	
12/25/16 22:35	11.8	
12/25/16 22:40	11.8	
12/25/16 22:45	11.7	
12/25/16 22:50	11.6	
12/25/16 22:55	11.5	100
12/26/16 2:40	11.6	5
12/26/16 2:55	4.8	
12/26/16 3:00	5.0	
12/26/16 3:05	4.7	
12/26/16 3:10	4.3	20
12/27/16 21:20	4.2	5
12/28/16 17:35	3.7	5
12/29/16 16:40	4.9	5
12/29/16 17:05	4.9	5
	December Total	**290**

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DIVISION OF ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) _X_(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**011**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		10/17/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		10:30 AM					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	14,000					gal/day
Oil & Grease	200	G	<6					mg/l
Biochemical Oxygen Demand	****	G	29					mg/l
Chemical Oxygen Demand	****	G	51					mg/l
Total Suspended Solids	****	G	14					mg/l
Temperature	60	M	21.0					deg C
pH	5.5 - 11.5	G	see attached pH log					S.U.
Shaded values represent detection limits								
Lab Dilution Factor			1					

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

Overflow pH Monitoring

Starting Date: 10/17/2016
Ending Date: 10/18/2016

Sample Point	Date	Time	pH	Sample Point	Date	Time	pH
SP011	10/17/2016	7:30 AM	9.5	SP011	10/18/2016	4:00 AM	9.40
SP011	10/17/2016	8:00 AM	9.8	SP011	10/18/2016	4:30 AM	9.40
SP011	10/17/2016	8:30 AM	9.86	SP011	10/18/2016	5:00 AM	9.40
SP011	10/17/2016	9:00 AM	9.66	SP011	10/18/2016	5:30 AM	9.40
SP011	10/17/2016	9:30 AM	9.05	SP011	10/18/2016	6:00 AM	9.40
SP011	10/17/2016	10:00 AM	8.85	SP011	10/18/2016	6:30 AM	9.36
SP011	10/17/2016	10:30 AM	8.84	SP011	10/18/2016	7:00 AM	9.40
SP011	10/17/2016	11:00 AM	8.76	SP011	10/18/2016	7:30 AM	9.42
SP011	10/17/2016	11:30 AM	9.90	SP011	10/18/2016	8:00 AM	9.38
SP011	10/17/2016	12:00 PM	9.87	SP011	10/18/2016	8:30 AM	9.27
SP011	10/17/2016	12:30 PM	9.77	SP011	10/18/2016	9:00 AM	9.14
SP011	10/17/2016	1:00 PM	9.79	SP011	10/18/2016	9:30 AM	9.15
SP011	10/17/2016	1:30 PM	10.17	SP011	10/18/2016	10:00 AM	9.17
SP011	10/17/2016	2:00 PM	9.01	SP011	10/18/2016	10:30 AM	9.14
SP011	10/17/2016	2:30 PM	8.84	SP011	10/18/2016	11:00 AM	9.21
SP011	10/17/2016	3:00 PM	8.93	SP011	10/18/2016	11:30 AM	9.27
SP011	10/17/2016	3:30 PM	8.81	SP011	10/18/2016	12:00 PM	9.32
SP011	10/17/2016	4:00 PM	9.16	SP011	10/18/2016	12:30 PM	9.33
SP011	10/17/2016	4:30 PM	9.27	SP011	10/18/2016	1:00 PM	9.36
SP011	10/17/2016	5:00 PM	9.21	SP011	10/18/2016	1:30 PM	9.36
SP011	10/17/2016	5:30 PM	9.25	SP011	10/18/2016	2:00 PM	9.01
SP011	10/17/2016	6:00 PM	9.26	SP011	10/18/2016	2:30 PM	9.29
SP011	10/17/2016	6:30 PM	9.27	SP011	10/18/2016	3:00 PM	9.31
SP011	10/17/2016	7:00 PM	9.35	SP011	10/18/2016	3:30 PM	9.31
SP011	10/17/2016	7:30 PM	9.35	SP011	10/18/2016	4:00 PM	9.30
SP011	10/17/2016	8:00 PM	9.34	SP011	10/18/2016	4:30 PM	9.36
SP011	10/17/2016	8:30 PM	9.35	SP011	10/18/2016	5:00 PM	9.38
SP011	10/17/2016	9:00 PM	9.36	SP011	10/18/2016	5:30 PM	9.28
SP011	10/17/2016	9:30 PM	9.36	SP011	10/18/2016	6:00 PM	9.30
SP011	10/17/2016	10:00 PM	9.36	SP011	10/18/2016	6:30 PM	9.28
SP011	10/17/2016	10:30 PM	9.35	SP011	10/18/2016	7:00 PM	9.00
SP011	10/17/2016	11:00 PM	9.37	SP011	10/18/2016	7:30 PM	9.74
SP011	10/17/2016	11:30 PM	9.37	SP011	10/18/2016	8:00 PM	9.45
SP011	10/18/2016	12:00 AM	9.37	SP011	10/18/2016	8:30 PM	9.40
SP011	10/18/2016	12:30 AM	9.37	SP011	10/18/2016	9:00 PM	9.40
SP011	10/18/2016	1:00 AM	9.37	SP011	10/18/2016	9:30 PM	9.40
SP011	10/18/2016	1:30 AM	9.37	SP011	10/18/2016	10:00 PM	9.41
SP011	10/18/2016	2:00 AM	9.38	SP011	10/18/2016	10:30 PM	10.42
SP011	10/18/2016	2:30 AM	9.38	SP011	10/18/2016	11:00 PM	9.43
SP011	10/18/2016	3:00 AM	9.38	SP011	10/18/2016	11:30 PM	9.43
SP011	10/18/2016	3:30 AM	9.41	SP011	10/19/2016	12:00 AM	9.09

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147
Monitoring Period: ____(JAN-MAR) __(APR-JUNE) ___(JULY-SEPT) __X__(OCT-DEC)
Samples Collected By: Mallinckrodt Inc
Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS			---->		**080**						
DATES ON WHICH SAMPLES WERE COLLECTED			---->		NA						
TIMES AT WHICH SAMPLES WERE COLLECTED			---->		NA						
PARAMETER	EPA METHOD	DAILY MAX	AVG MONTHLY	**RECORD SAMPLE TYPES (G, C, M OR E) & RESULTS** G=Grab, C-composite, M=measured flow, E=estimated							UNITS
FLOW				E	*						gal/day
Acetone	524.2	20.70	8.20	G	*						mg/L
n-Amyl Acetate	1666	20.70	8.20	G	*						mg/L
Benzene	524.2	3.00	0.70	G	*						mg/L
n-Butyl acetate	1666	20.70	8.20	G	*						mg/L
Chlorobenzene	524.2	3.00	0.70	G	*						mg/L
Chloroform*	524.2	0.10	0.03	G	*						mg/L
1,2-Dichlorobenzene	524.2	20.70	8.20	G	*						mg/L
1,2-Dichloroethane	524.2	20.70	8.20	G	*						mg/L
Diethyl amine	1671	255.00	100.00	G	*						mg/L
Ethyl Acetate	1666	20.70	8.20	G	*						mg/L
n-Heptane	1666	3.00	0.70	G	*						mg/L
n-Hexane	1666	3.00	0.70	G	*						mg/L
Isobutyraldehyde	1666	20.70	8.20	G	*						mg/L
Isopropyl acetate	1666	20.70	8.20	G	*						mg/L
Isopropyl ether	1666	20.70	8.20	G	*						mg/L
Methylene chloride	524.2	3.00	0.70	G	*						mg/L
Methyl formate	1666	20.70	8.20	G	*						mg/L
4-Methyl-2-pentanone	1666	20.70	8.20	G	*						mg/L
Tetrahydrofuran	1666	9.20	3.40	G	*						mg/L
Toluene	524.2	0.30	0.20	G	*						mg/L
Triethyl amine	1671	255.00	100.00	G	*						mg/L
Xylenes	1666	3.00	0.70	G	*						mg/L
Oil & Grease	1664	200		G	*						mg/L
Biochemical Oxygen Demand		****		C	*						mg/L
Chemical Oxygen Demand		****		C	*						mg/L
Total Suspended Solids		****		C	*						mg/L
Temperature		60		G	*						deg C
pH		5.5 - 11.5		G	*						S.U.
*** No flow from SP080 in 4th QTR 2016**											
Dilution by lab					NA						

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METROPOLITAN ST. LOUIS SEWER DISTRICT
2011 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) _X_(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->>		**080**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->>		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->>		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=						UNITS
FLOW		E	*					gal/day
1,1,1-Trichloroethane		G	*					mg/l
1,1,2,2-Tetrachloroethane		G	*					mg/l
1,1,2-Trichloroethane		G	*					mg/l
1,1-Dichloroethane		G	*					mg/l
1,1-Dichloroethene		G	*					mg/l
1,2-Dichlorobenzene		G	*					mg/l
1,2-Dichloroethane		G	*					mg/l
1,2-Dichloropropane		G	*					mg/l
1,3-Dichlorobenzene		G	*					mg/l
1,4-Dichlorobenzene		G	*					mg/l
2-Chloroethylvinylether		G	*					mg/l
Acrolein		G	*					mg/l
Acrylonitrile		G	*					mg/l
Benzene		G	*					mg/l
Bromodichloromethane		G	*					mg/l
Bromoform		G	*					mg/l
Bromomethane		G	*					mg/l
Carbon Tetrachloride		G	*					mg/l
Chlorobenzene		G	*					mg/l
Chloroethane		G	*					mg/l
Chloroform		G	*					mg/l
Chloromethane		G	*					mg/l
cis-1,3-Dicholropropene		G	*					mg/l
Dibromochloromethane		G	*					mg/l
Ethylbenzene		G	*					mg/l
Methylene Chloride		G	*					mg/l
Tetrachloroethene		G	*					mg/l
Toluene		G	*					mg/l
trans-1,2-Dichloroethene		G	*					mg/l
trans-1,3-Dichloropropene		G	*					mg/l
Trichloroethene		G	*					mg/l
Vinyl Chloride		G	*					mg/l
1,2,4-Trichlorobenzene		G	*					mg/l
2,4,6-Trichlorophenol		G	*					mg/l
2,4-Dichlorophenol		G	*					mg/l
2,4-Dimethylphenol		G	*					mg/l
2,4-Dinitrophenol		G	*					mg/l
2,4-Dinitrotoluene		G	*					mg/l
2,6-Dinitrotoluene		G	*					mg/l
2-Chloronapthalene		G	*					mg/l
2-Chlorophenol		G	*					mg/l
2-Nitrophenol		G	*					mg/l
3,3-Dichlorobenzidine		G	*					mg/l
2-Methyl-4,6-dinitrophenol		G	*					mg/l
4-Bromophenyl-phenylether		G	*					mg/l
4-Chloro-3-methylphenol		G	*					mg/l

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METROPOLITAN ST. LOUIS SEWER DISTRICT
2011 INDUSTRIAL USER SELF MONITORING REPORT

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Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) _X_(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->>		**080**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->>		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->>		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=						UNITS
FLOW		E	*					gal/day
4-Chlorophenyl-phenylether		G	*					mg/l
4-Nitrophenol		G	*					mg/l
Acenapthene		G	*					mg/l
Acenaphthylene		G	*					mg/l
Anthracene		G	*					mg/l
Benzidine		G	*					mg/l
Benzo(a)anthracene		G	*					mg/l
Benzo(a)pyrene		G	*					mg/l
Benzo(b)fluoranthene		G	*					mg/l
Benzo(g,h,i)perylene		G	*					mg/l
Benzo(k)fluoranthene		G	*					mg/l
Bis(2-chloroethoxy)methane		G	*					mg/l
Bis(2-chloroethyl)ether		G	*					mg/l
Bis(2-chloroisopropyl)ether		G	*					mg/l
Bis(2-ethylhexyl)phthalate		G	*					mg/l
Butyl benzyl phthalate		G	*					mg/l
Chrysene		G	*					mg/l
Dibenzo(a,h)anthracene		G	*					mg/l
Diethyl phthalate		G	*					mg/l
Dimethyl phthalate		G	*					mg/l
Di-n-butyl phthalate		G	*					mg/l
Di-n-octyl-phthalate		G	*					mg/l
Fluoranthene		G	*					mg/l
Fluorene		G	*					mg/l
Hexachlorobenzene		G	*					mg/l
Hexachlorobutadiene		G	*					mg/l
Hexachlorocyclopentadiene		G	*					mg/l
Hexachloroethane		G	*					mg/l
Ideno(1,2,3-cd)pyrene		G	*					mg/l
Isophorone		G	*					mg/l
Naphthalene		G	*					mg/l
Nitrobenzene		G	*					mg/l
N-nitrosodimethylamine		G	*					mg/l
N-nitrosodi-n-propylamine		G	*					mg/l
N-nitrosodiphenylamine		G	*					mg/l
Pentachlorophenol		G	*					mg/l
Phenanthrene		G	*					mg/l
Phenol		G	*					mg/l
Pyrene		G	*					mg/l
1,2-Diphenylhydrazine		G	*					mg/l
Total Toxic Organics	5.844	--	*					mg/l
*** No flow from SP080 in 4th QTR 2016**								
Lab Dilution Factor			NA					

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) _X_(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		----->		**905**			
DATES ON WHICH SAMPLES WERE COLLECTED		----->		11/14/2016			
TIMES AT WHICH SAMPLES WERE COLLECTED		----->		9:50 AM			
	MONTHLY LIMIT (ave)	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow				
PARAMETER	(gm/day)	(gm/day)		Results mg/L	Results gm/day		UNITS
FLOW			M	105509			gal/day
1,2,4-Trichlorobenzene	45	182	G	0.008	3.195		gm/day
1,2-Dichlorobenzene	45	182	G	0.0050	1.997		gm/day
1,3-Dichlorobenzene	33	87	G	0.0050	1.997		gm/day
1,4-Dichlorobenzene	33	87	G	0.0050	1.997		gm/day
2-Nitrophenol	15	53	G	0.016	6.390		gm/day
2-Methyl-4,6-dinitrophenol	18	64	G	0.016	6.390		gm/day
4-Nitrophenol	37	132	G	0.016	6.390		gm/day
Acenapthene	4	11	G	0.008	3.195		gm/day
Anthracene	4	11	G	0.008	3.195		gm/day
Bis(2-ethylhexyl)phthalate	22	59	G	0.005	1.997		gm/day
Diethyl phthalate	11	26	G	0.008	3.195		gm/day
Dimethyl phthalate	4	11	G	0.008	3.195		gm/day
Di-n-butyl phthalate	5	10	G	0.008	3.195		gm/day
Fluoranthene	5	12	G	0.008	3.195		gm/day
Fluorene	4	11	G	0.008	3.195		gm/day
Hexachlorobenzene	45	182	G	0.008	3.195		gm/day
Hexachlorobutadiene	33	87	G	0.008	3.195		gm/day
Hexachloroethane	45	182	G	0.008	3.195		gm/day
Naphthalene	4	11	G	0.008	3.195		gm/day
Phenanthrene	4	11	G	0.008	3.195		gm/day
Pyrene	5	11	G	0.008	3.195		gm/day
1,1,1-Trichloroethane	5	14	G	0.0050	1.997		gm/day
1,1,2-Trichloroethane	7	29	G	0.0050	1.997		gm/day
1,1-Dichloroethane	5	14	G	0.0050	1.997		gm/day
1,1-Dichloroethene	5	14	G	0.0050	1.997		gm/day
1,2-Dichloroethane	41	132	G	0.0050	1.997		gm/day
1,2-Dichloropropane	45	182	G	0.0050	1.997		gm/day
Benzene	13	31	G	0.0020	0.799		gm/day
Carbon Tetrachloride	33	87	G	0.0050	1.997		gm/day
Chlorobenzene	33	87	G	0.0050	1.997		gm/day
Chloroethane	25	68	G	0.0100	3.994		gm/day
Chloroform	25	75	G	0.0056	2.236		gm/day
Chloromethane	25	68	G	0.0100	3.994		gm/day
cis-1,3-Dichloropropene	45	182	G	0.0050	1.997		gm/day
Ethylbenzene	33	87	G	0.0050	1.997		gm/day
Methylene Chloride	8	39	G	0.0050	1.997		gm/day
Nitrobenzene	514	1470	G	0.008	3.195		gm/day
Tetrachloroethene	12	38	G	0.0050	1.997		gm/day
Toluene	6	17	G	0.0050	1.997		gm/day
trans-1,2-Dichloroethene	6	16	G	0.0050	1.997		gm/day
trans-1,3-Dichloropropene	45	182	G	0.0050	1.997		gm/day
Trichloroethene	6	16	G	0.0050	1.997		gm/day
Vinyl Chloride	22	44	G	0.0020	0.799		gm/day
Shaded values represent detection limits							
Lab Dilution Factor:				1	1		

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) ____(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**912**		**912**		**912**	
DATES ON WHICH SAMPLES WERE COLLECTED	----->		10/4/2016		11/29/2016		12/14/2016	
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		8:15 AM		7:45 AM		10:00 AM	
		RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW						
PARAMETER	LIMIT	G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		M	48911	M	44330	M	59839	gal/day
DMAC (daily max)	7091	G	623	G	866	G	1016	lb/day
DMAC (monthly average)	5459	G	623	G	866	G	1016	lb/day
(623) lb / day 1 gal / 1 kg / 1e6 mg			1530		2346		2039	mg/L
day (VOL) gal 3.785 L 2.2 lb 1 kg								
Lab Dilution Factor			2		2		2	

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		----->		**915**							
DATES ON WHICH SAMPLES WERE COLLECTED		----->		12/14/2016							
TIMES AT WHICH SAMPLES WERE COLLECTED		----->		09:20 AM							
PARAMETER	MONTHLY AVG LIMIT (mg/L)	DAILY MAX LIMIT (mg/L)	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow								UNITS
FLOW			E	4,746							gal/day
Cyanide (Total)	9.4	33.5	G	0.053							mg/L
Nitrogen, Ammonia (as N)	****	****	G	17600							N
Diethylamine	100	255	G	*							mg/L
Triethylamine	100	255	G	*							mg/L
4-Methyl-2-pentanone	8.2	20.7	G	0.200							mg/L
Diisopropyl ether	8.2	20.7	G	0.100							mg/L
Ethyl acetate	8.2	20.7	G	0.200							mg/L
Isobutyraldehyde	8.2	20.7	G	0.200							mg/L
Isopropyl acetate	8.2	20.7	G	0.100							mg/L
m,p Xylene	0.7	3	G	0.160							mg/L
Methyl formate	8.2	20.7	G	1.000							mg/L
n-Amyl acetate	8.2	20.7	G	0.100							mg/L
n-Butyl acetate	8.2	20.7	G	0.100							mg/L
n-Heptane	0.7	3	G	0.200							mg/L
n-Hexane	0.7	3	G	0.200							mg/L
o-Xylene	0.7	3	G	0.100							mg/L
Tetrahydrofuran	9.2	3.4	G	0.400							mg/L
1,2-Dichlorobenzene	8.2	20.7	G	0.100							mg/L
1,2-Dichloroethane	8.2	20.7	G	0.100							mg/L
Acetone	8.2	20.7	G	1.000							mg/L
Benzene	0.7	3	G	0.100							mg/L
Chlorobenzene	0.7	3	G	0.100							mg/L
Chloroform	0.03	0.1	G	0.020							mg/L
Methylene Chloride	0.7	3	G	0.100							mg/L
Toluene	0.2	0.3	G	0.100							mg/L
Temperature	****	****	E	30							deg C
*Sampling Frequency Requirement 1/year											
Shaded values represent detection limits											
Lab Dilution Factors: 5 (EPA 335.4) 500 (EPA 600 350.1) 20 (EPA 600 1666A, 524.2)											

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**920**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		10/11/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		9:15						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	38,021						gal/day
Cyanide (Total)	9.4	33.5	G	<0.005						mg/l
Tetrahydrofuran	3.4	9.2	G	<0.400						mg/l
Toluene	0.2	0.3	G	<0.100						mg/l
**** No limits for SP920										
Shaded values represent detection limit										
Lab Dilution Factor: 1 (Cyanide), 20 (Tetrahydrofuran, Toluene)				1, 20						

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

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Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**927**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		12/14/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		9:15						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	4,746						gal/day
Acetone	8.2	20.7	G	1.000						mg/l
Ethyl acetate	8.2	20.7	G	0.200						mg/l
Isopropul acetate	8.2	20.7	G	0.100						mg/l
Methylene chloride	0.7	3	G	0.100						mg/l
n-Amyl acetate	8.2	20.7	G	0.100						mg/l
Shaded values represent detection limits										
Lab Dilution Factor:				20						

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		----->		**930**						
DATES ON WHICH SAMPLES WERE COLLECTED		----->		*						
TIMES AT WHICH SAMPLES WERE COLLECTED		----->		*						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	*						gal/day
Acetone	8.2	20.7	G	*						mg/L
Ethyl acetate	8.2	20.7	G	*						mg/L
Isopropyl acetate	8.2	20.7	G	*						mg/L
Methylene chloride	0.7	3	G	*						mg/L
n-Amyl acetate	8.2	20.7	G	*						mg/L
* No flow from SP930 in 4th QTR 2016										
Building not in operation										
Shaded values represent detection limits										
Lab Dilution Factor:										

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

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Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) ____(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**933**					
DATES ON WHICH SAMPLES WERE COLLECTED		---->		*					
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		*					
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW	****	****	E	*					gal/day
Acetone	8.2	20.7	G	*					mg/L
Ethyl acetate	8.2	20.7	G	*					mg/L
Isopropyl acetate	8.2	20.7	G	*					mg/L
Methylene chloride	0.7	3	G	*					mg/L
n-Amyl acetate	8.2	20.7	G	*					mg/L
* No flow from SP933 in 4th QTR 2016									
Building not in operation									
Shaded values represent detection limits									
Lab Dilution Factor:									

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**936**							
DATES ON WHICH SAMPLES WERE COLLECTED		---->		11/14/2016							
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		8:30 AM							
PARAMETER	MONTHLY AVG LIMIT (mg/L)	DAILY MAX LIMIT (mg/L)	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow								UNITS
FLOW			E	13,957							gal/day
Diethylamine	100	255	G	*							mg/L
Triethylamine	100	255	G	*							mg/L
4-Methyl-2-pentanone	8.2	20.7	G	<0.200							mg/L
Diisopropyl ether	8.2	20.7	G	<0.100							mg/L
Ethyl acetate	8.2	20.7	G	<0.200							mg/L
Isobutyraldehyde	8.2	20.7	G	<0.200							mg/L
Isopropyl acetate	8.2	20.7	G	<0.100							mg/L
m,p Xylene	0.7	3	G	<0.160							mg/L
Methyl formate	8.2	20.7	G	<1.000							mg/L
n-Amyl acetate	8.2	20.7	G	<0.100							mg/L
n-Butyl acetate	8.2	20.7	G	<0.100							mg/L
n-Heptane	0.7	3	G	<0.200							mg/L
n-Hexane	0.7	3	G	<0.200							mg/L
o-Xylene	0.7	3	G	<0.100							mg/L
Tetrahydrofuran	9.2	3.4	G	<0.400							mg/L
1,2-Dichlorobenzene	8.2	20.7	G	<0.100							mg/L
1,2-Dichloroethane	8.2	20.7	G	<0.100							mg/L
Acetone	8.2	20.7	G	<1.000							mg/L
Benzene	0.7	3	G	<0.100							mg/L
Chlorobenzene	0.7	3	G	<0.100							mg/L
Chloroform**	0.03	0.1	G	<0.0200							mg/L
Methylene Chloride	0.7	3	G	<0.100							mg/L
Toluene	0.2	0.3	G	<0.100							mg/L
****Chloroform Results**	**Raw Water**	**SP936**	**SP936-Raw Water**								
	0.020	**0.020**		**<0.0200**							
*Sampling Frequency Requirement 1/year											
Shaded values represent detection limits											
Lab Dilution Factors:				20							

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MSD 014273

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**937**					
DATES ON WHICH SAMPLES WERE COLLECTED		---->		10/11/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		9:10					
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW	****	****	E	65,820					gal/day
Cyanide (Total)	9.4	33.5	G	<0.005					mg/l
Tetrahydrofuran	3.4	9.2	G	<0.400					mg/l
Toluene	0.2	0.3	G	<0.100					mg/l
Shaded values represent detection limit									
Lab Dilution Factor: 1 (Cyanide), 20 (Tetrahydrofuran, Toluene)				1, 20					

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**938**					
DATES ON WHICH SAMPLES WERE COLLECTED		---->		12/27/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		8:00					
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW	****	****	E	40					gal/day
Acetone	8.2	20.7	G	1.000					mg/L
Ethyl acetate	8.2	20.7	G	0.200					mg/L
Isopropyl acetate	8.2	20.7	G	0.100					mg/L
Methylene chloride	0.7	3	G	0.100					mg/L
n-Amyl acetate	8.2	20.7	G	0.100					mg/L
Shaded values represent detection limits									
Lab Dilution Factor:				20					

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Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
314-768-6200 www.stlmsd.com

January 23, 2017

Jeff Blaies
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Dear Mr. Blaies:

We have reviewed your application dated January 20, 2017 requesting approval to discharge 2,000 gallons of wastewater to the Metropolitan St. Louis Sewer District for treatment. This wastewater is a 15% ethylene glycol solution from the chiller system associated with Building 250 of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri. We understand that the wastewater will be discharged through sampling point 010.

Based on the information you provided, this wastewater meets MSD Ordinance 12559 standards and is approved for discharge into a sanitary or combined sewer on site. **Due to the assumed elevated chemical oxygen demand (COD) concentration based on the percentage of ethylene glycol in the wastewater, the discharge is limited to 1,100 gallons per hour. This approval is valid for 30 days from the date of this letter.**

You must be certain the waste is discharged into a sanitary or combined sewer inlet only. This letter does not authorize any discharge to a separate storm sewer, or to any watercourse, as any such discharge would be in violation of state and federal laws. **Please notify me at the number below when the discharge is to commence, and please ensure the onsite personnel discharging the wastewater in question are provided with a copy of this letter.**

For billing purposes associated with this high strength wastewater, you must confirm the volume of this wastewater discharged to us, in writing, at the completion of the discharge. This report is due no later than 28 days after this approval expires. Please refer to this letter and include the date of the discharge when providing that figure. Under the provisions of Ordinance 14395, you will be billed by invoice at the billing rate in effect at the time of discharge. The current rate contained in MSD Ordinance 14395 is $327.00 per ton for COD over 600 mg/L. Using the assumed COD concentration based on the percent of propylene glycol contained in the wastewater in question, and the proposed discharge volume provided in your application, it is estimated that you will be discharging just over one ton of COD over 600 mg/L. (Our quantitative estimate is 1.25 tons COD times $327.00.) Please do not pay this amount until you receive our invoice.

This discharge has been approved based upon the information and sample analysis you provided, and is subject to the conditions stated above. This approval may be revoked by the District at any time if any of the information is found to be incorrect, or if the conditions of this approval are violated. Also, if the discharge causes any operational or maintenance problem within the District's collection or treatment system, or results in violations of any conditions of the District's NPDES permit, Mallinckrodt will be considered responsible for damages. If you have any questions, please call me at (314) 436-8755.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace

Steve Grace
Environmental Assistant Engineer

bv

ec: Brian Gibson
Doug Mendoza

File: IU, MALLINCKRODT INC [1011728100]

C1A

SD EVALUATION CHECKLIST - ON SITE

APPLICATION INFORMATION

Source Name: Mallinckrodt LLC Evaluated by: SMG

Premise Address: 3600 N. 2nd St. Date: 1/23/17

Send approval letter to applicant

Application Dated: 1/20/17 Received: 1/20/17 All Requested Info. Received: 1/20/17

SOURCE FILING/DESCRIPTION

1 - Source in PIMS? (Y) / N
2 - If No, on IU Cross-Ref list? * Y / N
3 - If No, MSD Account # from E-CIS? Y / N
4 - If none, on "Source" list (pre-IMS)? ** Y / N
5 - If No, assigned SOUR# from PIMS.

SOURCE TYPE (circle): (IU) / Dead IU / SD

INDUSTRY ID: 1011728100

* o:\costrecovery\cross reference xls file

** o:\costrecovery\sourlist xls file

Sample Point: No. Assigned: 815 Description: 15% ethylene glycol soln. from Bldg. 250 chiller system

Normal WW flow from premise? N/A _____ ccf/month, 1,148,137 GPD, _____ GPH. @ SP010

REGULATORY STATUS

Is waste a Hazardous Waste? (N) / Y _____

Categorical standards apply? (N) / Y _____

Contain PCB/ asbestos/ radioactive/ dioxin/ used oil? (N) / Y _____

Regulatory Agency Oversight? (N) / Y _____

DISCHARGE CONSIDERATIONS At MSD's connection:

Ordinance Limits (12559, p. 32) exceeded? (N) / Y _____

Ordinance other limits exceeded (dye, flash pt <140° F, temp >140° F, obstruction, nuisance foaming/odor, corrosion causing): (N) / Y _____

Water Quality Standard exceeded? (N) / Y _____

Fumes in sewer exceed PEL/TLV limits? (N) / Y _____

Vapors in sewer exceed 10% of LEL? (N) / Y _____

RECOMMENDATION: (APPROVE) / DENY (cc WWTP Mgr for timed discharge)

APPROVAL CONDITIONS:

Timed Discharge (COD/BOD/WQ/foam): N / (Y) Limit = 1,100 gal/hour

Require Treatment before Discharge? (N) / Y _____

Laboratory analysis fee due? (N) / Y $_____

SMR required? (N) / Y Frequency/analysis: _____

SMR log: (N/A) / Remediation.xls / Nonremediation.xls

Volume Billing applies (water unmetered or credited)? (N) / Y

Bill High Strength? N / (Y) Yes, If use >60,000 gal/month water ✓ and, > norm WW strgth

Surcharge calculation attached: N/A / N / (Y)

Expiration log updated: (N/A) / N / Y

O:\CostRecovery\Special Discharge\C1a.Checklist.doc

On-Site Special Discharge High Strength Flow Rate and Surcharge Calculator

1 GENERAL INFORMATION:

Date: 01/23/17
Calculated by: Steve Grace
Source name: MALLINCKRODT LLC [1011728100]
Waste material: 15% used ethylene glycol solution from building 250 chiller system
Discharge volume: 2,000 gallons

2 STRENGTH INFORMATION:

Sample BOD =	0	mg/l =	0	lbs BOD to be discharged
Sample COD =	150,000	mg/l =	2502	lbs COD to be discharged
Sample TSS =		mg/l =	for surcharge calculation only	

3 PLANT DATA: 2007

Treatment area: Bissell

	Flow (MGD)	BOD (mg/L)	COD (mg/L)	BOD (lb/hr)	COD (lb/hr)	Max Loading = 10% BOD (lb/hr)	COD (lb/hr)
Bissell	**140**	**146**	**292**	**7,113**	**14,227**	**711**	**1,423**
Coldwater	23	226	452	1,768	3,535	177	354
Fenton	5	307	614	482	964	48	96
Grand Glaize	16	152	399	830	2,183	83	218
Lemay	122	81	228	3,438	9,610	344	961
Lower Meramec	10	124	364	452	1,326	45	133
Missouri River	28	281	561	2,732	5,465	273	546

4 MINIMUM REQUIRED FLOW RATE:

	BOD (hours)	BOD (gpm)	COD (hours)	COD (gpm)
Bissell	**0.00**	**0**	**1.76**	**19**
Coldwater	0.00	0	7.08	5
Fenton	0.00	0	25.94	1
Grand Glaize	0.00	0	11.46	3
Lemay	0.00	0	2.60	13
Lower Meramec	0.00	0	18.86	2
Missouri River	0.00	0	4.58	7

5 SURCHARGE AND VOLUME BILLING

Is volume subject to billing? no (yes/no)
Ratio of BOD/COD = 0.00

(Sample BOD) - 300 = 0 mg/l subject to surcharge
(sample COD) - 600 = 149400 mg/l subject to surcharge
(sample TSS) - 300 = 0 mg/l subject to surcharge

If BOD/COD ratio <= 0.35, the following calculations use the COD value. Otherwise they use the BOD value

Current rates under Ordinance: 14395

Volume =	$ 3.59	/CcF
BOD =	$ 654.00	/ton
COD =	$ 327.00	/ton
TSS =	$ 262.00	/ton

Flow charge = $ - based on volume = 2.7 CcF
BOD surcharge = $ -
COD surcharge = $ 407.55
TSS surcharge = $ -
Total discharge charge = $ 407.55
Customer charge = $ 407.55 DEC charges special discharge customers for total charges > $20.00
Approximate charge/gallon = $ 0.20

Comments

require volume report for billing purposes. Smg

Metropolitan St. Louis Sewer District
2350 Market Street
St. Louis, MO 63103

APPLICATION FOR SPECIAL DISCHARGE APPROVAL

I. WASTEWATER SOURCE IDENTIFICATION:

Site Name: Mallinckrodt LLC
Premise Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Owner: Mallinckrodt LLC
Contact Person: Jeff Blaies
Title: Principal EHS Engineer
Phone: 314.654.2149 Fax: 314.654.1251

II. APPLICANT (mailing information):

Applicant Name: Jeff Blaies
Title: Principal EHS Engineer
Company Name: Mallinckrodt LLC
Mailing Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Phone: 314.654.2149 Fax: 314.654.1251

III. A. MATERIAL TO BE DISCHARGED (check all applicable boxes):

1. Wastewater description/location: Out of spec ethylene glycol/Bldg 250
2. Process/activity generating wastewater: Building operations generated an out of specification batch of glycol/water.
3. Physical and chemical composition: List all constituents, and known or potentially present regulated contaminants below.
   ☐ See separate listing enclosed, and/or ☐ See analytical results enclosed, and/or ■ Material Safety Data Sheet enclosed.

DESCRIPTION	RANGE	UNIT
Ethylene Glycol	5-15	%
Water	85-95	%
Solids	<1	%

DESCRIPTION *(continued)*	RANGE	UNIT

4. Is this wastewater from a process subject to EPA's categorical standards in 40 CFR Subchapter N? ☐ Yes ☑ No
   a. If yes, the applicable standards are in: 40 CFR Part _____, Subpart _____ ☐ Existing source ☐ New source
5. Does this wastewater contain polychlorinated biphenyls, asbestos or radioactive material? ☐ Yes ☑ No
   a. If yes, describe: _____
6. Representative sample: ☐ Laboratory results attached, and/or ☐ Sample provided (1/2 gallon minimum, clear container)
   a. Sample collection point/location: _____ Collection method: _____
   b. Sampler's name/Co.: _____ Sample date/time: _____
   c. Attach chain of custody as available
7. Discharge will occur over the following time period: ■ < 30 days ☐ ≥ Two years ☐ Other: _____
   a. Expected total volume of wastewater to be discharged over the time period above: _____ Gallons
   b. Proposed discharge volume: 2,000 Gallons, at a frequency of: ■ One time ☐ Daily ☐ Weekly ☐ Monthly ☐ Once/three months ☐ Once/six months ☐ Other: _____
8. Pretreatment of wastewater prior to discharge: ☐ None ■ Yes, describe: pH adjustment at main plant outfall SP010
   a. If yes, attach site plan, pretreatment system schematic, and design specifications.
9. Wastewater from a remediation project under: ☐ Superfund/CERCLA ☐ RCRA ☐ Voluntary program ☐ UST ■ Not applicable
   a. If from a remediation project, briefly describe the past and present utilization of the property: _____

III.B. MATERIAL FROM UNDERGROUND STORAGE TANK SOURCE

☒ **Not applicable (go to Section IV)**

Please answer the following questions if you are requesting to discharge wastewater associated with an underground storage tank system.

1. a. Wastewater from: ☐ Inside UST(s) ☐ UST system pit ☐ Excavation outside UST system pit ☐ Monitoring well ☐ Groundwater remediation system

   b. UST project involves wastewater from: ☐ UST(s) closed in place ☐ UST(s) removed ☐ Remediation ☐ Upgrade ☐ Maintenance activities ☐ Well monitoring ☐ Other, explain: _____

   c. If wastewater is from a closure project, how long has UST(s) been out of service: _____ years

2. a. State assigned UST site identification number: _____ ☐ Not applicable

   b. Number of USTs affected: _____ ☐ Unknown

   c. For the UST(s) involved, their state identification number(s): _____ ☐ Not applicable

   d. Service Station Identification Number, as applicable: _____

3. Tank contents/former contents: ☐ Gasoline ☐ #2 diesel ☐ Used oil ☐ Unknown ☐ Other: _____

IV. DISCHARGE LOCATION

1. ☒ On-site. Describe proposed point of entry to sewer and the discharge rate (must be a sanitary or combined sewer): Plant sewer to main outfall SP010 Note: Range of discharge must not surcharge sewer line.

2. ☐ Haul to MSD Bissell Point Hauled Waste Receiving Station at 10 E. Grand, St. Louis, MO.

   a. Transporters Name: _____ and MSD Hauler ID Number: _____

   b. Hazardous Waste Certification:

   For wastewater which is hauled to MSD's Bissell Point Hauled Waste Receiving Station, I hereby certify that to the best of my knowledge and belief, the above hauled waste is not classified as a RCRA "hazardous waste" as defined by the MDNR in 10 CSR 25 or USEPA in 40 CFR Part 261.

   Applicant Name (print): _____

   Signature: _____ **Date:** _____

ADDITIONAL INFORMATION:

_____

V. APPLICANT SIGNATURE AND CERTIFICATION

This application must be signed by the applicant: either the source contact, or a contractor or agent directly responsible for site activities.

I hereby certify that I am directly responsible for activities at the site regarding the wastewater to be discharged, and to the best of my knowledge and belief, based on appropriate inquiry, the information in this application is true, complete, and accurate. The samples or analyses submitted are representative of the materials to be discharged. If granted approval to discharge, I agree to abide by the MSD Ordinances, and all applicable federal, state and local regulations. I agree to pay the costs of any pre-approval analyses performed by MSD and to pay any applicable disposal charges for the volume and strength of the wastes discharged.

Applicant Name (print): Jeff Blaies

Signature: Jeff Blaies **Date:** 01/20/2017

FOR MSD USE ONLY:

File Name: Mallinckrodt LLC ID No. 1011728100 Sample Point No. 815

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

December 6, 2016

Jeff Blaies
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Dear Mr. Blaies:

We have reviewed your application dated November 28, 2016 requesting approval to discharge 2,100 gallons of wastewater to the Metropolitan St. Louis Sewer District for treatment. This wastewater consists of an out of specification batch of MP104 and water from Building 504 of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri. Information provided previously indicates MP104 is an intermediary during the production of Ioversol, which is a contrast imaging media product for injecting into patients for image testing. The wastewater in question will be discharged through sampling point 010.

Based on the information you provided, this wastewater meets MSD Ordinance 12559 standards and is approved for discharge into a sanitary or combined sewer on site. **Due to the assumed elevated chemical oxygen demand (COD) concentration, the discharge is limited to 1,300 gallons per hour. This approval is valid for 30 days from the date of this letter.**

You must be certain the waste is discharged into a sanitary or combined sewer inlet only. This letter does not authorize any discharge to a separate storm sewer, or to any watercourse, as any such discharge would be in violation of state and federal laws. **Please notify me at the number below when the discharge is to commence, and please ensure the onsite personnel discharging the wastewater in question are provided with a copy of this letter.**

For billing purposes associated with this wastewater, you must confirm the volume of this wastewater discharged to us, in writing, at the completion of the discharge. This report is due no later than 28 days after this approval expires. Please refer to this letter and include the date of the discharge when providing that figure. Under the provisions of Ordinance 14395, you will be billed by invoice at the billing rate in effect at the time of discharge. The current rate contained in MSD Ordinance 14395 is $327.00 per ton for chemical oxygen demand (COD) over 600 mg/L. Using the assumed COD concentration based on the percent of MP104 contained in the wastewater in question, and the volume indicated on the application, it is estimated that you will be discharging just over one ton of COD over 600 mg/L (our quantitative estimate is 1.13 tons COD times $327.00). Please do not pay this amount until you receive our invoice.

This discharge has been approved based upon the information and sample analysis you provided, and is subject to the conditions stated above. This approval may be revoked by the District at any time if any of the information is found to be incorrect, or if the conditions of this approval are violated. Also, if the discharge causes any operational or maintenance problem within the District's collection or treatment system, or results in violations of any conditions of the District's NPDES permit, Mallinckrodt LLC will be considered responsible for damages. If you have any questions, please call me at (314) 436-8755.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace
Steve Grace
Environmental Assistant Engineer

bv

ec: Brian Gibson, Doug Mendoza
File: IU, MALLINCKRODT INC [1011728100]

C1A

SD EVALUATION CHECKLIST - ON SITE

APPLICATION INFORMATION

Source Name: Mallinckrodt, LLC Evaluated by: SMG

Premise Address: 3600 N. 2nd St. Date: 12/6/16

Send approval letter to applicant

Application Dated: 11/28/16 Received: 11/30/16 All Requested Info. Received: 11/30/16

SOURCE FILING/DESCRIPTION

1 - Source in PIMS? (Y) / N
2 - If No, on IU Cross-Ref list? * Y / N
3 - If No, MSD Account # from E-CIS? Y / N
4 - If none, on "Source" list (pre-IMS)? ** Y / N
5 - If No, assigned SOUR# from PIMS.

SOURCE TYPE (circle): (IU) / Dead IU / SD

INDUSTRY ID: 1011728100

* o:\costrecovery\cross reference xls file

** o:\costrecovery\sourlist xls file

Sample Point: No. Assigned: 845 Description: out of spec. batch of MP104 from Bldg. 504

Normal WW flow from premise? (N/A) _____ ccf/month, _____ GPD, _____ GPH.

REGULATORY STATUS

Is waste a Hazardous Waste? (N) / Y _____

Categorical standards apply? (N) / Y _____

Contain PCB/ asbestos/ radioactive/ dioxin/ used oil? (N) / Y _____

Regulatory Agency Oversight? (N) / Y _____

DISCHARGE CONSIDERATIONS At MSD's connection:

Ordinance Limits (12559, p. 32) exceeded? (N) / Y _____

Ordinance other limits exceeded (dye, flash pt <140° F, temp >140° F, obstruction, nuisance foaming/odor, corrosion causing): (N) / Y _____

Water Quality Standard exceeded? (N) / Y _____

Fumes in sewer exceed PEL/TLV limits? (N) / Y _____

Vapors in sewer exceed 10% of LEL? (N) / Y _____

RECOMMENDATION: (APPROVE) / DENY (cc WWTP Mgr for timed discharge)

APPROVAL CONDITIONS:

Timed Discharge (COD/BOD/WQ/foam): N / (Y) Limit = 1300 gal/hour

Require Treatment before Discharge? (N) / Y _____

Laboratory analysis fee due? (N) / Y $_____

SMR required? (N) / Y Frequency/analysis: _____

SMR log: (N/A) / Remediation.xls / Nonremediation.xls

Volume Billing applies (water unmetered or credited)? (N) / Y

Bill High Strength? N / (Y) Yes, If use >60,000 gal/month water ✓ and, > norm WW strgth

Surcharge calculation attached: N/A / N / (Y)

Expiration log updated: (N/A) / N / Y

O:\CostRecovery\Special Discharge\C1a.Checklist.doc

On-Site Special Discharge High Strength Flow Rate and Surcharge Calculator

1 GENERAL INFORMATION:

Date: 12/06/16
Calculated by: Steve Grace
Source name: Mallinckrodt LLC
Waste material: MP-2106 contrast imaging media solution
Discharge volume: 2,100 gallons

2 STRENGTH INFORMATION:

Sample BOD =	0	mg/l =	0	lbs BOD to be discharged
Sample COD =	130,000	mg/l =	2277	lbs COD to be discharged
Sample TSS =	100	mg/l =	for surcharge calculation only	

3 PLANT DATA: 2010

Treatment area: Bissell

	Flow (MGD)	BOD (mg/L)	COD (mg/L)	BOD (lb/hr)	COD (lb/hr)	Max Loading = 10% BOD (lb/hr)	COD (lb/hr)
Bissell	**140**	**146**	**292**	**7,113**	**14,227**	**711**	**1,423**
Coldwater	26	188	377	1,704	3,408	170	341
Fenton	5	388	776	679	1,357	68	136
Grand Glaize	16	129	405	708	2,218	71	222
Lemay	131	78	210	3,531	9,584	353	958
Lower Meramec	13	124	409	543	1,785	54	179
Missouri River	27	280	559	2,671	5,341	267	534

4 MINIMUM REQUIRED FLOW RATE:

	BOD (hours	BOD (gpm)	COD (hours)	COD (gpm)
Bissell	**0.00**	**0**	**1.60**	**22**
Coldwater	0.00	0	6.68	5
Fenton	0.00	0	16.77	2
Grand Glaize	0.00	0	10.27	3
Lemay	0.00	0	2.38	15
Lower Meramec	0.00	0	12.76	3
Missouri River	0.00	0	4.26	8

5 SURCHARGE AND VOLUME BILLING

Is volume subject to billing? no (yes/no)
Ratio of BOD/COD = 0.00

(Sample BOD) - 300 = 0 mg/l subject to surcharge
(sample COD) - 600 = 129400 mg/l subject to surcharge
(sample TSS) - 300 = 0 mg/l subject to surcharge

If BOD/COD ratio <= 0.35, the following calculations use the COD value. Otherwise they use the BOD value

Current rates under Ordinance: 14395

Volume =	$ 3.59	/CcF
BOD =	$ 654.00	/ton
COD =	$ 327.00	/ton
TSS =	$ 262.00	/ton

Flow charge = $ - based on volume = 2.8 CcF
BOD surcharge = $ -
COD surcharge = $ 370.64
TSS surcharge = $ -
Total discharge charge = $ 370.64
Customer charge = $ 370.64 DEC charges special discharge customers for total charges > $20.00
Approximate charge/gallon = $ 0.18

Comments

require volume report for billing purposes. Smg

Metropolitan St. Louis Sewer District
2350 Market Street
St. Louis, MO 63103

APPLICATION FOR SPECIAL DISCHARGE APPROVAL

I. WASTEWATER SOURCE IDENTIFICATION:

Site Name: Mallinckrodt LLC
Premise Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Owner: Mallinckrodt LLC
Contact Person: Jonathan Eckles
Title: Environmental Manager
Phone: 314.654.2149 Fax: 314.654.1251

II. APPLICANT (mailing information):

Applicant Name: Jonathan Eckles
Title: Environmental Manager
Company Name: Mallinckrodt LLC
Mailing Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Phone: 314.654.2149 Fax: 314.654.1251

III. A. MATERIAL TO BE DISCHARGED (check all applicable boxes):

1. Wastewater description/location: Out of spec MP104 & Water/Bldg 504
2. Process/activity generating wastewater: Manufacturing error created material that cannot be recovered or reprocessed.
3. Physical and chemical composition: List all constituents, and known or potentially present regulated contaminants below.
   ☐ See separate listing enclosed, and/or ☐ See analytical results enclosed, and/or ☒ Material Safety Data Sheet enclosed.

DESCRIPTION	RANGE	UNIT
MP2106	13	%
NaCl (salt)	2	%
Dimethyl Acetamide	5	%
Sodium Chloroacetate	8	%

DESCRIPTION *(continued)*	RANGE	UNIT
WATER	72	%

4. Is this wastewater from a process subject to EPA's categorical standards in 40 CFR Subchapter N? ☐ Yes ☑ No
   a. If yes, the applicable standards are in: 40 CFR Part _____, Subpart _____ ☐ Existing source ☐ New source
5. Does this wastewater contain polychlorinated biphenyls, asbestos or radioactive material? ☐ Yes ☑ No
   a. If yes, describe: _____
6. Representative sample: ☐ Laboratory results attached, and/or ☐ Sample provided (1/2 gallon minimum, clear container)
   a. Sample collection point/location: _____ Collection method: _____
   b. Sampler's name/Co.: _____ Sample date/time: _____
   c. Attach chain of custody as available
7. Discharge will occur over the following time period: ☒ < 30 days ☐ ≥ Two years ☐ Other: _____
   a. Expected total volume of wastewater to be discharged over the time period above: _____ Gallons
   b. Proposed discharge volume: 2100 Gallons, at a frequency of: ☒ One time ☐ Daily ☐ Weekly ☐ Monthly ☐ Once/three months ☐ Once/six months ☐ Other: _____
8. Pretreatment of wastewater prior to discharge: ☐ None ☒ Yes, describe: pH adjustment at main plant outfall SP010
   a. If yes, attach site plan, pretreatment system schematic, and design specifications.
9. Wastewater from a remediation project under: ☐ Superfund/CERCLA ☐ RCRA ☐ Voluntary program ☐ UST ☒ Not applicable
   a. If from a remediation project, briefly describe the past and present utilization of the property: _____

III.B. MATERIAL FROM UNDERGROUND STORAGE TANK SOURCE

☒ **Not applicable (go to Section IV)**

Please answer the following questions if you are requesting to discharge wastewater associated with an underground storage tank system.

1. a. Wastewater from: ☐ Inside UST(s) ☐ UST system pit ☐ Excavation outside UST system pit ☐ Monitoring well ☐ Groundwater remediation system

   b. UST project involves wastewater from: ☐ UST(s) closed in place ☐ UST(s) removed ☐ Remediation ☐ Upgrade ☐ Maintenance activities ☐ Well monitoring ☐ Other, explain: _____

   c. If wastewater is from a closure project, how long has UST(s) been out of service: _____ years

2. a. State assigned UST site identification number: _____ ☐ Not applicable

   b. Number of USTs affected: _____ ☐ Unknown

   c. For the UST(s) involved, their state identification number(s): _____ ☐ Not applicable

   d. Service Station Identification Number, as applicable: _____

3. Tank contents/former contents: ☐ Gasoline ☐ #2 diesel ☐ Used oil ☐ Unknown ☐ Other: _____

IV. DISCHARGE LOCATION

1. ☒ On-site. Describe proposed point of entry to sewer and the discharge rate (must be a sanitary or combined sewer): _____
Plant sewer to main outfall SP010 Note: Range of discharge must not surcharge sewer line.

2. ☐ Haul to MSD Bissell Point Hauled Waste Receiving Station at 10 E. Grand, St. Louis, MO.

   a. Transporters Name: _____ and MSD Hauler ID Number: _____

   b. Hazardous Waste Certification:

   For wastewater which is hauled to MSD's Bissell Point Hauled Waste Receiving Station, I hereby certify that to the best of my knowledge and belief, the above hauled waste is not classified as a RCRA "hazardous waste" as defined by the MDNR in 10 CSR 25 or USEPA in 40 CFR Part 261.

   Applicant Name (print): _____

   Signature: _____ **Date:** _____

ADDITIONAL INFORMATION:

Please email a copy of the permit to jeff.blales@mallinckrodt.com

V. APPLICANT SIGNATURE AND CERTIFICATION

This application must be signed by the applicant: either the source contact, or a contractor or agent directly responsible for site activities.

I hereby certify that I am directly responsible for activities at the site regarding the wastewater to be discharged, and to the best of my knowledge and belief, based on appropriate inquiry, the information in this application is true, complete, and accurate. The samples or analyses submitted are representative of the materials to be discharged. If granted approval to discharge, I agree to abide by the MSD Ordinances, and all applicable federal, state and local regulations. I agree to pay the costs of any pre-approval analyses performed by MSD and to pay any applicable disposal charges for the volume and strength of the wastes discharged.

Applicant Name (print): Jonathan Eckles

Signature: _____ **Date:** 11/28/16

FOR MSD USE ONLY:

File Name: Mallinckrodt LLC ID No. 1011728100 Sample Point No. 845

IU-Mallinckrodt LLC-SP815
3600 N. 2nd St.
#1011728100

Steve Grace

From: Blaies, Jeff T <Jeff.Blaies@mallinckrodt.com>
Sent: Tuesday, November 29, 2016 2:42 PM
To: Steve Grace
Subject: RE: Mallinckrodt SP815 9-27-16.docx

Steve;
My apologizes for not responding sooner. A few weeks ago, I was able to find a customer for the 3,500 gallons of virgin Ethylene Glycol so we will not need the discharge permit for the 100% ethylene glycol. Thanks for following up on the status of the permit.

Sincerely,

Jeff Blaies | Principal EHS Engineer
Mallinckrodt Pharmaceuticals
Mallinckrodt Pharmaceuticals
3600 N Second St | Z-4
St. Louis, MO | USA 63147
T: 314.654.2149 | M: 314.239.2736

Jeff.blaies@mallinckrodt.com | www.mallinckrodt.com

This information may be confidential and/or privileged. Use of this information by anyone other than the intended recipient is prohibited. If you receive this in error, please inform the sender and remove any record of this message.

From: Steve Grace [mailto:sgrace@stlmsd.com]
Sent: Monday, November 28, 2016 3:29 PM
To: Blaies, Jeff T
Subject: FW: Mallinckrodt SP815 9-27-16.docx

Hello Jeff,

Wanted to circle back with you regarding the approval below. Had you already submitted the volume report for this discharge? The past month or so has been hectic, and I couldn't remember if you had yet or not.

Contact me with any questions.

Thanks,
Steve Grace

From: Rebecca Vitelli
Sent: Wednesday, September 28, 2016 8:57 AM
Cc: Steve Grace; Brian G. Gibson; Doug Mendoza
Subject: Mallinckrodt SP815 9-27-16.docx

September 27, 2016

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

November 17, 2016

Jeff Blaies
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Re: Wastewater User Charge Billing for Special Discharge

Dear Mr. Blaies:

This is to advise you of the wastewater user charges applicable to an on-site special discharge approved in our letter to you dated September 27, 2016. That charge was determined using the propylene glycol concentration in the application for special discharge. The discharge dates and quantities are from information submitted by you in an email dated November 15, 2016.

Our Finance Department will bill you by invoice for the charges described below. These charges are based on the rates in MSD Wastewater User Charge Ordinance 14395. For your convenience, using the volume and strength of the waste discharged, the ordinance rates have been converted to a per-gallon basis.

PARTY TO BILL: Addressee

BILLING IS FOR: On-Site Special Discharge

DISCHARGE PERIOD: October 25-27, 2016

SOURCE OF WASTE: Spent 50% propylene glycol mixture from Building 200W of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri.

Discharge Period	Billing Item	Quantity	Units	Rate	Charge
10/25-27/16	Extra-Strength Surcharge	6,000	Gal	$0.68	$4,080.00
Total:	------	**6,000**	Gal	-----	**$4,080.00**

Please do not pay until you receive our invoice. Payments made without invoice could potentially be misapplied.

If you have any questions, please contact me at (314) 436-8755.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace

Steve Grace
Environmental Assistant Engineer

bv

ec: Doug Mendoza, Brian Gibson

File: IU, MALLINCKRODT LLC [1011728100], 3600 N. 2nd Street, St. Louis

Steve Grace

From: Blaies, Jeff T <Jeff.Blaies@mallinckrodt.com>
Sent: Tuesday, November 15, 2016 11:25 AM
To: Steve Grace
Cc: Eckles, Jonathan; Mahl, Tommy
Subject: FW: 6,000 Gallons Glycol Discharge to MSD

Steve;
As I had mentioned before the discharge of the 6,000 gallons of 50% propylene glycol started on 10/25/2016 at 14:30. The end time was 10/27/16 around 14:30 and discharged at a flow rate of 3 gallons per minute (Permit limit of 6 gallons per minute).

Any residual glycol in the lines will be flushed with water and discharged to the sewer as part of this permit.

Please let me know if you have any questions.

Thanks,

Jeff Blaies | Principal EHS Engineer
Mallinckrodt Pharmaceuticals
Mallinckrodt Pharmaceuticals
3600 N Second St | Z-4
St. Louis, MO | USA 63147
T: 314.654.2149 | M: 314.239.2736

Jeff.blaies@mallinckrodt.com | www.mallinckrodt.com

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From: Blaies, Jeff T
Sent: Thursday, October 27, 2016 11:24 AM
To: Steve Grace
Cc: Eckles, Jonathan; Mahl, Tommy
Subject: FW: 6,000 Gallons Glycol Discharge to MSD

Steve;
I was told today that they are having trouble discharging all the 50% glycol to the sewer. The discharge rate have been within the 6 gallon/minute permitted rate (Closer to 2.5 to 3 gallon/minute). Due to piping configuration, the lines will take a week or two to completely empty the system. I will let you know the end time of the discharge. Do you want to know if we start and stop the discharge to the sewer as long as we stay within the discharge rate limit?

Thanks,

Jeff Blaies | Principal EHS Engineer

Mallinckrodt Pharmaceuticals
Mallinckrodt Pharmaceuticals
3600 N Second St | Z-4
St. Louis, MO | USA 63147
T: 314.654.2149 | M: 314.239.2736

Jeff.blaies@mallinckrodt.com | www.mallinckrodt.com

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From: Blaies, Jeff T
Sent: Tuesday, October 25, 2016 4:10 PM
To: 'Steve Grace'
Cc: Eckles, Jonathan
Subject: RE: 6,000 Gallons Glycol Discharge to MSD

Steve;
We were able to start today at 14:30. The flow rate is around 2.5 gallons per minute. I will give you the final time and amounts when we receive them.

Jeff Blaies | Principal EHS Engineer
Mallinckrodt Pharmaceuticals
Mallinckrodt Pharmaceuticals
3600 N Second St | Z-4
St. Louis, MO | USA 63147
T: 314.654.2149 | M: 314.239.2736

Jeff.blaies@mallinckrodt.com | www.mallinckrodt.com

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From: Steve Grace [mailto:sgrace@stlmsd.com]
Sent: Tuesday, October 25, 2016 2:25 PM
To: Blaies, Jeff T
Subject: RE: 6,000 Gallons Glycol Discharge to MSD

Gotcha. If you do, just shoot me an email requesting an extension and the reason why. Typically, a 30 day extension won't be a problem at all.

Thanks,
Steve Grace

From: Blaies, Jeff T [mailto:Jeff.Blaies@mallinckrodt.com]
Sent: Tuesday, October 25, 2016 12:28 PM
To: Steve Grace
Subject: FW: 6,000 Gallons Glycol Discharge to MSD

Steve;
I will let you know, but we may need an extension on the 50 % Glycol water mixture that we received a special discharge permit on September 27th.

Thanks,

Jeff Blaies | Principal EHS Engineer
Mallinckrodt Pharmaceuticals
Mallinckrodt Pharmaceuticals
3600 N Second St | Z-4
St. Louis, MO | USA 63147
T: 314.654.2149 | M: 314.239.2736

Jeff.blaies@mallinckrodt.com | www.mallinckrodt.com

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From: Blaies, Jeff T
Sent: Tuesday, October 25, 2016 10:22 AM
To: Byrd, Bruce
Subject: 6,000 Gallons Glycol Discharge to MSD

Bruce;
When do you want to discharge the 6,000 gallons of 50% glycol water? The discharge limit is 360 gallons per hour (6 gpm) permit is only good until Thursday October 27, 2016. I can ask for an extension so let me know.

Jeff Blaies | Principal EHS Engineer
Mallinckrodt Pharmaceuticals
Mallinckrodt Pharmaceuticals
3600 N Second St | Z-4
St. Louis, MO | USA 63147
T: 314.654.2149 | M: 314.239.2736

Jeff.blaies@mallinckrodt.com | www.mallinckrodt.com

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Metropolitan Saint Louis Sewer District
2350 Market Street
Saint Louis, Missouri 63103-2555

MALLINCKRODT LLC
3600 N. 2nd St.
St. Louis, MO 63147

Attn: Brett Shank
EHS Manager

INDUSTRIAL WASTEWATER DISCHARGE PERMIT NUMBER 1011728100

ANNUAL PERMIT FEE NOTICE

For permits in effect as of 10/01/2016.

Fee will be included on the next regular monthly bill from the Metropolitan St. Louis Sewer District.

Explanation of Charges

Fee for Pretreatment Program Discharge Permit covering the period October 1, 2016 through September 30, 2017 issued in accordance with the Metropolitan St. Louis District Ordinance #8660 for the location at **3600 N. 2nd St.**

Base charge @ $150.00 per permit			$ 150.00
Volume charge @$0.72 per average daily Ccf	378.94	Ccfs	$ 272.84
Sample Point Charge @$100.00 per sample point	19	points	$1,900.00
		Total Fee Due:	**$2,322.84**

For inquiries about the Annual Permit Fee, please call 314-436-8756. For inquiries about payment of the fee, which will appear on your upcoming monthly bill, please call 1-866-281-5737.

THIS IS NOT A BILL
DO NOT PAY NOW
FEE WILL BE INCLUDED ON MONTHLY BILL

Mallinckrodt
Pharmaceuticals

SR
11/10

October 13th, 2016

Mr. Doug Mendoza
Metropolitan St. Louis Sewer District
Department of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147

Re: 2016 3rd Quarter Self-Monitoring Report for Permit No. 1011728100-2

Dear Mr. Mendoza,

Please find enclosed the 2016 3rd Quarter Self-Monitoring report for Mallinckrodt LLC.

The following sample points received no pharmaceutical process water flow during the second quarter: SP080, SP927, SP930, and SP933. The lab encountered interference with the Cyanide Amenable to Chlorination method for SP010 and provided a total Cyanide result of <0.007 mg/L, which is well below the permit limit of 1.2 mg/L. Calculated sample point SP099 yielded Oil and Grease and Chemical Oxygen Demand results less than 0. These results are noted for reference.

If you have any questions or require more detailed information, please contact me at 314-654-0138 or via email at jonathan.eckles@mallinckrodt.com.

Sincerely,

Jonathan Eckles
Environmental Manager

ENCLOSURES

RECEIVED
OCT 17 2016
DIVISION OF
ENVIRONMENTAL COMPLIANCE

MALLINCKRODT
3600 NORTH SECOND STREET
ST. LOUIS, MO 63147

TELEPHONE: 314-654-2000
FAX: 314-654-1251

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **MALLINCKRODT LLC**

Permit No: **1011728100-2** Effective Date: June 01, 2015 Expiration Date: May 31, 2020

Premise Address: 3600 North Second Street, 63147

Monitoring Period: ☐(JAN-MAR) ☐ (APR-JUNE) ☒ (JULY-SEPT) ☐(OCT-DEC)

Samples Collected By: _____

Analyses Performed By: _____

PART II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS ⇨								
DATES ON WHICH SAMPLES WERE COLLECTED ⇨								
TIMES AT WHICH SAMPLES WERE COLLECTED ⇨								
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G, C, M OR E) AND RESULTS BELOW (G=grab, C=composite, M=measured flow, E=estimated flow)						UNITS
FLOW								

You must complete and sign the certification statements on the second page.

PART III: SPECIAL CERTIFICATION STATEMENTS

Based on the special conditions contained in your discharge permit you may be required to certify the following. Please review your permit and **PLACE YOUR INITIALS ON THE LINES NEXT TO THE CERTIFICATIONS**.

A	NO CHANGE IN WASTEWATER DISCHARGE AT SAMPLE POINTS WITH NO MONITORING REQUIRED
	For permit special conditions that waive monitoring at any sample point(s) specified in your permit, you are required to make the following certification for each report in which monitoring is waived: __JL__ I certify, since the last discharge monitoring report, there has been no change in the character of the wastes discharged at sample points **001 and 002 and 930**. _____ I certify, since the last discharge monitoring report, there has been no discharge from sample points **008 and 011**.
B	NO CHANGE IN WASTEWATER DISCHARGE AT ACTIVE CONNECTIONS WITHOUT SAMPLE POINTS
	For permit special conditions that waive monitoring at active connection points which are not specified as sample points in your permit, you are required to make the following certification: __JL__ I certify, since the last discharge monitoring report, there has been no change in the character of wastes discharged at those active connection points which are not specified in my permit.
E	NO DISCHARGE OF CATEGORICAL WASTE
	For permit special conditions that prohibit discharge of wastes which are subject to certain categorical pretreatment standards, you are required to make the following certification: __JL__ I certify, since the last discharge monitoring report, there has been no discharge of wastes which are subject to pretreatment standards in 40 CFR 414 (except for those wastes conveyed by Sample Point **905**).
F	CYANIDE NOT USED OR GENERATED IN 40 CFR 439 OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from limitations and monitoring for Total Cyanide at the Pharmaceutical sample points **080, 915, and 936,** subject to the following certification: __JL__ I certify, since the last discharge monitoring report, cyanide has not been used or generated in any pharmaceutical manufacturing process subject to Categorical Standards in 40 CFR 439.
H	CATEGORICAL POLLUTANTS NOT USED OR GENERATED IN CATEGORICAL OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from monitoring for certain 40 CFR 439-regulated pollutants at the Pharmaceutical sample points **915 and 936,** subject to the following certification: __JL__ I certify, since the last discharge monitoring report, the 40 CFR 439-regulated pollutants, as determined in permittee's report dated March 17, 2015, have not been used or generated in any pharmaceutical manufacturing process subject to Categorical Standards in 40 CFR 439. In addition, the above-referenced report remains valid.
I	SURROGATE MONITORING ALLOWED FOR 40 CFR 439 OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from monitoring for certain 40 CFR 439-regulated pollutants, and replaced by monitoring for surrogate pollutant(s), at the Pharmaceutical sample points **920 and 937** subject to the following certification: __JL__ I certify, since the last discharge monitoring report, the 40 CFR 439-regulated pollutants, as determined in permittee's report dated March 17, 2015, continue to receive the same degree of treatment as the surrogate pollutant(s). In addition, the above-referenced report remains valid.

PART IV: GENERAL CERTIFICATION STATEMENTS

B	DISCHARGE MONITORING REPORT CERTIFICATION
	All permittees must sign and complete the information below: I certify under penalty of Law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Print or type name of signing official: John Leonard Title: Senior Site Director Telephone: 314-654-1879 Signature: John Leonard Date: 10/12/2016

RECEIVED
OCT 17 2016
DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST LOUIS SEWER DISTRICT
INDUSTRIAL USER RADIOACTIVE MATERIALS DISCHARGE REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **MALLINCKRODT LLC**

Permit No: 1011728100-2

Premise Address: 3600 North Second Street, St. Louis, MO 63147

Reporting Period: ☐ JAN-MAR ☐ APR-JUN ☒ JUL-SEP ☐ OCT-DEC

PART II: RECORD OF DISPOSAL OF RADIOACTIVE MATERIALS TO THE SEWER SYSTEM

RADIONUCLIDE	ACTIVITY DISCHARGED (millicuries)
TOTAL ACTIVITY DISCHARGED:	**No activity recorded this period.**

PART III: CERTIFICATION STATEMENTS

Place your initials in the box under item A.

Everyone must complete the information under items A & B and sign this report.

A. CERTIFICATION OF COMPLIANCE WITH STATE AND FEDERAL REGULATIONS

☑ I certify that to the best of my knowledge & belief, all requirements of 10 CFR Part 20.2003 and 19 CSR Part 20-10.090 governing disposal by release into sanitary sewage for material regulated by the Nuclear Regulatory Commission and the Missouri Department of Health, respectively, have been met for the period covered by this report.

B. RADIOACTIVE MATERIALS DISCHARGE REPORT CERTIFICATION

I certify under penalty of Law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Print/type name of signing official: John Leonard

Title: Senior Site Director

Telephone: 314-654-1879

Signature: John Leonard

Date: 10/12/2016

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) _X__(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: Teklab

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**001**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	1,000					gal/day
NO MONITORING REQUIRED (Sanitary Only)								
There have been no change in the character of the wastes discharged since the last report.								

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OCT 17 2016

DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) __(APR-JUNE) _X_(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: Teklab

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**002**						
DATES ON WHICH SAMPLES WERE COLLECTED	----->		NA						
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		NA						
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated fl							UNITS
FLOW		E	2,200						gal/day
NO MONITORING REQUIRED (Sanitary Only)									
There have been no change in the character of the wastes discharged since the last report.									

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) _X__(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS ----->		003		009		099		
DATES ON WHICH SAMPLES WERE COLLECTED ----->		7/6/2016		7/6/2016		Calculated		
TIMES AT WHICH SAMPLES WERE COLLECTED ----->		Grab: 11:45; Comp Start: 13:46; End: 11:40		Grab: 12:20; Comp Start: 14:07; End: 12:17		N/A		
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	20,327	E	7,700	E	12,627	gal/day
Oil & Grease	200	G	12	G	234	E	0*	mg/l
Biochemical Oxygen Demand	****	C	87	C	189	E	25	mg/l
Chemical Oxygen Demand	****	C	166	C	484	E	0*	mg/l
Total Suspended Solids	****	C	34	C	11	E	48	mg/l
Temperature	60	G	23.8	G	24.4	E	24.1	deg C
pH	5.5-11.5	G	6.8	G	7.3	E	7.1	S.U.
*Calculated value is less than 0								
**** No limits for SP003 or SP009;								
monitoring requirement only for calculation at SP099								
Shaded values represent detection limits								
Lab Dilution Factor			1		1		N/A	

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OCT 17 2016

DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) ___(APR-JUNE) _X_(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**005**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		7/7/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 1:10; Comp Start: 12:05; End: 12:05					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	1,000					gal/day
Oil & Grease	200	G	9					mg/l
Biochemical Oxygen Demand[1]	****	C	19					mg/l
Chemical Oxygen Demand	****	C	<50					mg/l
Total Suspended Solids	****	C	<6					mg/l
Temperature	60	G	29.4					deg C
pH	5.5 - 11.5	G	9.6					S.U.
**** No limits for SP005								
Lab Dilution Factor			1					

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) ___(APR-JUNE) _X__(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**008**						
DATES ON WHICH SAMPLES WERE COLLECTED	----->		7/9/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		1:30 PM						
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW		E	14,000						gal/day
Oil & Grease	200	G	<7						mg/l
Biochemical Oxygen Demand[1]	****	G	17						mg/l
Chemical Oxygen Demand	****	G	81						mg/l
Temperature	60	M	24.6						deg C
Total Suspended Solids	****	G	<6						mg/L
pH	5.5 - 11.5	G	see attached pH log						S.U.
Lab Dilution Factor			1						

RECEIVED

OCT 17 2016

DIVISION OF
ENVIRONMENTAL COMPLIANCE

Overflow pH Monitoring

Starting Date: 07/09/2016
Ending Date: 07/09/2016

Sample Point	Date	Time	pH
SP008	7/9/2016	8:10 AM	NF
SP008	7/9/2016	8:40 AM	NF
SP008	7/9/2016	9:10 AM	7.24
SP008	7/9/2016	9:40 AM	7.60
SP008	7/9/2016	10:10 AM	7.19
SP008	7/9/2016	10:40 AM	7.22
SP008	7/9/2016	11:10 AM	7.28
SP008	7/9/2016	11:40 AM	7.15
SP008	7/9/2016	12:10 PM	7.21
SP008	7/9/2016	12:40 PM	7.03
SP008	7/9/2016	1:10 PM	7.11
SP008	7/9/2016	1:40 PM	7.11
SP008	7/9/2016	2:10 PM	7.20
SP008	7/9/2016	2:40 PM	7.24
SP008	7/9/2016	3:10 PM	7.66
SP008	7/9/2016	3:40 PM	7.31
SP008	7/9/2016	4:10 PM	7.19
SP008	7/9/2016	4:40 PM	7.18
SP008	7/9/2016	5:10 PM	7.18
SP008	7/9/2016	5:40 PM	7.15
SP008	7/9/2016	6:10 PM	7.14
SP008	7/9/2016	6:40 PM	7.12
SP008	7/9/2016	7:10 PM	7.11
SP008	7/9/2016	7:40 PM	7.11
SP008	7/9/2016	8:10 PM	7.10
SP008	7/9/2016	8:40 PM	7.09
SP008	7/9/2016	9:10 PM	7.10
SP008	7/9/2016	9:40 PM	7.10
SP008	7/9/2016	10:10 PM	7.10
SP008	7/9/2016	10:40 PM	7.11

NF= No Flow

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) _X_JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**010**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		7/6/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 12:40; Comp Start: 14:30; End: 12:37					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	1,197,295					gal/day
Oil & Grease	200	G	7					mg/l
Biochemical Oxygen Demand	****	C	440					mg/l
Chemical Oxygen Demand	****	C	948					mg/l
Total Suspended Solids	****	C	16					mg/l
Temperature	60	G	36.6					deg C
pH	5.5 - 11.5	G	7.5					S.U.
Chromium	5.0	C	<0.0050					mg/l
Copper	2.7	C	0.0146					mg/l
Nickel	2.3	C	0.0133					mg/l
Zinc	3.0	C	0.0175					mg/l
Cyanide **	1.2	G	<0.007					mg/l
Shaded values represent detection limits								
			23					
** Total Cyanide result. Interference prevented analysis of Cyanide Amenable to Chlorination								
Lab Dilution Factor			1,5,1,1,1,1,1,1,1					

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Mallinckrodt pH Monitoring for SP010: July 2016

Date / Time	pH	Total for Event in Minutes
7/10/16 1:45	2.4	5
7/23/16 12:20	4.4	5
	April Total	**10**

Mallinckrodt pH Monitoring for SP010: August 2016

Date / Time	pH	Total for Event in Minutes
8/2/16 8:15	4.9	5
8/2/16 10:15	5.2	5
8/8/16 12:40	4.0	5
8/9/16 16:40	5.0	5
8/29/16 6:00	4.6	5
8/30/16 7:40	5.1	5
	May Total	**30**

Mallinckrodt pH Monitoring for SP010: September 2016

Date / Time	pH	Total for Event in Minutes
9/1/16 0:20	5.5	5
9/2/16 2:40	5.3	5
9/3/16 3:25	4.9	5
9/4/16 3:10	5.4	5
9/4/16 3:25	4.0	5
9/11/16 15:55	3.7	5
9/13/16 2:10	5.3	5
9/14/16 21:15	5.3	5
9/20/16 3:15	3.6	5
9/20/16 18:40	3.7	5
9/22/16 23:45	5.4	5
9/23/16 11:35	3.9	5
9/25/16 15:15	3.1	5
9/26/16 10:05	5.0	5
9/27/16 9:30	4.2	5
9/28/16 14:50	3.5	5
9/29/16 13:05	5.5	5
9/30/16 0:05	11.5	5
9/30/16 1:05	5.5	5
	June Total	**95**

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) ____(APR-JUNE) _X__(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**011**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		7/9/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		1:43 PM					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	14,000					gal/day
Oil & Grease	200	G	<7					mg/l
Biochemical Oxygen Demand	****	G	15					mg/l
Chemical Oxygen Demand	****	G	<50					mg/l
Total Suspended Solids	****	G	<6					mg/l
Temperature	60	M	25.7					deg C
pH	5.5 - 11.5	G	see attached pH log					S.U.
Shaded values represent detection limits								
Lab Dilution Factor			1					

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ENVIRONMENTAL COMPLIANCE

Overflow pH Monitoring

Starting Date: 07/09/2016
Ending Date: 07/09/2016

Sample Point	Date	Time	pH
SP011	7/9/2016	8:20 AM	7.12
SP011	7/9/2016	8:50 AM	7.23
SP011	7/9/2016	9:20 AM	7.20
SP011	7/9/2016	9:50 AM	7.19
SP011	7/9/2016	10:20 AM	7.19
SP011	7/9/2016	10:50 AM	7.14
SP011	7/9/2016	11:20 AM	7.12
SP011	7/9/2016	11:50 AM	7.10
SP011	7/9/2016	12:20 PM	7.08
SP011	7/9/2016	12:50 PM	7.06
SP011	7/9/2016	1:20 PM	7.05
SP011	7/9/2016	1:50 PM	7.04
SP011	7/9/2016	2:20 PM	7.04
SP011	7/9/2016	2:50 PM	7.04
SP011	7/9/2016	3:20 PM	7.04
SP011	7/9/2016	3:50 PM	6.98
SP011	7/9/2016	4:20 PM	6.95
SP011	7/9/2016	4:50 PM	6.90
SP011	7/9/2016	5:20 PM	6.89
SP011	7/9/2016	5:50 PM	7.00
SP011	7/9/2016	6:20 PM	6.98
SP011	7/9/2016	6:50 PM	6.95
SP011	7/9/2016	7:20 PM	6.96
SP011	7/9/2016	7:50 PM	6.99
SP011	7/9/2016	8:20 PM	7.00
SP011	7/9/2016	8:50 PM	7.00
SP011	7/9/2016	9:20 PM	6.99
SP011	7/9/2016	9:50 PM	6.99
SP011	7/9/2016	10:20 PM	6.96
SP011	7/9/2016	10:50 PM	6.97

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF-MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147
Monitoring Period: ____(JAN-MAR) __(APR-JUNE) _X__(JULY-SEPT) ____(OCT-DEC)
Samples Collected By: Mallinckrodt Inc
Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS			----->		**080**				
DATES ON WHICH SAMPLES WERE COLLECTED			----->		NA				
TIMES AT WHICH SAMPLES WERE COLLECTED			----->		NA				
PARAMETER	EPA METHOD	DAILY MAX	AVG MONTHLY	**RECORD SAMPLE TYPES (G, C, M OR E) & RESULTS** G=Grab, C-composite, M=measured flow, E=estimated					UNITS
FLOW				E	*				gal/day
Acetone	524.2	20.70	8.20	G	*				mg/L
n-Amyl Acetate	1666	20.70	8.20	G	*				mg/L
Benzene	524.2	3.00	0.70	G	*				mg/L
n-Butyl acetate	1666	20.70	8.20	G	*				mg/L
Chlorobenzene	524.2	3.00	0.70	G	*				mg/L
Chloroform*	524.2	0.10	0.03	G	*				mg/L
1,2-Dichlorobenzene	524.2	20.70	8.20	G	*				mg/L
1,2-Dichloroethane	524.2	20.70	8.20	G	*				mg/L
Diethyl amine	1671	255.00	100.00	G	*				mg/L
Ethyl Acetate	1666	20.70	8.20	G	*				mg/L
n-Heptane	1666	3.00	0.70	G	*				mg/L
n-Hexane	1666	3.00	0.70	G	*				mg/L
Isobutyraldehyde	1666	20.70	8.20	G	*				mg/L
Isopropyl acetate	1666	20.70	8.20	G	*				mg/L
Isopropyl ether	1666	20.70	8.20	G	*				mg/L
Methylene chloride	524.2	3.00	0.70	G	*				mg/L
Methyl formate	1666	20.70	8.20	G	*				mg/L
4-Methyl-2-pentanone	1666	20.70	8.20	G	*				mg/L
Tetrahydrofuran	1666	9.20	3.40	G	*				mg/L
Toluene	524.2	0.30	0.20	G	*				mg/L
Triethyl amine	1671	255.00	100.00	G	*				mg/L
Xylenes	1666	3.00	0.70	G	*				mg/L
Oil & Grease	1664	200		G	*				mg/L
Biochemical Oxygen Demand		****		C	*				mg/L
Chemical Oxygen Demand		****		C	*				mg/L
Total Suspended Solids		****		C	*				mg/L
Temperature		60		G	*				deg C
pH		5.5 - 11.5		G	*				S.U.
*** No flow from SP080 in 3rd QTR 2016**									
Dilution by lab					NA				

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METROPOLITAN ST. LOUIS SEWER DISTRICT
2011 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) _X__(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->>		**080**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->>		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->>		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=						UNITS
FLOW		E	*					gal/day
1,1,1-Trichloroethane		G	*					mg/l
1,1,2,2-Tetrachloroethane		G	*					mg/l
1,1,2-Trichloroethane		G	*					mg/l
1,1-Dichloroethane		G	*					mg/l
1,1-Dichloroethene		G	*					mg/l
1,2-Dichlorobenzene		G	*					mg/l
1,2-Dichloroethane		G	*					mg/l
1,2-Dichloropropane		G	*					mg/l
1,3-Dichlorobenzene		G	*					mg/l
1,4-Dichlorobenzene		G	*					mg/l
2-Chloroethylvinylether		G	*					mg/l
Acrolein		G	*					mg/l
Acrylonitrile		G	*					mg/l
Benzene		G	*					mg/l
Bromodichloromethane		G	*					mg/l
Bromoform		G	*					mg/l
Bromomethane		G	*					mg/l
Carbon Tetrachloride		G	*					mg/l
Chlorobenzene		G	*					mg/l
Chloroethane		G	*					mg/l
Chloroform		G	*					mg/l
Chloromethane		G	*					mg/l
cis-1,3-Dicholropropene		G	*					mg/l
Dibromochloromethane		G	*					mg/l
Ethylbenzene		G	*					mg/l
Methylene Chloride		G	*					mg/l
Tetrachloroethene		G	*					mg/l
Toluene		G	*					mg/l
trans-1,2-Dichloroethene		G	*					mg/l
trans-1,3-Dichloropropene		G	*					mg/l
Trichloroethene		G	*					mg/l
Vinyl Chloride		G	*					mg/l
1,2,4-Trichlorobenzene		G	*					mg/l
2,4,6-Trichlorophenol		G	*					mg/l
2,4-Dichlorophenol		G	*					mg/l
2,4-Dimethylphenol		G	*					mg/l
2,4-Dinitrophenol		G	*					mg/l
2,4-Dinitrotoluene		G	*					mg/l
2,6-Dinitrotoluene		G	*					mg/l
2-Chloronapthalene		G	*					mg/l
2-Chlorophenol		G	*					mg/l
2-Nitrophenol		G	*					mg/l
3,3-Dichlorobenzidine		G	*					mg/l
2-Methyl-4,6-dinitrophenol		G	*					mg/l
4-Bromophenyl-phenylether		G	*					mg/l
4-Chloro-3-methylphenol		G	*					mg/l

METROPOLITAN ST. LOUIS SEWER DISTRICT
2011 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) _X__(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**080**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=						UNITS
FLOW		E	*					gal/day
4-Chlorophenyl-phenylether		G	*					mg/l
4-Nitrophenol		G	*					mg/l
Acenapthene		G	*					mg/l
Acenaphthylene		G	*					mg/l
Anthracene		G	*					mg/l
Benzidine		G	*					mg/l
Benzo(a)anthracene		G	*					mg/l
Benzo(a)pyrene		G	*					mg/l
Benzo(b)fluoranthene		G	*					mg/l
Benzo(g,h,i)perylene		G	*					mg/l
Benzo(k)fluoranthene		G	*					mg/l
Bis(2-chloroethoxy)methane		G	*					mg/l
Bis(2-chloroethyl)ether		G	*					mg/l
Bis(2-chloroisopropyl)ether		G	*					mg/l
Bis(2-ethylhexyl)phthalate		G	*					mg/l
Butyl benzyl phthalate		G	*					mg/l
Chrysene		G	*					mg/l
Dibenzo(a,h)anthracene		G	*					mg/l
Diethyl phthalate		G	*					mg/l
Dimethyl phthalate		G	*					mg/l
Di-n-butyl phthalate		G	*					mg/l
Di-n-octyl-phthalate		G	*					mg/l
Fluoranthene		G	*					mg/l
Fluorene		G	*					mg/l
Hexachlorobenzene		G	*					mg/l
Hexachlorobutadiene		G	*					mg/l
Hexachlorocyclopentadiene		G	*					mg/l
Hexachloroethane		G	*					mg/l
Ideno(1,2,3-cd)pyrene		G	*					mg/l
Isophorone		G	*					mg/l
Naphthalene		G	*					mg/l
Nitrobenzene		G	*					mg/l
N-nitrosodimethylamine		G	*					mg/l
N-nitrosodi-n-propylamine		G	*					mg/l
N-nitrosodiphenylamine		G	*					mg/l
Pentachlorophenol		G	*					mg/l
Phenanthrene		G	*					mg/l
Phenol		G	*					mg/l
Pyrene		G	*					mg/l
1,2-Diphenylhydrazine		G	*					mg/l
Total Toxic Organics	5.844	--	*					mg/l
*** No flow from SP080 in 3rd QTR 2016**								
Lab Dilution Factor			NA					

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) _X__(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**905**			
DATES ON WHICH SAMPLES WERE COLLECTED		---->		8/5/2016			
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		10:15 AM			
PARAMETER	MONTHLY LIMIT (ave) (gm/day)	DAILY MAX LIMIT (gm/day)	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow	Results mg/L	Results gm/day		UNITS
FLOW			M	49782			gal/day
1,2,4-Trichlorobenzene	45	182	G	0.008	1.507		gm/day
1,2-Dichlorobenzene	45	182	G	0.016	0.942		gm/day
1,3-Dichlorobenzene	33	87	G	0.016	0.942		gm/day
1,4-Dichlorobenzene	33	87	G	0.016	0.942		gm/day
2-Nitrophenol	15	53	G	0.008	3.015		gm/day
2-Methyl-4,6-dinitrophenol	18	64	G	0.008	3.015		gm/day
4-Nitrophenol	37	132	G	0.005	3.015		gm/day
Acenapthene	4	11	G	0.008	1.507		gm/day
Anthracene	4	11	G	0.008	1.507		gm/day
Bis(2-ethylhexyl)phthalate	22	59	G	0.008	0.942		gm/day
Diethyl phthalate	11	26	G	0.008	1.507		gm/day
Dimethyl phthalate	4	11	G	0.008	1.507		gm/day
Di-n-butyl phthalate	5	10	G	0.008	1.507		gm/day
Fluoranthene	5	12	G	0.008	1.507		gm/day
Fluorene	4	11	G	0.008	1.507		gm/day
Hexachlorobenzene	45	182	G	0.008	1.507		gm/day
Hexachlorobutadiene	33	87	G	0.008	1.507		gm/day
Hexachloroethane	45	182	G	0.008	1.507		gm/day
Naphthalene	4	11	G	0.008	1.507		gm/day
Phenanthrene	4	11	G	0.0050	1.507		gm/day
Pyrene	5	11	G	0.0050	1.507		gm/day
1,1,1-Trichloroethane	5	14	G	0.0050	0.942		gm/day
1,1,2-Trichloroethane	7	29	G	0.0050	0.942		gm/day
1,1-Dichloroethane	5	14	G	0.0050	0.942		gm/day
1,1-Dichloroethene	5	14	G	0.0050	0.942		gm/day
1,2-Dichloroethane	41	132	G	0.0050	0.942		gm/day
1,2-Dichloropropane	45	182	G	0.0050	0.942		gm/day
Benzene	13	31	G	0.0050	0.377		gm/day
Carbon Tetrachloride	33	87	G	0.0020	0.942		gm/day
Chlorobenzene	33	87	G	0.0050	0.942		gm/day
Chloroethane	25	68	G	0.0050	1.884		gm/day
Chloroform	25	75	G	0.0100	1.055		gm/day
Chloromethane	25	68	G	0.0056	1.884		gm/day
cis-1,3-Dichloropropene	45	182	G	0.0100	0.942		gm/day
Ethylbenzene	33	87	G	0.0050	0.942		gm/day
Methylene Chloride	8	39	G	0.0050	0.942		gm/day
Nitrobenzene	514	1470	G	0.0050	1.507		gm/day
Tetrachloroethene	12	38	G	0.0050	0.942		gm/day
Toluene	6	17	G	0.0050	0.942		gm/day
trans-1,2-Dichloroethene	6	16	G	0.0050	0.942		gm/day
trans-1,3-Dichloropropene	45	182	G	0.0050	0.942		gm/day
Trichloroethene	6	16	G	0.0050	0.942		gm/day
Vinyl Chloride	22	44	G	0.0020	0.377		gm/day
Shaded values represent detection limits							
Lab Dilution Factor:				1	1		

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) _X__(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**912**		**912**		**912**	
DATES ON WHICH SAMPLES WERE COLLECTED	----->		7/14/2016		8/8/2016		9/5/2016	
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		1:45 PM		9:11 AM		10:20 AM	
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		M	37292	M	37292	M	58075	gal/day
DMAC (daily max)	7091	G	728	G	570	G	2318	lb/day
DMAC (monthly average)	5459	G	728	G	570	G	2318	lb/day
			2344		1836		4793	mg/L
☐ ~~lb~~ ~~day~~ ○ ~~day~~ ~~GAL~~ 1 ~~kg~~ 2.2 ~~lb~~ 10 mg ~~kg~~ 1 ~~GAL~~ 3.785 L								
Lab Dilution Factor			2		2		2	

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) _X__(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**915**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		8/31/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		09:28 AM						
PARAMETER	MONTHLY AVG LIMIT (mg/L)	DAILY MAX LIMIT (mg/L)	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW			E	4,746						gal/day
Cyanide (Total)	9.4	33.5	G	0.005						mg/L
Nitrogen, Ammonia (as N)	****	****	G	2270						N
Diethylamine	100	255	G	*						mg/L
Triethylamine	100	255	G	*						mg/L
4-Methyl-2-pentanone	8.2	20.7	G	0.200						mg/L
Diisopropyl ether	8.2	20.7	G	0.100						mg/L
Ethyl acetate	8.2	20.7	G	0.200						mg/L
Isobutyraldehyde	8.2	20.7	G	0.200						mg/L
Isopropyl acetate	8.2	20.7	G	0.100						mg/L
m,p Xylene	0.7	3	G	0.160						mg/L
Methyl formate	8.2	20.7	G	1.000						mg/L
n-Amyl acetate	8.2	20.7	G	0.100						mg/L
n-Butyl acetate	8.2	20.7	G	0.100						mg/L
n-Heptane	0.7	3	G	0.200						mg/L
n-Hexane	0.7	3	G	0.200						mg/L
o-Xylene	0.7	3	G	0.100						mg/L
Tetrahydrofuran	9.2	3.4	G	0.400						mg/L
1,2-Dichlorobenzene	8.2	20.7	G	0.100						mg/L
1,2-Dichloroethane	8.2	20.7	G	0.100						mg/L
Acetone	8.2	20.7	G	1.000						mg/L
Benzene	0.7	3	G	0.100						mg/L
Chlorobenzene	0.7	3	G	0.100						mg/L
Chloroform	0.03	0.1	G	0.020						mg/L
Methylene Chloride	0.7	3	G	0.100						mg/L
Toluene	0.2	0.3	G	0.100						mg/L
Temperature	****	****	E	30						deg C
*Sampling Frequency Requirement 1/year										
Shaded values represent detection limits										
Lab Dilution Factors: 1(EPA 335.4, 600 167A) 20 (EPA 600 350; 1666A, 524.2)				1, 20						

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) _X__(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**920**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		7/12/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		9:15						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	38,021						gal/day
Cyanide (Total)	9.4	33.5	G	<0.005						mg/l
Tetrahydrofuran	3.4	9.2	G	<0.400						mg/l
Toluene	0.2	0.3	G	<0.100						mg/l
**** No limits for SP920										
Shaded values represent detection limit										
Lab Dilution Factor: 1 (Cyanide), 20 (Tetrahydrofuran, Toluene)				1, 20						

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

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Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

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Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) _X__(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**927**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		*						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		*						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	*						gal/day
Acetone	8.2	20.7	G	*						mg/l
Ethyl acetate	8.2	20.7	G	*						mg/l
Isopropul acetate	8.2	20.7	G	*						mg/l
Methylene chloride	0.7	3	G	*						mg/l
n-Amyl acetate	8.2	20.7	G	*						mg/l
* No flow from SP927 in 3rd QTR 2016										
Not in use in 3rd QTR 2016										
Shaded values represent detection limit										
Lab Dilution Factor:										

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

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Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) _X__(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**930**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		*						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		*						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	*						gal/day
Acetone	8.2	20.7	G	*						mg/L
Ethyl acetate	8.2	20.7	G	*						mg/L
Isopropyl acetate	8.2	20.7	G	*						mg/L
Methylene chloride	0.7	3	G	*						mg/L
n-Amyl acetate	8.2	20.7	G	*						mg/L
* No flow from SP930 in 3rd QTR 2016										
Building not in operation										
Shaded values represent detection limit										
Lab Dilution Factor:										

?

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

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Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) _X__(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**933**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		*						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		*						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	*						gal/day
Acetone	8.2	20.7	G	*						mg/L
Ethyl acetate	8.2	20.7	G	*						mg/L
Isopropyl acetate	8.2	20.7	G	*						mg/L
Methylene chloride	0.7	3	G	*						mg/L
n-Amyl acetate	8.2	20.7	G	*						mg/L
* No flow from SP933 in 3rd QTR 2016										
Building not in operation										
Shaded values represent detection limits										
Lab Dilution Factor:										

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) _X__(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**936**							
DATES ON WHICH SAMPLES WERE COLLECTED		---->		8/5/2016							
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		9:50 AM							
PARAMETER	MONTHLY AVG LIMIT (mg/L)	DAILY MAX LIMIT (mg/L)	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow								UNITS
FLOW			E	13,957							gal/day
Diethylamine	100	255	G	*							mg/L
Triethylamine	100	255	G	*							mg/L
4-Methyl-2-pentanone	8.2	20.7	G	<0.200							mg/L
Diisopropyl ether	8.2	20.7	G	<0.100							mg/L
Ethyl acetate	8.2	20.7	G	<0.200							mg/L
Isobutyraldehyde	8.2	20.7	G	<0.200							mg/L
Isopropyl acetate	8.2	20.7	G	<0.100							mg/L
m,p Xylene	0.7	3	G	<0.160							mg/L
Methyl formate	8.2	20.7	G	<1.000							mg/L
n-Amyl acetate	8.2	20.7	G	<0.100							mg/L
n-Butyl acetate	8.2	20.7	G	<0.100							mg/L
n-Heptane	0.7	3	G	<0.200							mg/L
n-Hexane	0.7	3	G	<0.200							mg/L
o-Xylene	0.7	3	G	<0.100							mg/L
Tetrahydrofuran	9.2	3.4	G	<0.400							mg/L
1,2-Dichlorobenzene	8.2	20.7	G	<0.100							mg/L
1,2-Dichloroethane	8.2	20.7	G	<0.100							mg/L
Acetone	8.2	20.7	G	<1.000							mg/L
Benzene	0.7	3	G	<0.100							mg/L
Chlorobenzene	0.7	3	G	<0.100							mg/L
Chloroform**	0.03	0.1	G	<0.0200							mg/L
Methylene Chloride	0.7	3	G	<0.100							mg/L
Toluene	0.2	0.3	G	<0.100							mg/L
****Chloroform Results**	**Raw Water**	**SP936**	**SP936-Raw Water**								
	0.020	**0.020**		**<0.0200**							
*Sampling Frequency Requirement 1/year											
Shaded values represent detection limits											
Lab Dilution Factors:				20							

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) _X__(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**937**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		7/12/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		9:00						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	65,820						gal/day
Cyanide (Total)	9.4	33.5	G	<0.005						mg/l
Tetrahydrofuran	3.4	9.2	G	<0.400						mg/l
Toluene	0.2	0.3	G	<0.100						mg/l
Shaded values represent detection limit										
Lab Dilution Factor: 1 (Cyanide), 20 (Tetrahydrofuran, Toluene)				1, 20						

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) _X__(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**938**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		9/15/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		10:00						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	40						gal/day
Acetone	8.2	20.7	G	0.500						mg/L
Ethyl acetate	8.2	20.7	G	0.200						mg/L
Isopropyl acetate	8.2	20.7	G	0.100						mg/L
Methylene chloride	0.7	3	G	0.050						mg/L
n-Amyl acetate	8.2	20.7	G	0.100						mg/L
Shaded values represent detection limits										
Lab Dilution Factor:				20						

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OCT 17 2016

DIVISION OF
ENVIRONMENTAL COMPLIANCE

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

September 27, 2016

Jeff Blaies
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Dear Mr. Eckles:

We have reviewed your application dated September 20, 2016 requesting approval to discharge 4,000 gallons of wastewater to the Metropolitan St. Louis Sewer District for treatment. This wastewater is a 100% propylene glycol solution from the Plant 5 Tank Farm of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri. We understand that the wastewater will be discharged through sampling point 010.

Based on the information you provided, this wastewater meets MSD Ordinance 12559 standards and is approved for discharge into a sanitary or combined sewer on site. **Due to the assumed elevated chemical oxygen demand (COD) concentration based on the percentage of propylene glycol in the wastewater, the discharge is limited to 180 gallons per hour. This approval is valid for 30 days from the date of this letter.**

You must be certain the waste is discharged into a sanitary or combined sewer inlet only. This letter does not authorize any discharge to a separate storm sewer, or to any watercourse, as any such discharge would be in violation of state and federal laws. **Please notify me at the number below when the discharge is to commence, and please ensure the onsite personnel discharging the wastewater in question are provided with a copy of this letter.**

For billing purposes associated with this high strength wastewater, you must confirm the volume of this wastewater discharged to us, in writing, at the completion of the discharge. This report is due no later than 28 days after this approval expires. Please refer to this letter and include the date of the discharge when providing that figure. Under the provisions of Ordinance 14395, you will be billed by invoice at the billing rate in effect at the time of discharge. The current rate contained in MSD Ordinance 14395 is $327.00 per ton for COD over 600 mg/L. Using the assumed COD concentration based on the percent of propylene glycol contained in the wastewater in question, and the proposed discharge volume provided in your application, it is estimated that you will be discharging just under 17 tons of COD over 600 mg/L. (Our quantitative estimate is 16.7 tons COD times $327.00.) Please do not pay this amount until you receive our invoice.

This discharge has been approved based upon the information and sample analysis you provided, and is subject to the conditions stated above. This approval may be revoked by the District at any time if any of the information is found to be incorrect, or if the conditions of this approval are violated. Also, if the discharge causes any operational or maintenance problem within the District's collection or treatment system, or results in violations of any conditions of the District's NPDES permit, Mallinckrodt will be considered responsible for damages. If you have any questions, please call me at (314) 436-8755.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace

Steve Grace
Environmental Assistant Engineer

bv

ec: Brian Gibson
Doug Mendoza

File: IU, MALLINCKRODT INC [1011728100]

C1A

SD EVALUATION CHECKLIST - ON SITE

APPLICATION INFORMATION

Source Name: Mallinckrodt LLC Evaluated by: SMG

Premise Address: 3600 N. 2nd St. Date: 9/27/16

Send approval letter to applicant

Application Dated: 9/20/16 Received: 9/26/16 All Requested Info. Received: 9/27/16

SOURCE FILING/DESCRIPTION

1 - Source in PIMS? (Y) / N |
2 - If No, on IU Cross-Ref list? * Y / N |
3 - If No, MSD Account # from E-CIS? Y / N |
4 - If none, on "Source" list (pre-IMS)? ** Y / N |
5 - If No, assigned SOUR# from PIMS. |

SOURCE TYPE (circle): IU / Dead IU / SD

INDUSTRY ID: 1011728100

* o:\costrecovery\cross reference xls file

** o:\costrecovery\sourlist xls file

Sample Point: No. Assigned: 815 Description: 100% propylene glycol soln. from Plant 5 Tank Farm

Normal WW flow from premise? N/A _____ ccf/month, 1,118,137 GPD, _____ GPH.
@SP010

REGULATORY STATUS

Is waste a Hazardous Waste? (N) / Y _____

Categorical standards apply? (N) / Y _____

Contain PCB/ asbestos/ radioactive/ dioxin/ used oil? (N) / Y _____

Regulatory Agency Oversight? (N) / Y _____

DISCHARGE CONSIDERATIONS At MSD's connection:

Ordinance Limits (12559, p. 32) exceeded? (N) / Y _____

Ordinance other limits exceeded (dye, flash pt <140° F, temp >140° F, obstruction, nuisance foaming/odor, corrosion causing): (N) / Y _____

Water Quality Standard exceeded? (N) / Y _____

Fumes in sewer exceed PEL/TLV limits? (N) / Y _____

Vapors in sewer exceed 10% of LEL? (N) / Y _____

RECOMMENDATION: (APPROVE) / DENY (cc WWTP Mgr for timed discharge)

APPROVAL CONDITIONS:

Timed Discharge (COD/BOD/WQ/foam): N / (Y) Limit = 180 gal/hour

Require Treatment before Discharge? (N) / Y _____

Laboratory analysis fee due? (N) / Y $_____

SMR required? (N) / Y Frequency/analysis: _____

SMR log: (N/A) / Remediation.xls / Nonremediation.xls

Volume Billing applies (water unmetered or credited)? (N) / Y

Bill High Strength? N / (Y) Yes, If use >60,000 gal/month water ✓ and, > norm WW strgth

Surcharge calculation attached: N/A / N / (Y)

Expiration log updated: (N/A) / N / Y

O:\CostRecovery\Special Discharge\C1a.Checklist.doc

On-Site Special Discharge High Strength Flow Rate and Surcharge Calculator

1 GENERAL INFORMATION:

Date: 09/27/16
Calculated by: Steve Grace
Source name: MALLINCKRODT LLC [1011728100]
Waste material: 100% propylene glycol coolant solution from Plant 5 tank farm
Discharge volume: 4,000 gallons

2 STRENGTH INFORMATION:

Sample BOD =	0	mg/l =	0	lbs BOD to be discharged
Sample COD =	1,000,000	mg/l =	33360	lbs COD to be discharged
Sample TSS =		mg/l =	for surcharge calculation only	

3 PLANT DATA: 2007

Treatment area: Bissell

	Flow (MGD)	BOD (mg/L)	COD (mg/L)	BOD (lb/hr)	COD (lb/hr)	Max Loading = 10% BOD (lb/hr)	Max Loading = 10% COD (lb/hr)
Bissell	**140**	**146**	**292**	**7,113**	**14,227**	**711**	**1,423**
Coldwater	23	226	452	1,768	3,535	177	354
Fenton	5	307	614	482	964	48	96
Grand Glaize	16	152	399	830	2,183	83	218
Lemay	122	81	228	3,438	9,610	344	961
Lower Meramec	10	124	364	452	1,326	45	133
Missouri River	28	281	561	2,732	5,465	273	546

4 MINIMUM REQUIRED FLOW RATE:

	BOD (hours)	BOD (gpm)	COD (hours)	COD (gpm)
Bissell	**0.00**	**0**	**23.45**	**3**
Coldwater	0.00	0	94.36	1
Fenton	0.00	0	345.90	0
Grand Glaize	0.00	0	152.78	0
Lemay	0.00	0	34.71	2
Lower Meramec	0.00	0	251.52	0
Missouri River	0.00	0	61.04	1

5 SURCHARGE AND VOLUME BILLING

Is volume subject to billing? no (yes/no)
Ratio of BOD/COD = 0.00

(Sample BOD) - 300 = 0 mg/l subject to surcharge
(sample COD) - 600 = 999400 mg/l subject to surcharge
(sample TSS) - 300 = 0 mg/l subject to surcharge

If BOD/COD ratio <= 0.35, the following calculations use the COD value. Otherwise they use the BOD value

Current rates under Ordinance: 14395

Volume = $ 3.59 /CcF
BOD = $ 654.00 /ton
COD = $ 327.00 /ton
TSS = $ 262.00 /ton

Flow charge = $ - based on volume = 5.3 CcF
BOD surcharge = $ -
COD surcharge = $5,452.56
TSS surcharge = $ -
Total discharge charge = $5,452.56
Customer charge = $5,452.56 DEC charges special discharge customers for total charges > $20.00
Approximate charge/gallon = $ 1.36

Comments

require volume report for billing purposes. Smg

Metropolitan St. Louis Sewer District
2350 Market Street
St. Louis, MO 63103

APPLICATION FOR SPECIAL DISCHARGE APPROVAL

I. WASTEWATER SOURCE IDENTIFICATION:

Site Name: Mallinckrodt LLC
Premise Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Owner: Mallinckrodt LLC
Contact Person: Jeff Blaies
Title: Principal HSE Engineer
Phone: 314.654.2149 Fax: 314.654.1251

II. APPLICANT (mailing information):

Applicant Name: Jeff Blaies
Title: Principal HSE Engineer
Company Name: Mallinckrodt LLC
Mailing Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Phone: 314.654.2149 Fax: 314.654.1251

III. A. MATERIAL TO BE DISCHARGED (check all applicable boxes):

1. Wastewater description/location: 100% propylene glycol from Plant 5 Tank Farm.
2. Process/activity generating wastewater: Operations has shutdown, material no longer needed.
3. Physical and chemical composition: List all constituents, and known or potentially present regulated contaminants below.
   ☐ See separate listing enclosed, and/or ☐ See analytical results enclosed, and/or ■ Material Safety Data Sheet enclosed.

DESCRIPTION	RANGE	UNIT
Propylene Glycol	100	

DESCRIPTION *(continued)*	RANGE	UNIT

4. Is this wastewater from a process subject to EPA's categorical standards in 40 CFR Subchapter N? ☐ Yes ☑ No
   a. If yes, the applicable standards are in: 40 CFR Part _____, Subpart _____ ☐ Existing source ☐ New source
5. Does this wastewater contain polychlorinated biphenyls, asbestos or radioactive material? ☐ Yes ☑ No
   a. If yes, describe: _____
6. Representative sample: ☐ Laboratory results attached, and/or ☐ Sample provided (1/2 gallon minimum, clear container)
   a. Sample collection point/location: _____ Collection method: _____
   b. Sampler's name/Co.: _____ Sample date/time: _____
   c. Attach chain of custody as available
7. Discharge will occur over the following time period: ■ < 30 days ☐ ≥ Two years ☐ Other: _____
   a. Expected total volume of wastewater to be discharged over the time period above: _____ Gallons
   b. Proposed discharge volume: 4,000 Gallons, at a frequency of: ■ One time ☐ Daily ☐ Weekly ☐ Monthly ☐ Once/three months ☐ Once/six months ☐ Other: _____
8. Pretreatment of wastewater prior to discharge: ☐ None ■ Yes, describe: pH adjustment at main plant outfall SP010
   a. If yes, attach site plan, pretreatment system schematic, and design specifications.
9. Wastewater from a remediation project under: ☐ Superfund/CERCLA ☐ RCRA ☐ Voluntary program ☐ UST ■ Not applicable
   a. If from a remediation project, briefly describe the past and present utilization of the property: _____

III.B. MATERIAL FROM UNDERGROUND STORAGE TANK SOURCE

☒ **Not applicable (go to Section IV)**

Please answer the following questions if you are requesting to discharge wastewater associated with an underground storage tank system.

1. a. Wastewater from: ☐ Inside UST(s) ☐ UST system pit ☐ Excavation outside UST system pit ☐ Monitoring well ☐ Groundwater remediation system

   b. UST project involves wastewater from: ☐ UST(s) closed in place ☐ UST(s) removed ☐ Remediation ☐ Upgrade ☐ Maintenance activities ☐ Well monitoring ☐ Other, explain: _____

   c. If wastewater is from a closure project, how long has UST(s) been out of service: _____ years

2. a. State assigned UST site identification number: _____ ☐ Not applicable

   b. Number of USTs affected: _____ ☐ Unknown

   c. For the UST(s) involved, their state identification number(s): _____ ☐ Not applicable

   d. Service Station Identification Number, as applicable: _____

3. Tank contents/former contents: ☐ Gasoline ☐ #2 diesel ☐ Used oil ☐ Unknown ☐ Other: _____

IV. DISCHARGE LOCATION

1. ☒ On-site. Describe proposed point of entry to sewer and the discharge rate (must be a sanitary or combined sewer): _____
Plant sewer to main outfall SP010 Note: Range of discharge must not surcharge sewer line.

2. ☐ Haul to MSD Bissell Point Hauled Waste Receiving Station at 10 E. Grand, St. Louis, MO.

   a. Transporters Name: _____ and MSD Hauler ID Number: _____

   b. Hazardous Waste Certification:

   For wastewater which is hauled to MSD's Bissell Point Hauled Waste Receiving Station, I hereby certify that to the best of my knowledge and belief, the above hauled waste is not classified as a RCRA "hazardous waste" as defined by the MDNR in 10 CSR 25 or USEPA in 40 CFR Part 261.

   Applicant Name (print): _____

   Signature: _____ **Date:** _____

ADDITIONAL INFORMATION:

_____

_____

_____

_____

_____

_____

V. APPLICANT SIGNATURE AND CERTIFICATION

This application must be signed by the applicant: either the source contact, or a contractor or agent directly responsible for site activities.

I hereby certify that I am directly responsible for activities at the site regarding the wastewater to be discharged, and to the best of my knowledge and belief, based on appropriate inquiry, the information in this application is true, complete, and accurate. The samples or analyses submitted are representative of the materials to be discharged. If granted approval to discharge, I agree to abide by the MSD Ordinances, and all applicable federal, state and local regulations. I agree to pay the costs of any pre-approval analyses performed by MSD and to pay any applicable disposal charges for the volume and strength of the wastes discharged.

Applicant Name (print): Jeff Blaies

Signature: Jeff Blaies **Date:** 09/20/2016

FOR MSD USE ONLY:

File Name: Mallinckrodt LLC ID No. 1011728100 Sample Point No. 815

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

September 27, 2016

Jeff Blaies
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Dear Mr. Blaies:

We have reviewed your application dated September 21, 2016 requesting approval to discharge 6,000 gallons of wastewater to the Metropolitan St. Louis Sewer District for treatment. This wastewater is a spent 50% propylene glycol mixture from Building 200W at the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri. We understand that the wastewater will be discharged through sampling point 010.

Based on the information you provided, this wastewater meets MSD Ordinance 12559 standards and is approved for discharge into a sanitary or combined sewer on site. **Due to the assumed elevated chemical oxygen demand (COD) concentration based on the percentage of propylene glycol in the wastewater, the discharge is limited to 360 gallons per hour. This approval is valid for 30 days from the date of this letter.**

You must be certain the waste is discharged into a sanitary or combined sewer inlet only. This letter does not authorize any discharge to a separate storm sewer, or to any watercourse, as any such discharge would be in violation of state and federal laws. **Please notify me at the number below when the discharge is to commence, and please ensure the onsite personnel discharging the wastewater in question are provided with a copy of this letter.**

For billing purposes associated with this high strength wastewater, you must confirm the volume of this wastewater discharged to us, in writing, at the completion of the discharge. This report is due no later than 28 days after this approval expires. Please refer to this letter and include the date of the discharge when providing that figure. Under the provisions of Ordinance 14395, you will be billed by invoice at the billing rate in effect at the time of discharge. The current rate contained in MSD Ordinance 14395 is $327.00 per ton for COD over 600 mg/L. Using the assumed COD concentration based on the percent of propylene glycol contained in the wastewater in question, and the proposed discharge volume provided in your application, it is estimated that you will be discharging approximately 12.5 tons of COD over 600 mg/L. (Our quantitative estimate is 12.49 tons COD times $327.00.) Please do not pay this amount until you receive our invoice.

This discharge has been approved based upon the information and sample analysis you provided, and is subject to the conditions stated above. This approval may be revoked by the District at any time if any of the information is found to be incorrect, or if the conditions of this approval are violated. Also, if the discharge causes any operational or maintenance problem within the District's collection or treatment system, or results in violations of any conditions of the District's NPDES permit, Mallinckrodt will be considered responsible for damages. If you have any questions, please call me at (314) 436-8755.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace

Steve Grace
Environmental Assistant Engineer

bv

ec: Brian Gibson
Doug Mendoza

File: IU, MALLINCKRODT INC [1011728100]

C1A

SD EVALUATION CHECKLIST - ON SITE

APPLICATION INFORMATION

Source Name: Mallinckrodt LLC Evaluated by: SMG

Premise Address: 3600 N. 2nd St. Date: 9/27/16

Send approval letter to applicant

Application Dated: 9/21/16 Received: 9/26/16 All Requested Info. Received: 9/26/16

SOURCE FILING/DESCRIPTION

1 - Source in PIMS? (Y) / N |
2 - If No, on IU Cross-Ref list? * Y / N |
3 - If No, MSD Account # from E-CIS? Y / N |
4 - If none, on "Source" list (pre-IMS)? ** Y / N |
5 - If No, assigned SOUR# from PIMS. |

SOURCE TYPE (circle): (IU) / Dead IU / SD

INDUSTRY ID: 1011728100

* o:\costrecovery\cross reference xls file

** o:\costrecovery\sourlist xls file

Sample Point: No. Assigned: 832 Description: spent 50% propylene glycol mixture from Bldg. 200W

Normal WW flow from premise? N/A _____ ccf/month, 1,118,137 GPD, _____ GPH.
@SP010

REGULATORY STATUS

Is waste a Hazardous Waste? (N) / Y _____

Categorical standards apply? (N) / Y _____

Contain PCB/ asbestos/ radioactive/ dioxin/ used oil? (N) / Y _____

Regulatory Agency Oversight? (N) / Y _____

DISCHARGE CONSIDERATIONS At MSD's connection:

Ordinance Limits (12559, p. 32) exceeded? (N) / Y _____

Ordinance other limits exceeded (dye, flash pt <140° F, temp >140° F, obstruction, nuisance foaming/odor, corrosion causing): (N) / Y _____

Water Quality Standard exceeded? (N) / Y _____

Fumes in sewer exceed PEL/TLV limits? (N) / Y _____

Vapors in sewer exceed 10% of LEL? (N) / Y _____

RECOMMENDATION: (APPROVE) / DENY (cc WWTP Mgr for timed discharge)

APPROVAL CONDITIONS:

Timed Discharge (COD/BOD/WQ/foam): N / (Y) Limit = 360 gal/hour

Require Treatment before Discharge? (N) / Y _____

Laboratory analysis fee due? (N) / Y $_____

SMR required? (N) / Y Frequency/analysis: _____

SMR log: (N/A) / Remediation.xls / Nonremediation.xls

Volume Billing applies (water unmetered or credited)? (N) / Y

Bill High Strength? N / (Y) Yes, If use >60,000 gal/month water ✓ and, > norm WW strgth

Surcharge calculation attached: N/A / N / (Y)

Expiration log updated: (N/A) / N / Y

O:\CostRecovery\Special Discharge\C1a.Checklist.doc

On-Site Special Discharge High Strength Flow Rate and Surcharge Calculator

1 GENERAL INFORMATION:

Date: 09/27/16
Calculated by: Steve Grace
Source name: MALLINCKRODT LLC [1011728100]
Waste material: 50% propylene glycol from building 200 W chiler system
Discharge volume: 6,000 gallons

2 STRENGTH INFORMATION:

Sample BOD =	0	mg/l =	0	lbs BOD to be discharged
Sample COD =	500,000	mg/l =	25020	lbs COD to be discharged
Sample TSS =	6	mg/l =	for surcharge calculation only	

3 PLANT DATA: 2010

Treatment area: Bissell

	Flow (MGD)	BOD (mg/L)	COD (mg/L)	BOD (lb/hr)	COD (lb/hr)	Max Loading = 10% BOD (lb/hr)	COD (lb/hr)
Bissell	**140**	**146**	**292**	**7,113**	**14,227**	**711**	**1,423**
Coldwater	26	188	377	1,704	3,408	170	341
Fenton	5	388	776	679	1,357	68	136
Grand Glaize	16	129	405	708	2,218	71	222
Lemay	131	78	210	3,531	9,584	353	958
Lower Meramec	13	124	409	543	1,785	54	179
Missouri River	27	280	559	2,671	5,341	267	534

4 MINIMUM REQUIRED FLOW RATE:

	BOD (hours	BOD (gpm)	COD (hours)	COD (gpm)
Bissell	**0.00**	**0**	**17.59**	**6**
Coldwater	0.00	0	73.42	1
Fenton	0.00	0	184.33	1
Grand Glaize	0.00	0	112.82	1
Lemay	0.00	0	26.11	4
Lower Meramec	0.00	0	140.17	1
Missouri River	0.00	0	46.84	2

5 SURCHARGE AND VOLUME BILLING

Is volume subject to billing? no (yes/no)
Ratio of BOD/COD = 0.00

(Sample BOD) - 300 = 0 mg/l subject to surcharge
(sample COD) - 600 = 499400 mg/l subject to surcharge
(sample TSS) - 300 = 0 mg/l subject to surcharge

If BOD/COD ratio <= 0.35, the following calculations use the COD value. Otherwise they use the BOD value

Current rates under Ordinance: 14395

Volume = $ 3.59 /CcF
BOD = $ 654.00 /ton
COD = $ 327.00 /ton
TSS = $ 262.00 /ton

Flow charge = $ - based on volume = 8.0 CcF
BOD surcharge = $ -
COD surcharge = $4,086.96
TSS surcharge = $ -
Total discharge charge = $4,086.96
Customer charge = $4,086.96 DEC charges special discharge customers for total charges > $20.00
Approximate charge/gallon = $ 0.68

Comments

require volume report for billing purposes. Smg

Metropolitan St. Louis Sewer District
2350 Market Street
St. Louis, MO 63103

APPLICATION FOR SPECIAL DISCHARGE APPROVAL

I. WASTEWATER SOURCE IDENTIFICATION:

Site Name: Mallinckrodt LLC
Premise Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Owner: Mallinckrodt LLC
Contact Person: Jeff Blaies
Title: Principal HSE Engineer
Phone: 314.654.2149 Fax: 314.654.1251

II. APPLICANT (mailing information):

Applicant Name: Jeff Blaies
Title: Principal HSE Engineer
Company Name: Mallinckrodt LLC
Mailing Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Phone: 314.654.2149 Fax: 314.654.1251

III. A. MATERIAL TO BE DISCHARGED (check all applicable boxes):

1. Wastewater description/location: Building 200 - 50% propylene glycol from Hot and Cold Wells
2. Process/activity generating wastewater: Operations has shutdown, material no longer needed.
3. Physical and chemical composition: List all constituents, and known or potentially present regulated contaminants below.
   ☐ See separate listing enclosed, and/or ☐ See analytical results enclosed, and/or ☒ Material Safety Data Sheet enclosed.

DESCRIPTION	RANGE	UNIT
Propylene Glycol	50	%%
Water	50	%%

DESCRIPTION *(continued)*	RANGE	UNIT

4. Is this wastewater from a process subject to EPA's categorical standards in 40 CFR Subchapter N? ☐ Yes ☑ No
   a. If yes, the applicable standards are in: 40 CFR Part _____, Subpart _____ ☐ Existing source ☐ New source
5. Does this wastewater contain polychlorinated biphenyls, asbestos or radioactive material? ☐ Yes ☑ No
   a. If yes, describe: _____
6. Representative sample: ☐ Laboratory results attached, and/or ☐ Sample provided (1/2 gallon minimum, clear container)
   a. Sample collection point/location: _____ Collection method: _____
   b. Sampler's name/Co.: _____ Sample date/time: _____
   c. Attach chain of custody as available
7. Discharge will occur over the following time period: ☒ < 30 days ☐ ≥ Two years ☐ Other: _____
   a. Expected total volume of wastewater to be discharged over the time period above: _____ Gallons
   b. Proposed discharge volume: 6,000 Gallons, at a frequency of: ☒ One time ☐ Daily ☐ Weekly ☐ Monthly ☐ Once/three months ☐ Once/six months ☐ Other: _____
8. Pretreatment of wastewater prior to discharge: ☐ None ☒ Yes, describe: pH adjustment at main plant outfall SP010
   a. If yes, attach site plan, pretreatment system schematic, and design specifications.
9. Wastewater from a remediation project under: ☐ Superfund/CERCLA ☐ RCRA ☐ Voluntary program ☐ UST ☒ Not applicable
   a. If from a remediation project, briefly describe the past and present utilization of the property: _____

III.B. MATERIAL FROM UNDERGROUND STORAGE TANK SOURCE

☒ **Not applicable (go to Section IV)**

Please answer the following questions if you are requesting to discharge wastewater associated with an underground storage tank system.

1. a. Wastewater from: ☐ Inside UST(s) ☐ UST system pit ☐ Excavation outside UST system pit ☐ Monitoring well ☐ Groundwater remediation system

   b. UST project involves wastewater from: ☐ UST(s) closed in place ☐ UST(s) removed ☐ Remediation ☐ Upgrade ☐ Maintenance activities ☐ Well monitoring ☐ Other, explain: _____

   c. If wastewater is from a closure project, how long has UST(s) been out of service: _____ years

2. a. State assigned UST site identification number: _____ ☐ Not applicable

   b. Number of USTs affected: _____ ☐ Unknown

   c. For the UST(s) involved, their state identification number(s): _____ ☐ Not applicable

   d. Service Station Identification Number, as applicable: _____

3. Tank contents/former contents: ☐ Gasoline ☐ #2 diesel ☐ Used oil ☐ Unknown ☐ Other: _____

IV. DISCHARGE LOCATION

1. ☒ On-site. Describe proposed point of entry to sewer and the discharge rate (must be a sanitary or combined sewer): _____
Plant sewer to main outfall SP010 _____ Note: Range of discharge must not surcharge sewer line.

2. ☐ Haul to MSD Bissell Point Hauled Waste Receiving Station at 10 E. Grand, St. Louis, MO.

   a. Transporters Name: _____ and MSD Hauler ID Number: _____

   b. Hazardous Waste Certification:

   For wastewater which is hauled to MSD's Bissell Point Hauled Waste Receiving Station, I hereby certify that to the best of my knowledge and belief, the above hauled waste is not classified as a RCRA "hazardous waste" as defined by the MDNR in 10 CSR 25 or USEPA in 40 CFR Part 261.

   Applicant Name (print): _____

   Signature: _____ **Date:** _____

ADDITIONAL INFORMATION:

_____

_____

_____

_____

_____

_____

V. APPLICANT SIGNATURE AND CERTIFICATION

This application must be signed by the applicant: either the source contact, or a contractor or agent directly responsible for site activities.

I hereby certify that I am directly responsible for activities at the site regarding the wastewater to be discharged, and to the best of my knowledge and belief, based on appropriate inquiry, the information in this application is true, complete, and accurate. The samples or analyses submitted are representative of the materials to be discharged. If granted approval to discharge, I agree to abide by the MSD Ordinances, and all applicable federal, state and local regulations. I agree to pay the costs of any pre-approval analyses performed by MSD and to pay any applicable disposal charges for the volume and strength of the wastes discharged.

Applicant Name (print): Jeff Blaies

Signature: Jeff Blaies **Date:** 09/21/2016

FOR MSD USE ONLY:

File Name: Mallinckrodt LLC ID No. 1011728100 Sample Point No. 832

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

August 17, 2016

Jeff Blaies
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Re: Wastewater User Charge Billing for Special Discharge

Dear Mr. Blaies:

This is to advise you of the wastewater user charges applicable to an on-site special discharge approved in our letter to you dated August 4, 2016. That charge was determined using the loversol concentration in your application for special discharge. The discharge dates and quantities are from information submitted by you in an email dated August 15, 2016.

Our Finance Department will bill you by invoice for the charges described below. These charges are based on the rates in MSD Wastewater User Charge Ordinance 14395. For your convenience, using the volume and strength of the waste discharged, the ordinance rates have been converted to a per-gallon basis.

PARTY TO BILL: Addressee

BILLING IS FOR: On-Site Special Discharge

DISCHARGE PERIOD: August 14, 2016

SOURCE OF WASTE: Off specification batch of loversol from Building 504 of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri.

Discharge Period	Billing Item	Quantity	Units	Rate	Charge
8/14/16	Extra-Strength Surcharge	2,000	Gal	$0.46	$920.00
Total:	------	**2,000**	Gal	-----	**$920.00**

Please do not pay until you receive our invoice. Payments made without invoice could potentially be misapplied.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace

Steve Grace
Environmental Assistant Engineer

bv

ec: Doug Mendoza
Brian Gibson

File: IU, MALLINCKRODT LLC [1011728100], 3600 N. 2nd Street, St. Louis

Steve Grace

From: Blaies, Jeff T <Jeff.Blaies@mallinckrodt.com>
Sent: Monday, August 15, 2016 9:15 AM
To: Steve Grace
Cc: Eckles, Jonathan; Shank, Brett; Petrov, Alex N; Litteken, Aaron
Subject: Mallinckrodt Special Discharge Permit Notification (File 1011728100)

Steve;
Here is the notification as required by the August 4, 2016 Special Discharge permit for the "out of spec" Ioversol that was discharged to MSD on Sunday, August 15, 2016. The total amount discharged to the sewer was 2,000 gallons starting at 6:00 AM until 4:45PM which was well within the discharge limit required in the permit.

Please let me know if you have any questions.

Jeff Blaies | Principal EHS Engineer
Mallinckrodt Pharmaceuticals
Mallinckrodt Pharmaceuticals
3600 N Second St | Z-4
St. Louis, MO | USA 63147
T: 314.654.2149 | M: 314.239.2736

Jeff.blaies@mallinckrodt.com | www.mallinckrodt.com

This information may be confidential and/or privileged. Use of this information by anyone other than the intended recipient is prohibited. If you receive this in error, please inform the sender and remove any record of this message.

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

August 8, 2016

Jonathan Eckles
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Re: Wastewater User Charge Billing for Special Discharge

Dear Mr. Eckles:

This is to advise you of the wastewater user charges applicable to an on-site special discharge approved in our letter to Jeff Blaies July 6, 2016. That charge was determined using the ethylene glycol concentration in the application for special discharge. The discharge dates and quantities are from information submitted by you in an email dated July 27, 2016.

Our Finance Department will bill you by invoice for the charges described below. These charges are based on the rates in MSD Wastewater User Charge Ordinance 14395. For your convenience, using the volume and strength of the waste discharged, the ordinance rates have been converted to a per-gallon basis.

PARTY TO BILL: Addressee

BILLING IS FOR: On-Site Special Discharge

DISCHARGE PERIOD: July 27, 2016

SOURCE OF WASTE: 30% ethylene glycol solution generated during clean out activities at the North Plant Chiller located in Building 530 of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri.

Discharge Period	Billing Item	Quantity	Units	Rate	Charge
7/27/16	Extra-Strength Surcharge	2,649	Gal	$0.41	$1,086.09
Total:	------	**2,649**	Gal	-----	**$1,086.09**

Please do not pay until you receive our invoice. Payments made without invoice could potentially be misapplied.

If you have any questions, please contact me at (314) 436-8755.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace

Steve Grace
Environmental Assistant Engineer

bv
ec: Cynthia Chalk - Finance
Ramona Gordon – Finance Dept.
Doug Mendoza, Brian Gibson

File: IU, MALLINCKRODT LLC [1011728100], 3600 N. 2nd Street, St. Louis

Steve Grace

From: Eckles, Jonathan <Jonathan.Eckles@mallinckrodt.com>
Sent: Wednesday, July 27, 2016 2:07 PM
To: Steve Grace
Cc: Tom Boehm; Blaies, Jeff T
Subject: Special Discharge - Ethylene Glycol

Hello Steve,

We completed the discharge of ethylene glycol today.

The total amount was 2,649 gallons, discharged from 07:58 to 13:35 today.

Let me know if you have any questions.

Thanks,
Jonathan

Jonathan Eckles, CHMM
Environmental Manager
Mallinckrodt Pharmaceuticals
3600 North Second Street I St. Louis, MO, 63147
T: 314.654.0138 I C: 314.267.1812 | F: 314.654.1251
www.mallinckrodt.com

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

August 4, 2016

Jeff Blaies
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Dear Mr. Blaies:

We have reviewed your application dated August 3, 2016 requesting approval to discharge 1,800 gallons of wastewater to the Metropolitan St. Louis Sewer District for treatment. This wastewater consists of an off specification batch of Ioversol from Building 504 of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri. Additional information provided previously indicates Ioversol is a contrast imaging media product for injecting into patients for image testing, and that the wastewater in question will be discharged through sampling point 010.

Based on the information you provided, this wastewater meets MSD Ordinance 12559 standards and is approved for discharge into a sanitary or combined sewer on site. **Due to the assumed elevated chemical oxygen demand (COD) concentration, the discharge is limited to 500 gallons per hour. This approval is valid for 30 days from the date of this letter.**

You must be certain the waste is discharged into a sanitary or combined sewer inlet only. This letter does not authorize any discharge to a separate storm sewer, or to any watercourse, as any such discharge would be in violation of state and federal laws. **Please notify me at the number below when the discharge is to commence, and please ensure the onsite personnel discharging the wastewater in question are provided with a copy of this letter.**

For billing purposes associated with this wastewater, you must confirm the volume of this wastewater discharged to us, in writing, at the completion of the discharge. This report is due no later than 28 days after this approval expires. Please refer to this letter and include the date of the discharge when providing that figure. Under the provisions of Ordinance 14395, you will be billed by invoice at the billing rate in effect at the time of discharge. The current rate contained in MSD Ordinance 14395 is $327.00 per ton for chemical oxygen demand (COD) over 600 mg/L. Using the assumed COD concentration based on the percent of Ioversol contained in the wastewater in question, it is estimated that you will be discharging approximately two and a half tons of COD over 600 mg/L (our quantitative estimate is 2.55 tons COD times $327.00). Please do not pay this amount until you receive our invoice.

This discharge has been approved based upon the information and sample analysis you provided, and is subject to the conditions stated above. This approval may be revoked by the District at any time if any of the information is found to be incorrect, or if the conditions of this approval are violated. Also, if the discharge causes any operational or maintenance problem within the District's collection or treatment system, or results in violations of any conditions of the District's NPDES permit, Mallinckrodt LLC will be considered responsible for damages. If you have any questions, please call me at (314) 436-8755.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace
Steve Grace
Environmental Assistant Engineer

bv
ec: Brian Gibson, Doug Mendoza
File: IU, MALLINCKRODT INC [1011728100]

SP 8-4-16

August 4, 2016

Jeff Blaies
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Dear Mr. Blaies:

We have reviewed your application dated August 3, 2016 requesting approval to discharge 1,800 gallons of wastewater to the Metropolitan St. Louis Sewer District for treatment. This wastewater consists of an off specification batch of Ioversol from Building 504 of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri. Additional information provided previously indicates Ioversol is a contrast imaging media product for injecting into patients for image testing, and that the wastewater in question will be discharged through sampling point 010.

Based on the information you provided, this wastewater meets MSD Ordinance 12559 standards and is approved for discharge into a sanitary or combined sewer on site. **Due to the assumed elevated chemical oxygen demand (COD) concentration, the discharge is limited to 500 gallons per hour. This approval is valid for 30 days from the date of this letter.**

You must be certain the waste is discharged into a sanitary or combined sewer inlet only. This letter does not authorize any discharge to a separate storm sewer, or to any watercourse, as any such discharge would be in violation of state and federal laws. **Please notify me at the number below when the discharge is to commence, and please ensure the onsite personnel discharging the wastewater in question are provided with a copy of this letter.**

For billing purposes associated with this wastewater, you must confirm the volume of this wastewater discharged to us, in writing, at the completion of the discharge. This report is due no later than 28 days after this approval expires. Please refer to this letter and include the date of the discharge when providing that figure. Under the provisions of Ordinance 14395, you will be billed by invoice at the billing rate in effect at the time of discharge. The current rate contained in MSD Ordinance 14395 is $327.00 per ton for chemical oxygen demand (COD) over 600 mg/L. Using the assumed COD concentration based on the percent of Ioversol contained in the wastewater in question, it is estimated that you will be discharging approximately two and a half tons of COD over 600 mg/L (our quantitative estimate is 2.55 tons COD times $327.00). Please do not pay this amount until you receive our invoice.

This discharge has been approved based upon the information and sample analysis you provided, and is subject to the conditions stated above. This approval may be revoked by the District at any time if any of the information is found to be incorrect, or if the conditions of this approval are violated. Also, if the discharge causes any operational or maintenance problem within the District's collection or treatment system, or results in violations of any conditions of the District's NPDES permit, Mallinckrodt LLC will be considered responsible for damages. If you have any questions, please call me at (314) 436-8755.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace
Steve Grace
Environmental Assistant Engineer

bv
ec: Brian Gibson, Doug Mendoza
File: IU, MALLINCKRODT INC [1011728100]
N:\Envcom\EXEC\ENVCOM\GRACE\Special Discharge\Onsite Approvals\Blaies.Mallinckrodt SP845 8-4-16.docx

C1A

SD EVALUATION CHECKLIST - ON SITE

APPLICATION INFORMATION

Source Name: Mallinckrodt LLC Evaluated by: SMG

Premise Address: 3600 N. 2nd St. Date: 8/4/16

Send approval letter to applicant

Application Dated: 8/3/16 Received: 8/3/16 All Requested Info. Received: 8/4/16

SOURCE FILING/DESCRIPTION

1 - Source in PIMS? (Y) / N
2 - If No, on IU Cross-Ref list? * Y / N
3 - If No, MSD Account # from E-CIS? Y / N
4 - If none, on "Source" list (pre-IMS)? ** Y / N
5 - If No, assigned SOUR# from PIMS.

SOURCE TYPE (circle): (IU) / Dead IU / SD

INDUSTRY ID: 1011728100

* o:\costrecovery\cross reference xls file

** o:\costrecovery\sourlist xls file

Sample Point: No. Assigned: 845 Description: Off spec batch of Iversol from Bldg. 504

Normal WW flow from premise? (N/A) _____ ccf/month, _____ GPD, _____ GPH.

REGULATORY STATUS

Is waste a Hazardous Waste? (N) / Y _____

Categorical standards apply? (N) / Y _____

Contain PCB/ asbestos/ radioactive/ dioxin/ used oil? (N) / Y _____

Regulatory Agency Oversight? (N) / Y _____

DISCHARGE CONSIDERATIONS At MSD's connection:

Ordinance Limits (12559, p. 32) exceeded? (N) / Y _____

Ordinance other limits exceeded (dye, flash pt <140° F, temp >140° F, obstruction, nuisance foaming/odor, corrosion causing): (N) / Y _____

Water Quality Standard exceeded? (N) / Y _____

Fumes in sewer exceed PEL/TLV limits? (N) / Y _____

Vapors in sewer exceed 10% of LEL? (N) / Y _____

RECOMMENDATION: (APPROVE) / DENY (cc WWTP Mgr for timed discharge)

APPROVAL CONDITIONS:

Timed Discharge (COD/BOD/WQ/foam): N / (Y) Limit = 500 gal/hour

Require Treatment before Discharge? (N) / Y _____

Laboratory analysis fee due? (N) / Y $_____

SMR required? (N) / Y Frequency/analysis: _____

SMR log: (N/A) / Remediation.xls / Nonremediation.xls

Volume Billing applies (water unmetered or credited)? (N) / Y

Bill High Strength? N / (Y) Yes, If use >60,000 gal/month water ___and, > norm WW strgth

Surcharge calculation attached: N/A / N / (Y)

Expiration log updated: (N/A) / N / Y

O:\CostRecovery\Special Discharge\C1a.Checklist.doc

On-Site Special Discharge High Strength Flow Rate and Surcharge Calculator

1 GENERAL INFORMATION:

Date: 08/04/16
Calculated by: Steve Grace
Source name: Mallinckrodt LLC
Waste material: MP-2106 contrast imaging media solution
Discharge volume: 1,800 gallons

2 STRENGTH INFORMATION:

Sample BOD =	0	mg/l =	0	lbs BOD to be discharged
Sample COD =	340,000	mg/l =	5104	lbs COD to be discharged
Sample TSS =	100	mg/l =	for surcharge calculation only	

3 PLANT DATA: 2010

Treatment area: Bissell

	Flow (MGD)	BOD (mg/L)	COD (mg/L)	BOD (lb/hr)	COD (lb/hr)	Max Loading = 10% BOD (lb/hr)	Max Loading = 10% COD (lb/hr)
Bissell	**140**	**146**	**292**	**7,113**	**14,227**	**711**	**1,423**
Coldwater	26	188	377	1,704	3,408	170	341
Fenton	5	388	776	679	1,357	68	136
Grand Glaize	16	129	405	708	2,218	71	222
Lemay	131	78	210	3,531	9,584	353	958
Lower Meramec	13	124	409	543	1,785	54	179
Missouri River	27	280	559	2,671	5,341	267	534

4 MINIMUM REQUIRED FLOW RATE:

	BOD (hours	BOD (gpm)	COD (hours)	COD (gpm)
Bissell	**0.00**	**0**	**3.59**	**8**
Coldwater	0.00	0	14.98	2
Fenton	0.00	0	37.60	1
Grand Glaize	0.00	0	23.02	1
Lemay	0.00	0	5.33	6
Lower Meramec	0.00	0	28.59	1
Missouri River	0.00	0	9.56	3

5 SURCHARGE AND VOLUME BILLING

Is volume subject to billing? no (yes/no)
Ratio of BOD/COD = 0.00

(Sample BOD) - 300 = 0 mg/l subject to surcharge
(sample COD) - 600 = 339400 mg/l subject to surcharge
(sample TSS) - 300 = 0 mg/l subject to surcharge

If BOD/COD ratio <= 0.35, the following calculations use the COD value. Otherwise they use the BOD value

Current rates under Ordinance: 14395

Volume = $ 3.59 /CcF
BOD = $ 654.00 /ton
COD = $ 327.00 /ton
TSS = $ 262.00 /ton

Flow charge = $ - based on volume = 2.4 CcF
BOD surcharge = $ -
COD surcharge = $ 833.27
TSS surcharge = $ -
Total discharge charge = $ 833.27
Customer charge = $ 833.27 DEC charges special discharge customers for total charges > $20.00
Approximate charge/gallon = $ 0.46

Comments

require volume report for billing purposes. Smg

Metropolitan St. Louis Sewer District
2350 Market Street
St. Louis, MO 63103

APPLICATION FOR SPECIAL DISCHARGE APPROVAL

I. WASTEWATER SOURCE IDENTIFICATION:

Site Name: Mallinckrodt LLC
Premise Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Owner: Mallinckrodt LLC
Contact Person: Jeff Blaies
Title: Principal EHS Engineer
Phone: 314.654.2149 Fax: 314.654.1251

II. APPLICANT (mailing information):

Applicant Name: Jeff Blaies
Title: Principal EHS Engineer
Company Name: Mallinckrodt LLC
Mailing Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Phone: 314.654.2149 Fax: 314.654.1251

III. A. MATERIAL TO BE DISCHARGED (check all applicable boxes):

1. Wastewater description/location: 1800 gallon mixture of product (Dissolved Ioversol - See SDS), Deionized Water and Impurities/ Bldg 504
2. Process/activity generating wastewater: Bldg 504 Product out of specification
3. Physical and chemical composition: List all constituents, and known or potentially present regulated contaminants below.
   ☐ See separate listing enclosed, and/or ☐ See analytical results enclosed, and/or ■ Material Safety Data Sheet enclosed.

DESCRIPTION	RANGE	UNIT
Out of Spec Ioversol	32-34	%
Deionized Water	66-68	%

DESCRIPTION *(continued)*	RANGE	UNIT

4. Is this wastewater from a process subject to EPA's categorical standards in 40 CFR Subchapter N? ☐ Yes ☑ No
   a. If yes, the applicable standards are in: 40 CFR Part _____, Subpart _____ ☐ Existing source ☐ New source
5. Does this wastewater contain polychlorinated biphenyls, asbestos or radioactive material? ☐ Yes ☑ No
   a. If yes, describe: _____
6. Representative sample: ☐ Laboratory results attached, and/or ☐ Sample provided (1/2 gallon minimum, clear container)
   a. Sample collection point/location: _____ Collection method: _____
   b. Sampler's name/Co.: _____ Sample date/time: _____
   c. Attach chain of custody as available
7. Discharge will occur over the following time period: ■ < 30 days ☐ ≥ Two years ☐ Other: _____
   a. Expected total volume of wastewater to be discharged over the time period above: _____ Gallons
   b. Proposed discharge volume: 1800 Gallons, at a frequency of: ■ One time ☐ Daily ☐ Weekly ☐ Monthly ☐ Once/three months ☐ Once/six months ☐ Other: _____
8. Pretreatment of wastewater prior to discharge: ☐ None ■ Yes, describe: pH adjustment at main plant outfall SP010
   a. If yes, attach site plan, pretreatment system schematic, and design specifications.
9. Wastewater from a remediation project under: ☐ Superfund/CERCLA ☐ RCRA ☐ Voluntary program ☐ UST ■ Not applicable
   a. If from a remediation project, briefly describe the past and present utilization of the property: _____

III.B. MATERIAL FROM UNDERGROUND STORAGE TANK SOURCE

■ **Not applicable (go to Section IV)**

Please answer the following questions if you are requesting to discharge wastewater associated with an underground storage tank system.

1. a. Wastewater from: ☐ Inside UST(s) ☐ UST system pit ☐ Excavation outside UST system pit ☐ Monitoring well ☐ Groundwater remediation system

   b. UST project involves wastewater from: ☐ UST(s) closed in place ☐ UST(s) removed ☐ Remediation ☐ Upgrade ☐ Maintenance activities ☐ Well monitoring ☐ Other, explain: _____

   c. If wastewater is from a closure project, how long has UST(s) been out of service: _____ years

2. a. State assigned UST site identification number: _____ ☐ Not applicable

   b. Number of USTs affected: _____ ☐ Unknown

   c. For the UST(s) involved, their state identification number(s): _____ ☐ Not applicable

   d. Service Station Identification Number, as applicable: _____

3. Tank contents/former contents: ☐ Gasoline ☐ #2 diesel ☐ Used oil ☐ Unknown ☐ Other: _____

IV. DISCHARGE LOCATION

1. ■ On-site. Describe proposed point of entry to sewer and the discharge rate (must be a sanitary or combined sewer): _____

Plant sewer to main outfall SP010 _____ Note: Range of discharge must not surcharge sewer line.

2. ☐ Haul to MSD Bissell Point Hauled Waste Receiving Station at 10 E. Grand, St. Louis, MO.

   a. Transporters Name: _____ and MSD Hauler ID Number: _____

   b. Hazardous Waste Certification:

   For wastewater which is hauled to MSD's Bissell Point Hauled Waste Receiving Station, I hereby certify that to the best of my knowledge and belief, the above hauled waste is not classified as a RCRA "hazardous waste" as defined by the MDNR in 10 CSR 25 or USEPA in 40 CFR Part 261.

   Applicant Name (print): _____

   Signature: _____ **Date:** _____

ADDITIONAL INFORMATION:

Ioversol is an product injected into a human patient receiving an imaging scan.

Please send a copy of the Special Discharge Permit via email at jeff.blaies@mallinckrodt.com.

V. APPLICANT SIGNATURE AND CERTIFICATION

This application must be signed by the applicant: either the source contact, or a contractor or agent directly responsible for site activities.

I hereby certify that I am directly responsible for activities at the site regarding the wastewater to be discharged, and to the best of my knowledge and belief, based on appropriate inquiry, the information in this application is true, complete, and accurate. The samples or analyses submitted are representative of the materials to be discharged. If granted approval to discharge, I agree to abide by the MSD Ordinances, and all applicable federal, state and local regulations. I agree to pay the costs of any pre-approval analyses performed by MSD and to pay any applicable disposal charges for the volume and strength of the wastes discharged.

Applicant Name (print): Jeff Blaies

Signature: Jeff Blaies **Date:** 08/03/2016

FOR MSD USE ONLY:

File Name: Mallinckrodt LLC ID No. 1011728100 Sample Point No. 845

Mallinckrodt
Pharmaceuticals

SR
8/17

July 25th, 2016

Mr. Doug Mendoza
Metropolitan St. Louis Sewer District
Department of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147

Re: 2016 2nd Quarter Self-Monitoring Report for Permit No. 1011728100-2

Dear Mr. Mendoza,

Please find enclosed the 2016 2nd Quarter Self-Monitoring report for Mallinckrodt LLC.

The following sample points received no pharmaceutical process water flow during the second quarter: SP080, SP927, SP930, and SP933. The lab encountered interference with the Cyanide Amenable to Chlorination method for SP010 and provided a total Cyanide result of <0.007 mg/L, which is well below the permit limit of 1.2 mg/L

If you have any questions or require more detailed information, please contact me at 314-654-0138 or via email at jonathan.eckles@mallinckrodt.com.

Sincerely,

Jonathan Eckles
Environmental Manager

ENCLOSURES

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

MALLINCKRODT
3600 NORTH SECOND STREET
ST. LOUIS, MO 63147

TELEPHONE: 314-654-2000
FAX: 314-654-1251

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **MALLINCKRODT LLC**

Permit No: **1011728100-2** Effective Date: June 01, 2015 Expiration Date: May 31, 2020

Premise Address: 3600 North Second Street, 63147

Monitoring Period: ☐(JAN-MAR) ☒ (APR-JUNE) ☐ (JULY-SEPT) ☐(OCT-DEC)

Samples Collected By: _____

Analyses Performed By: _____

PART II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS ⇨								
DATES ON WHICH SAMPLES WERE COLLECTED ⇨								
TIMES AT WHICH SAMPLES WERE COLLECTED ⇨								
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G, C, M OR E) AND RESULTS BELOW (G=grab, C=composite, M=measured flow, E=estimated flow)						UNITS
FLOW								

You must complete and sign the certification statements on the second page.

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MSD 014340

PART III: SPECIAL CERTIFICATION STATEMENTS

Based on the special conditions contained in your discharge permit you may be required to certify the following. Please review your permit and **PLACE YOUR INITIALS ON THE LINES NEXT TO THE CERTIFICATIONS**.

A	NO CHANGE IN WASTEWATER DISCHARGE AT SAMPLE POINTS WITH NO MONITORING REQUIRED
	For permit special conditions that waive monitoring at any sample point(s) specified in your permit, you are required to make the following certification for each report in which monitoring is waived: _____ I certify, since the last discharge monitoring report, there has been no change in the character of the wastes discharged at sample points **001 and 002 and 930**. _____ I certify, since the last discharge monitoring report, there has been no discharge from sample points **008 and 011**.
B	NO CHANGE IN WASTEWATER DISCHARGE AT ACTIVE CONNECTIONS WITHOUT SAMPLE POINTS
	For permit special conditions that waive monitoring at active connection points which are not specified as sample points in your permit, you are required to make the following certification: _____ I certify, since the last discharge monitoring report, there has been no change in the character of wastes discharged at those active connection points which are not specified in my permit.
E	NO DISCHARGE OF CATEGORICAL WASTE
	For permit special conditions that prohibit discharge of wastes which are subject to certain categorical pretreatment standards, you are required to make the following certification: _____ I certify, since the last discharge monitoring report, there has been no discharge of wastes which are subject to pretreatment standards in 40 CFR 414 (except for those wastes conveyed by Sample Point **905**).
F	CYANIDE NOT USED OR GENERATED IN 40 CFR 439 OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from limitations and monitoring for Total Cyanide at the Pharmaceutical sample points **080, 915, and 936,** subject to the following certification: _____ I certify, since the last discharge monitoring report, cyanide has not been used or generated in any pharmaceutical manufacturing process subject to Categorical Standards in 40 CFR 439.
H	CATEGORICAL POLLUTANTS NOT USED OR GENERATED IN CATEGORICAL OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from monitoring for certain 40 CFR 439-regulated pollutants at the Pharmaceutical sample points **915 and 936,** subject to the following certification: _____ I certify, since the last discharge monitoring report, the 40 CFR 439-regulated pollutants, as determined in permittee's report dated March 17, 2015, have not been used or generated in any pharmaceutical manufacturing process subject to Categorical Standards in 40 CFR 439. In addition, the above-referenced report remains valid.
I	SURROGATE MONITORING ALLOWED FOR 40 CFR 439 OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from monitoring for certain 40 CFR 439-regulated pollutants, and replaced by monitoring for surrogate pollutant(s), at the Pharmaceutical sample points **920 and 937** subject to the following certification: _____ I certify, since the last discharge monitoring report, the 40 CFR 439-regulated pollutants, as determined in permittee's report dated March 17, 2015, continue to receive the same degree of treatment as the surrogate pollutant(s). In addition, the above-referenced report remains valid.

PART IV: GENERAL CERTIFICATION STATEMENTS

B	DISCHARGE MONITORING REPORT CERTIFICATION
	All permittees must sign and complete the information below: I certify under penalty of Law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Print or type name of signing official: John Leonard Title: Senior Site Director Telephone: 314-654-1879 Signature: John Leonard Date: 7/20/16

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METROPOLITAN ST LOUIS SEWER DISTRICT
INDUSTRIAL USER RADIOACTIVE MATERIALS DISCHARGE REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **MALLINCKRODT LLC**

Permit No: 1011728100-2

Premise Address: 3600 North Second Street, St. Louis, MO 63147

Reporting Period: ☐ JAN-MAR ☒ APR-JUN ☐ JUL-SEP ☐ OCT-DEC

PART II: RECORD OF DISPOSAL OF RADIOACTIVE MATERIALS TO THE SEWER SYSTEM

RADIONUCLIDE	ACTIVITY DISCHARGED (millicuries)
TOTAL ACTIVITY DISCHARGED:	**No activity recorded this period.**

PART III: CERTIFICATION STATEMENTS

Place your initials in the box under item A.

Everyone must complete the information under items A & B and sign this report.

A. CERTIFICATION OF COMPLIANCE WITH STATE AND FEDERAL REGULATIONS

☑ I certify that to the best of my knowledge & belief, all requirements of 10 CFR Part 20.2003 and 19 CSR Part 20-10.090 governing disposal by release into sanitary sewage for material regulated by the Nuclear Regulatory Commission and the Missouri Department of Health, respectively, have been met for the period covered by this report.

B. RADIOACTIVE MATERIALS DISCHARGE REPORT CERTIFICATION

I certify under penalty of Law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Print/type name of signing official: John Leonard

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Title: Senior Site Director

Telephone: 314-654-1879

Signature: John Leonard

Date: 7/20/16

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) _X_(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: Teklab

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	---->		**001**					
DATES ON WHICH SAMPLES WERE COLLECTED	---->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	---->		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	1,000					gal/day
NO MONITORING REQUIRED (Sanitary Only)								
There have been no change in the character of the wastes discharged since the last report.								

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ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) _X_(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: Teklab

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**002**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	2,200					gal/day
NO MONITORING REQUIRED (Sanitary Only)								
There have been no change in the character of the wastes discharged since the last report.								

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METROPOLITAN ST. LOUIS SEWER DISTRICT
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Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) _X__(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS ----->			003		009		099	
DATES ON WHICH SAMPLES WERE COLLECTED ----->			4/5/2016		4/5/2016		Calculated	
TIMES AT WHICH SAMPLES WERE COLLECTED ----->			Grab: 1:25; Comp Start: 2:30; End: 1:30		Grab: 1:45; Comp Start: 2:50; End: 1:50		N/A	
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	20,327	E	7,700	E	12,627	gal/day
Oil & Grease	200	G	15	G	31	E	5	mg/l
Biochemical Oxygen Demand[1]	****	C	44	C	63	E	32	mg/l
Chemical Oxygen Demand	****	C	151	C	210	E	115	mg/l
Total Suspended Solids	****	C	22	C	22	E	22	mg/l
Temperature	60	G	23.3	G	17.2	E	20.3	deg C
pH	5.5-11.5	G	9.5	G	7.9	E	8.7	S.U.
**** No limits for SP003 or SP009; monitoring requirement only for calculation at SP099								
Shaded values represent detection limits								
Lab Dilution Factor			1		1		N/A	

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ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) X (APR-JUNE) __(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**005**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		4/5/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 1:10; Comp Start: 2:15; End: 1:15					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	1,000					gal/day
Oil & Grease	200	G	6					mg/l
Biochemical Oxygen Demand[1]	****	C	12					mg/l
Chemical Oxygen Demand	****	C	<50					mg/l
Total Suspended Solids	****	C	<6					mg/l
Temperature	60	G	18.3					deg C
pH	5.5 - 11.5	G	7.6					S.U.
**** No limits for SP005								
Lab Dilution Factor			1					

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) _X_(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		008		008				
DATES ON WHICH SAMPLES WERE COLLECTED	----->		6/6/2016		6/17/2016				
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		10:47 AM		5:20 AM				
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW		E	14,000	E	7,000				gal/day
Oil & Grease	200	G	28	G	7				mg/l
Biochemical Oxygen Demand[1]	****	G	144	G	28				mg/l
Chemical Oxygen Demand	****	G	71	G	145				mg/l
Temperature	60	M	25.5	M	26.7				deg C
Total Suspended Solids	****	G	127	G	7				mg/L
pH	5.5 - 11.5	G	see attached pH log	G	see attached pH log				S.U.
Lab Dilution Factor			1		1				

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ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) __X__(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	---->		**008**					
DATES ON WHICH SAMPLES WERE COLLECTED	---->		6/6/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	---->		11:25 AM					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	14,000					gal/day
1,1,1-Trichloroethane		G	0.005					mg/l
1,1,2,2-Tetrachloroethane		G	0.005					mg/l
1,1,2-Trichloroethane		G	0.005					mg/l
1,1-Dichloroethane		G	0.005					mg/l
1,1-Dichloroethene		G	0.005					mg/l
1,2-Dichlorobenzene		G	0.005					mg/l
1,2-Dichloroethane		G	0.005					mg/l
1,2-Dichloropropane		G	0.005					mg/l
1,3-Dichlorobenzene		G	0.005					mg/l
1,4-Dichlorobenzene		G	0.005					mg/l
2-Chloroethylvinylether		G	0.020					mg/l
Acrolein		G	0.100					mg/l
Acrylonitrile		G	0.005					mg/l
Benzene		G	0.002					mg/l
Bromodichloromethane		G	0.005					mg/l
Bromoform		G	0.005					mg/l
Bromomethane		G	0.010					mg/l
Carbon Tetrachloride		G	0.005					mg/l
Chlorobenzene		G	0.005					mg/l
Chloroethane		G	0.010					mg/l
Chloroform		G	0.0089					mg/l
Chloromethane		G	0.010					mg/l
cis-1,3-Dichloropropene		G	0.005					mg/l
Dibromochloromethane		G	0.005					mg/l
Ethylbenzene		G	0.005					mg/l
Methylene Chloride		G	0.005					mg/l
Tetrachloroethene		G	0.005					mg/l
Toluene		G	0.005					mg/l
1,2-Dichloroethene		G	0.005					mg/l
trans-1,3-Dichloropropene		G	0.005					mg/l
Trichloroethene		G	0.005					mg/l
Vinyl Chloride		G	0.002					mg/l
1,2,4-Trichlorobenzene		G	0.040					mg/l
2,4,6-Trichlorophenol		G	0.040					mg/l
2,4-Dichlorophenol		G	0.040					mg/l
2,4-Dimethylphenol		G	0.040					mg/l
2,4-Dinitrophenol		G	0.080					mg/l
2,4-Dinitrotoluene		G	0.040					mg/l
2,6-Dinitrotoluene		G	0.040					mg/l
2-Chloronapthalene		G	0.040					mg/l
2-Chlorophenol		G	0.040					mg/l
2-Nitrophenol		G	0.080					mg/l
3,3-Dichlorobenzidine		G	0.040					mg/l
2-Methyl-4,6-dinitrophenol		G	0.080					mg/l
4-Bromophenyl-phenylether		G	0.040					mg/l
4-Chloro-3-methylphenol		G	0.080					mg/l
4-Chlorophenyl-phenylether		G	0.040					mg/l
4-Nitrophenol		G	0.080					mg/l

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

MSD 014348

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) __X__(APR-JUNE) ____(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**008**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		6/6/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		11:25 AM					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	14,000					gal/day
Acenapthene		G	0.040					mg/l
Acenaphthylene		G	0.040					mg/l
Anthracene		G	0.040					mg/l
Benzidine		G	0.160					mg/l
Benzo(a)anthracene		G	0.040					mg/l
Benzo(a)pyrene		G	0.040					mg/l
Benzo(b)fluoranthene		G	0.040					mg/l
Benzo(g,h,i)perylene		G	0.040					mg/l
Benzo(k)fluoranthene		G	0.040					mg/l
Bis(2-chloroethoxy)methane		G	0.040					mg/l
Bis(2-chloroethyl)ether		G	0.040					mg/l
Bis(2-chloroisopropyl)ether		G	0.040					mg/l
Bis(2-ethylhexyl)phthalate		G	0.024					mg/l
Butyl benzyl phthalate		G	0.040					mg/l
Chrysene		G	0.040					mg/l
Dibenzo(a,h)anthracene		G	0.040					mg/l
Diethyl phthalate		G	0.040					mg/l
Dimethyl phthalate		G	0.040					mg/l
Di-n-butyl phthalate		G	0.040					mg/l
Di-n-octyl-phthalate		G	0.040					mg/l
Fluorene		G	0.040					mg/l
Fluoranthene		G	0.040					mg/l
Hexachlorobenzene		G	0.040					mg/l
Hexachlorobutadiene		G	0.040					mg/l
Hexachlorocyclopentadiene		G	0.080					mg/l
Hexachloroethane		G	0.040					mg/l
Ideno(1,2,3-cd)pyrene		G	0.040					mg/l
Isophorone		G	0.040					mg/l
Naphthalene		G	0.040					mg/l
Nitrobenzene		G	0.040					mg/l
N-nitrosodimethylamine		G	0.080					mg/l
N-nitrosodi-n-propylamine		G	0.080					mg/l
N-nitrosodiphenylamine		G	0.040					mg/l
Pentachlorophenol		G	0.080					mg/l
Phenanthrene		G	0.040					mg/l
Phenol		G	0.020					mg/l
Pyrene		G	0.040					mg/l
1,2-Diphenylhydrazine		G	0.040					mg/l
Total Toxic Organics	5.844	--	2.887					mg/l
Lab Dilution Factor (EPA 600 SVOC (5), EPA 600 VOC (1))			5,1					

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

MSD 014349

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) __X_(APR-JUNE) __JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**010**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		4/6/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 8:50; Comp Start: 12:40; End: 9:00					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	1,197,295					gal/day
Oil & Grease	200	G	27					mg/l
Biochemical Oxygen Demand[1]	****	C	470					mg/l
Chemical Oxygen Demand	****	C	1050					mg/l
Total Suspended Solids	****	C	58					mg/l
Temperature	60	G	31.1					deg C
pH	5.5 - 11.5	G	7.1					S.U.
Chromium	5.0	C	<0.0050					mg/l
Copper	2.7	C	0.0075					mg/l
Nickel	2.3	C	0.0078					mg/l
Zinc	3.0	C	0.0129					mg/l
Cyanide **	1.2	G	<0.007					mg/l
Shaded values represent detection limits								
** Total Cyanide result. Interference prevented analysis of Cyanide Amenable to Chlorination								
Lab Dilution Factor			1,5,2,1,1,1,1,1,1					

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ENVIRONMENTAL COMPLIANCE

Mallinckrodt pH Monitoring for SP010: April 2016

Date / Time	pH	Total for Event in Minutes
4/7/16 8:25	4.3	5
4/12/16 10:40	4.3	5
	April Total	**10**

Mallinckrodt pH Monitoring for SP010: May 2016

Date / Time	pH	Total for Event in Minutes
5/11/16 20:45	5.4	5
5/25/16 21:00	5.3	
5/25/16 21:05	4.8	10
	May Total	**15**

Mallinckrodt pH Monitoring for SP010: June 2016

Date / Time	pH	Total for Event in Minutes
6/10/16 20:40	11.6	
6/10/16 20:45	11.6	10
6/13/16 8:45	5.5	5
6/20/16 8:45	5.0	5
6/26/16 8:05	3.6	5
	June Total	**25**

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) __X__(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->	011		011				
DATES ON WHICH SAMPLES WERE COLLECTED	----->	6/6/2016		6/17/2016				
TIMES AT WHICH SAMPLES WERE COLLECTED	----->	11:11 AM		12:00 AM				
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	14,000	E	14,000			gal/day
Oil & Grease	200	G	6	G	5			mg/l
Biochemical Oxygen Demand	****	G	5	G	5			mg/l
Chemical Oxygen Demand	****	G	50	G	50			mg/l
Total Suspended Solids	****	G	6	G	6			mg/l
Temperature	60	M	22.8	M	28.2			deg C
pH	5.5 - 11.5	G	see attached pH log	G	see attached pH log			S.U.
Shaded values represent detection limits								
Lab Dilution Factor			1		1		1	

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
2013 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) __X_(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	---->		**011**					
DATES ON WHICH SAMPLES WERE COLLECTED	---->		6/6/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	---->		11:11 AM					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	14,000					gal/day
1,1,1-Trichloroethane		G	0.005					mg/l
1,1,2,2-Tetrachloroethane		G	0.005					mg/l
1,1,2-Trichloroethane		G	0.005					mg/l
1,1-Dichloroethane		G	0.005					mg/l
1,1-Dichloroethene		G	0.005					mg/l
1,2-Dichlorobenzene		G	0.005					mg/l
1,2-Dichloroethane		G	0.005					mg/l
1,2-Dichloropropane		G	0.005					mg/l
1,3-Dichlorobenzene		G	0.005					mg/l
1,4-Dichlorobenzene		G	0.005					mg/l
2-Chloroethylvinylether		G	0.020					mg/l
Acrolein		G	0.100					mg/l
Acrylonitrile		G	0.005					mg/l
Benzene		G	0.002					mg/l
Bromodichloromethane		G	0.005					mg/l
Bromoform		G	0.005					mg/l
Bromomethane		G	0.010					mg/l
Carbon Tetrachloride		G	0.005					mg/l
Chlorobenzene		G	0.005					mg/l
Chloroethane		G	0.010					mg/l
Chloroform		G	0.005					mg/l
Chloromethane		G	0.010					mg/l
cis-1,3-Dicholropropene		G	0.005					mg/l
Dibromochloromethane		G	0.005					mg/l
Ethylbenzene		G	0.005					mg/l
Methylene Chloride		G	0.005					mg/l
Tetrachloroethene		G	0.005					mg/l
Toluene		G	0.005					mg/l
trans-1,2-Dichloroethene		G	0.005					mg/l
trans-1,3-Dichloropropene		G	0.005					mg/l
Trichloroethene		G	0.005					mg/l
Vinyl Chloride		G	0.002					mg/l
1,2,4-Trichlorobenzene		G	0.039					mg/l
2,4,6-Trichlorophenol		G	0.039					mg/l
2,4-Dichlorophenol		G	0.039					mg/l
2,4-Dimethylphenol		G	0.039					mg/l
2,4-Dinitrophenol		G	0.079					mg/l
2,4-Dinitrotoluene		G	0.039					mg/l
2,6-Dinitrotoluene		G	0.039					mg/l
2-Chloronapthalene		G	0.039					mg/l
2-Chlorophenol		G	0.039					mg/l
2-Nitrophenol		G	0.079					mg/l
3,3-Dichlorobenzidine		G	0.039					mg/l
2-Methyl-4,6-dinitrophenol		G	0.079					mg/l
4-Bromophenyl-phenylether		G	0.039					mg/l
4-Chloro-3-methylphenol		G	0.079					mg/l
4-Chlorophenyl-phenylether		G	0.039					mg/l
4-Nitrophenol		G	0.079					mg/l

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
2013 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) __X_(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	---->		**011**						
DATES ON WHICH SAMPLES WERE COLLECTED	---->		6/6/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED	---->		11:11 AM						
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated fl							UNITS
FLOW		E	14,000						gal/day
Acenapthene		G	0.039						mg/l
Acenaphthylene		G	0.039						mg/l
Anthracene		G	0.039						mg/l
Benzidine		G	0.157						mg/l
Benzo(a)anthracene		G	0.039						mg/l
Benzo(a)pyrene		G	0.039						mg/l
Benzo(b)fluoranthene		G	0.039						mg/l
Benzo(g,h,i)perylene		G	0.039						mg/l
Benzo(k)fluoranthene		G	0.039						mg/l
Bis(2-chloroethoxy)methane		G	0.039						mg/l
Bis(2-chloroethyl)ether		G	0.039						mg/l
Bis(2-chloroisopropyl)ether		G	0.039						mg/l
Bis(2-ethylhexyl)phthalate		G	0.024						mg/l
Butyl benzyl phthalate		G	0.039						mg/l
Chrysene		G	0.039						mg/l
Dibenzo(a,h)anthracene		G	0.039						mg/l
Diethyl phthalate		G	0.039						mg/l
Dimethyl phthalate		G	0.039						mg/l
Di-n-butyl phthalate		G	0.039						mg/l
Di-n-octyl-phthalate		G	0.039						mg/l
Fluoranthene		G	0.039						mg/l
Fluorene		G	0.039						mg/l
Hexachlorobenzene		G	0.039						mg/l
Hexachlorobutadiene		G	0.039						mg/l
Hexachlorocyclopentadiene		G	0.079						mg/l
Hexachloroethane		G	0.039						mg/l
Ideno(1,2,3-cd)pyrene		G	0.039						mg/l
Isophorone		G	0.039						mg/l
Naphthalene		G	0.039						mg/l
Nitrobenzene		G	0.039						mg/l
N-nitrosodimethylamine		G	0.079						mg/l
N-nitrosodi-n-propylamine		G	0.039						mg/l
N-nitrosodiphenylamine		G	0.039						mg/l
Pentachlorophenol		G	0.079						mg/l
Phenanthrene		G	0.039						mg/l
Phenol		G	0.020						mg/l
Pyrene		G	0.039						mg/l
1,2-Diphenylhydrazine		G	0.039						mg/l
Total Toxic Organics	5.844	--	2.789						mg/l
Shaded values represent detection limits									
Lab Dilution Factor (EPA 600 SVOC (5), EPA 600 VOC (1))			5,1						

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147
Monitoring Period: ____(JAN-MAR) _X_(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)
Samples Collected By: Mallinckrodt Inc
Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS			---->		**080**					
DATES ON WHICH SAMPLES WERE COLLECTED			---->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED			---->		NA					
PARAMETER	EPA METHOD	DAILY MAX	AVG MONTHLY	**RECORD SAMPLE TYPES (G, C, M OR E) & RESULTS** G=Grab, C-composite, M=measured flow, E=estimated						UNITS
FLOW				E	*					gal/day
Acetone	524.2	20.70	8.20	G	*					mg/L
n-Amyl Acetate	1666	20.70	8.20	G	*					mg/L
Benzene	524.2	3.00	0.70	G	*					mg/L
n-Butyl acetate	1666	20.70	8.20	G	*					mg/L
Chlorobenzene	524.2	3.00	0.70	G	*					mg/L
Chloroform*	524.2	0.10	0.03	G	*					mg/L
1,2-Dichlorobenzene	524.2	20.70	8.20	G	*					mg/L
1,2-Dichloroethane	524.2	20.70	8.20	G	*					mg/L
Diethyl amine	1671	255.00	100.00	G	*					mg/L
Ethyl Acetate	1666	20.70	8.20	G	*					mg/L
n-Heptane	1666	3.00	0.70	G	*					mg/L
n-Hexane	1666	3.00	0.70	G	*					mg/L
Isobutyraldehyde	1666	20.70	8.20	G	*					mg/L
Isopropyl acetate	1666	20.70	8.20	G	*					mg/L
Isopropyl ether	1666	20.70	8.20	G	*					mg/L
Methylene chloride	524.2	3.00	0.70	G	*					mg/L
Methyl formate	1666	20.70	8.20	G	*					mg/L
4-Methyl-2-pentanone	1666	20.70	8.20	G	*					mg/L
Tetrahydrofuran	1666	9.20	3.40	G	*					mg/L
Toluene	524.2	0.30	0.20	G	*					mg/L
Triethyl amine	1671	255.00	100.00	G	*					mg/L
Xylenes	1666	3.00	0.70	G	*					mg/L
Oil & Grease	1664	200		G	*					mg/L
Biochemical Oxygen Demand		****		C	*					mg/L
Chemical Oxygen Demand		****		C	*					mg/L
Total Suspended Solids		****		C	*					mg/L
Temperature		60		G	*					deg C
pH		5.5 - 11.5		G	*					S.U.
*** No flow from SP080 in 2nd QTR 2016**										
Dilution by lab					NA					

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
2011 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) __X__(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	---->		**080**					
DATES ON WHICH SAMPLES WERE COLLECTED	---->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	---->		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=						UNITS
FLOW		E	*					gal/day
1,1,1-Trichloroethane		G	*					mg/l
1,1,2,2-Tetrachloroethane		G	*					mg/l
1,1,2-Trichloroethane		G	*					mg/l
1,1-Dichloroethane		G	*					mg/l
1,1-Dichloroethene		G	*					mg/l
1,2-Dichlorobenzene		G	*					mg/l
1,2-Dichloroethane		G	*					mg/l
1,2-Dichloropropane		G	*					mg/l
1,3-Dichlorobenzene		G	*					mg/l
1,4-Dichlorobenzene		G	*					mg/l
2-Chloroethylvinylether		G	*					mg/l
Acrolein		G	*					mg/l
Acrylonitrile		G	*					mg/l
Benzene		G	*					mg/l
Bromodichloromethane		G	*					mg/l
Bromoform		G	*					mg/l
Bromomethane		G	*					mg/l
Carbon Tetrachloride		G	*					mg/l
Chlorobenzene		G	*					mg/l
Chloroethane		G	*					mg/l
Chloroform		G	*					mg/l
Chloromethane		G	*					mg/l
cis-1,3-Dicholropropene		G	*					mg/l
Dibromochloromethane		G	*					mg/l
Ethylbenzene		G	*					mg/l
Methylene Chloride		G	*					mg/l
Tetrachloroethene		G	*					mg/l
Toluene		G	*					mg/l
trans-1,2-Dichloroethene		G	*					mg/l
trans-1,3-Dichloropropene		G	*					mg/l
Trichloroethene		G	*					mg/l
Vinyl Chloride		G	*					mg/l
1,2,4-Trichlorobenzene		G	*					mg/l
2,4,6-Trichlorophenol		G	*					mg/l
2,4-Dichlorophenol		G	*					mg/l
2,4-Dimethylphenol		G	*					mg/l
2,4-Dinitrophenol		G	*					mg/l
2,4-Dinitrotoluene		G	*					mg/l
2,6-Dinitrotoluene		G	*					mg/l
2-Chloronapthalene		G	*					mg/l
2-Chlorophenol		G	*					mg/l
2-Nitrophenol		G	*					mg/l
3,3-Dichlorobenzidine		G	*					mg/l
2-Methyl-4,6-dinitrophenol		G	*					mg/l
4-Bromophenyl-phenylether		G	*					mg/l
4-Chloro-3-methylphenol		G	*					mg/l
4-Chlorophenyl-phenylether		G	*					mg/l
4-Nitrophenol		G	*					mg/l

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DIVISION OF
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METROPOLITAN ST. LOUIS SEWER DISTRICT
2011 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) __X__(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	---->		**080**					
DATES ON WHICH SAMPLES WERE COLLECTED	---->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	---->		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=						UNITS
FLOW		E	*					gal/day
Acenapthene		G	*					mg/l
Acenaphthylene		G	*					mg/l
Anthracene		G	*					mg/l
Benzidine		G	*					mg/l
Benzo(a)anthracene		G	*					mg/l
Benzo(a)pyrene		G	*					mg/l
Benzo(b)fluoranthene		G	*					mg/l
Benzo(g,h,i)perylene		G	*					mg/l
Benzo(k)fluoranthene		G	*					mg/l
Bis(2-chloroethoxy)methane		G	*					mg/l
Bis(2-chloroethyl)ether		G	*					mg/l
Bis(2-chloroisopropyl)ether		G	*					mg/l
Bis(2-ethylhexyl)phthalate		G	*					mg/l
Butyl benzyl phthalate		G	*					mg/l
Chrysene		G	*					mg/l
Dibenzo(a,h)anthracene		G	*					mg/l
Diethyl phthalate		G	*					mg/l
Dimethyl phthalate		G	*					mg/l
Di-n-butyl phthalate		G	*					mg/l
Di-n-octyl-phthalate		G	*					mg/l
Fluoranthene		G	*					mg/l
Fluorene		G	*					mg/l
Hexachlorobenzene		G	*					mg/l
Hexachlorobutadiene		G	*					mg/l
Hexachlorocyclopentadiene		G	*					mg/l
Hexachloroethane		G	*					mg/l
Ideno(1,2,3-cd)pyrene		G	*					mg/l
Isophorone		G	*					mg/l
Naphthalene		G	*					mg/l
Nitrobenzene		G	*					mg/l
N-nitrosodimethylamine		G	*					mg/l
N-nitrosodi-n-propylamine		G	*					mg/l
N-nitrosodiphenylamine		G	*					mg/l
Pentachlorophenol		G	*					mg/l
Phenanthrene		G	*					mg/l
Phenol		G	*					mg/l
Pyrene		G	*					mg/l
1,2-Diphenylhydrazine		G	*					mg/l
Total Toxic Organics	5.844	--	*					mg/l
*** No flow from SP080 in 2nd QTR 2016**								
Lab Dilution Factor			NA					

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ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) X (APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**905**			
DATES ON WHICH SAMPLES WERE COLLECTED		---->		5/4/2016			
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		11:00 AM			
	MONTHLY LIMIT (ave)	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow				
PARAMETER	(gm/day)	(gm/day)		Results mg/L	Results gm/day		UNITS
FLOW			M	50091			gal/day
1,2,4-Trichlorobenzene	45	182	G	0.010	0.000		gm/day
1,2-Dichlorobenzene	45	182	G	0.005	0.000		gm/day
1,3-Dichlorobenzene	33	87	G	0.005	0.000		gm/day
1,4-Dichlorobenzene	33	87	G	0.005	0.000		gm/day
2-Nitrophenol	15	53	G	0.020	0.000		gm/day
2-Methyl-4,6-dinitrophenol	18	64	G	0.020	0.000		gm/day
4-Nitrophenol	37	132	G	0.020	0.000		gm/day
Acenapthene	4	11	G	0.010	0.000		gm/day
Anthracene	4	11	G	0.010	0.000		gm/day
Bis(2-ethylhexyl)phthalate	22	59	G	0.006	0.000		gm/day
Diethyl phthalate	11	26	G	0.010	0.000		gm/day
Dimethyl phthalate	4	11	G	0.010	0.000		gm/day
Di-n-butyl phthalate	5	10	G	0.010	0.000		gm/day
Fluoranthene	5	12	G	0.010	0.000		gm/day
Fluorene	4	11	G	0.010	0.000		gm/day
Hexachlorobenzene	45	182	G	0.010	0.000		gm/day
Hexachlorobutadiene	33	87	G	0.010	0.000		gm/day
Hexachloroethane	45	182	G	0.010	0.000		gm/day
Naphthalene	4	11	G	0.010	0.000		gm/day
Phenanthrene	4	11	G	0.010	0.000		gm/day
Pyrene	5	11	G	0.010	0.000		gm/day
1,1,1-Trichloroethane	5	14	G	0.005	0.000		gm/day
1,1,2-Trichloroethane	7	29	G	0.005	0.000		gm/day
1,1-Dichloroethane	5	14	G	0.005	0.000		gm/day
1,1-Dichloroethene	5	14	G	0.005	0.000		gm/day
1,2-Dichloroethane	41	132	G	0.005	0.000		gm/day
1,2-Dichloropropane	45	182	G	0.005	0.000		gm/day
Benzene	13	31	G	0.002	0.000		gm/day
Carbon Tetrachloride	33	87	G	0.005	0.000		gm/day
Chlorobenzene	33	87	G	0.005	0.000		gm/day
Chloroethane	25	68	G	0.010	0.000		gm/day
Chloroform	25	75	G	0.005	0.000		gm/day
Chloromethane	25	68	G	0.010	0.000		gm/day
cis-1,3-Dichloropropene	45	182	G	0.005	0.000		gm/day
Ethylbenzene	33	87	G	0.005	0.000		gm/day
Methylene Chloride	8	39	G	0.005	0.000		gm/day
Nitrobenzene	514	1470	G	0.010	0.000		gm/day
Tetrachloroethene	12	38	G	0.005	0.000		gm/day
Toluene	6	17	G	0.005	0.000		gm/day
trans-1,2-Dichloroethene	6	16	G	0.005	0.000		gm/day
trans-1,3-Dichloropropene	45	182	G	0.005	0.000		gm/day
Trichloroethene	6	16	G	0.005	0.000		gm/day
Vinyl Chloride	22	44	G	0.002	0.000		gm/day
Shaded values represent detection limits							
Lab Dilution Factor:				1	1		

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) X (APR-JUNE) ____(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	---->		**912**		**912**		**912**	
DATES ON WHICH SAMPLES WERE COLLECTED	---->		4/13/2016		5/4/2016		6/1/2016	
TIMES AT WHICH SAMPLES WERE COLLECTED	---->		1:45 PM		9:11 AM		10:12 AM	
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		M	40953	M	40953	M	39631	gal/day
DMAC (daily max)	7091	G	869	G	383	G	471	lb/day
DMAC (monthly average)	5459	G	869	G	383	G	471	lb/day
			2548		1123		1427	mg/L
☐ ~~LB~~ / ~~day~~ ○ ~~day~~ / ~~GAL~~	~~1 kg~~ / ~~2.2 LB~~	~~10^6 mg~~ / ~~1 kg~~	1 GAL / 3.785 L					
Lab Dilution Factor			2		2		2	

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) _X___(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**915**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		5/18/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		1:30 PM						
PARAMETER	MONTHLY AVG LIMIT (mg/L)	DAILY MAX LIMIT (mg/L)	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW			E	4,746						gal/day
Cyanide (Total)	9.4	33.5	G	0.005						mg/L
Nitrogen, Ammonia (as N)	****	****	G	468						N
Diethylamine	100	255	G	*						mg/L
Triethylamine	100	255	G	*						mg/L
4-Methyl-2-pentanone	8.2	20.7	G	0.200						mg/L
Diisopropyl ether	8.2	20.7	G	0.100						mg/L
Ethyl acetate	8.2	20.7	G	0.200						mg/L
Isobutyraldehyde	8.2	20.7	G	0.200						mg/L
Isopropyl acetate	8.2	20.7	G	0.100						mg/L
m,p Xylene	0.7	3	G	0.160						mg/L
Methyl formate	8.2	20.7	G	1.000						mg/L
n-Amyl acetate	8.2	20.7	G	0.100						mg/L
n-Butyl acetate	8.2	20.7	G	0.100						mg/L
n-Heptane	0.7	3	G	0.200						mg/L
n-Hexane	0.7	3	G	0.200						mg/L
o-Xylene	0.7	3	G	0.100						mg/L
Tetrahydrofuran	9.2	3.4	G	0.400						mg/L
1,2-Dichlorobenzene	8.2	20.7	G	0.100						mg/L
1,2-Dichloroethane	8.2	20.7	G	0.100						mg/L
Acetone	8.2	20.7	G	1.000						mg/L
Benzene	0.7	3	G	0.100						mg/L
Chlorobenzene	0.7	3	G	0.100						mg/L
Chloroform	0.03	0.1	G	0.020						mg/L
Methylene Chloride	0.7	3	G	0.100						mg/L
Toluene	0.2	0.3	G	0.100						mg/L
Temperature	****	****	E	30						deg C
*Sampling Frequency Requirement 1/year										
Shaded values represent detection limits										
Lab Dilution Factors: 1(EPA 335.4, 600 167A) 20 (EPA 600 350, 1666A, 524.2)				1, 20						

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) __X_(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**920**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		4/14/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		9:30						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	38,021						gal/day
Cyanide (Total)	9.4	33.5	G	0.007						mg/l
Tetrahydrofuran	3.4	9.2	G	0.400						mg/l
Toluene	0.2	0.3	G	0.100						mg/l
**** No limits for SP920										
Shaded values represent detection limi										
Lab Dilution Factor: 1 (Cyanide), 20 (Tetrahydrofuran, Toluene)				1, 20						

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ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) X (APR-JUNE) ____(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		----->		**927**						
DATES ON WHICH SAMPLES WERE COLLECTED		----->		*						
TIMES AT WHICH SAMPLES WERE COLLECTED		----->		*						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	*						gal/day
Acetone	8.2	20.7	G	*						mg/l
Ethyl acetate	8.2	20.7	G	*						mg/l
Isopropul acetate	8.2	20.7	G	*						mg/l
Methylene chloride	0.7	3	G	*						mg/l
n-Amyl acetate	8.2	20.7	G	*						mg/l
* No flow from SP927 in 2nd QTR 2016										
Not in use in 2ndQTR 2016										
Shaded values represent detection limi										
Lab Dilution Factor:										

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ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) X (APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**930**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		*						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		*						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	*						gal/day
Acetone	8.2	20.7	G	*						mg/L
Ethyl acetate	8.2	20.7	G	*						mg/L
Isopropyl acetate	8.2	20.7	G	*						mg/L
Methylene chloride	0.7	3	G	*						mg/L
n-Amyl acetate	8.2	20.7	G	*						mg/L
* No flow from SP930 in 2nd QTR 2015										
Building not in operation										
Shaded values represent detection limit										
Lab Dilution Factor:										

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

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Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) _X__(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**933**					
DATES ON WHICH SAMPLES WERE COLLECTED		---->		*					
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		*					
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW	****	****	E	*					gal/day
Acetone	8.2	20.7	G	*					mg/L
Ethyl acetate	8.2	20.7	G	*					mg/L
Isopropyl acetate	8.2	20.7	G	*					mg/L
Methylene chloride	0.7	3	G	*					mg/L
n-Amyl acetate	8.2	20.7	G	*					mg/L
* No flow from SP933 in 2nd QTR 2015									
Building not in operation									
Shaded values represent detection limits									
Lab Dilution Factor:									

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) X (APR-JUNE) ____(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**936**							
DATES ON WHICH SAMPLES WERE COLLECTED		---->		5/4/2016							
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		9:51 AM							
PARAMETER	MONTHLY AVG LIMIT (mg/L)	DAILY MAX LIMIT (mg/L)	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow								UNITS
FLOW			E	13,957							gal/day
Diethylamine	100	255	G	*							mg/L
Triethylamine	100	255	G	*							mg/L
4-Methyl-2-pentanone	8.2	20.7	G	0.200							mg/L
Diisopropyl ether	8.2	20.7	G	0.100							mg/L
Ethyl acetate	8.2	20.7	G	0.200							mg/L
Isobutyraldehyde	8.2	20.7	G	0.200							mg/L
Isopropyl acetate	8.2	20.7	G	0.100							mg/L
m,p Xylene	0.7	3	G	0.160							mg/L
Methyl formate	8.2	20.7	G	1.000							mg/L
n-Amyl acetate	8.2	20.7	G	0.100							mg/L
n-Butyl acetate	8.2	20.7	G	0.100							mg/L
n-Heptane	0.7	3	G	0.200							mg/L
n-Hexane	0.7	3	G	0.200							mg/L
o-Xylene	0.7	3	G	0.100							mg/L
Tetrahydrofuran	9.2	3.4	G	0.400							mg/L
1,2-Dichlorobenzene	8.2	20.7	G	0.100							mg/L
1,2-Dichloroethane	8.2	20.7	G	0.100							mg/L
Acetone	8.2	20.7	G	1.000							mg/L
Benzene	0.7	3	G	0.100							mg/L
Chlorobenzene	0.7	3	G	0.100							mg/L
Chloroform**	0.03	0.1	G	<0.0200							mg/L
Methylene Chloride	0.7	3	G	0.100							mg/L
Toluene	0.2	0.3	G	0.100							mg/L
****Chloroform Results**	**Raw Water**	**SP936**	**SP936-Raw Water**								
	0.020	**0.020**		**<0.0200**							
*Sampling Frequency Requirement 1/year											
Shaded values represent detection limits											
Lab Dilution Factors:				20							

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) _X_(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**937**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		4/14/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		9:28						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	65,820						gal/day
Cyanide (Total)	9.4	33.5	G	0.007						mg/l
Tetrahydrofuran	3.4	9.2	G	0.400						mg/l
Toluene	0.2	0.3	G	0.100						mg/l
Shaded values represent detection limi										
Lab Dilution Factor: 1 (Cyanide), 20 (Tetrahydrofuran, Toluene)				1, 20						

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) _X_(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**938**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		6/1/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		10:20						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	40						gal/day
Acetone	8.2	20.7	G	1						mg/L
Ethyl acetate	8.2	20.7	G	0.2						mg/L
Isopropyl acetate	8.2	20.7	G	0.1						mg/L
Methylene chloride	0.7	3	G	0.1						mg/L
n-Amyl acetate	8.2	20.7	G	0.1						mg/L
Shaded values represent detection limits										
Lab Dilution Factor:				20						

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Overflow pH Monitoring

Starting Date: 06/06/2016 **Ending Date: 06/07/2016**

Sample Point	Date	Time	pH		Sample Point	Date	Time	pH
SP008	6/6/2016	7:50 AM	NF		SP011	6/6/2016	7:30 AM	7.61
SP008	6/6/2016	8:25 AM	NF		SP011	6/6/2016	8:00 AM	7.64
SP008	6/6/2016	9:00 AM	NF		SP011	6/6/2016	8:30 AM	7.51
SP008	6/6/2016	9:33 AM	7.14		SP011	6/6/2016	9:00 AM	7.35
SP008	6/6/2016	10:00 AM	7.01		SP011	6/6/2016	9:30 AM	7.41
SP008	6/6/2016	10:32 AM	6.96		SP011	6/6/2016	10:00 AM	7.48
SP008	6/6/2016	11:00 AM	6.97		SP011	6/6/2016	10:30 AM	7.51
SP008	6/6/2016	11:25 AM	7.13		SP011	6/6/2016	11:00 AM	7.54
SP008	6/6/2016	11:37 AM	7.23		SP011	6/6/2016	11:40 AM	7.29
SP008	6/6/2016	12:06 PM	7.3		SP011	6/6/2016	12:03 PM	7.22
SP008	6/6/2016	12:33 PM	7.4		SP011	6/6/2016	12:30 PM	7.14
SP008	6/6/2016	1:02 PM	7.62		SP011	6/6/2016	1:00 PM	7.63
SP008	6/6/2016	1:36 PM	7.73		SP011	6/6/2016	1:30 PM	8.62
SP008	6/6/2016	2:03 PM	7.88		SP011	6/6/2016	2:00 PM	7.39
SP008	6/6/2016	2:33 PM	7.82		SP011	6/6/2016	2:30 PM	7.33
SP008	6/6/2016	3:04 PM	7.58		SP011	6/6/2016	3:00 PM	7.46
SP008	6/6/2016	3:32 PM	7.6		SP011	6/6/2016	3:30 PM	7.55
SP008	6/6/2016	4:02 PM	7.79		SP011	6/6/2016	4:00 PM	7.51
SP008	6/6/2016	4:33 PM	7.96		SP011	6/6/2016	4:30 PM	7.51
SP008	6/6/2016	5:00 PM	8.08		SP011	6/6/2016	4:58 PM	7.5
SP008	6/6/2016	5:32 PM	8.18		SP011	6/6/2016	5:30 PM	7.52
SP008	6/6/2016	6:02 PM	7.84		SP011	6/6/2016	6:00 PM	7.51
SP008	6/6/2016	6:32 PM	7.78		SP011	6/6/2016	6:30 PM	7.51
SP008	6/6/2016	7:02 PM	7.87		SP011	6/6/2016	7:00 PM	7.53
SP008	6/6/2016	7:31 PM	7.92		SP011	6/6/2016	7:29 PM	7.54
SP008	6/6/2016	8:02 PM	7.87		SP011	6/6/2016	8:00 PM	7.53
SP008	6/6/2016	8:31 PM	7.77		SP011	6/6/2016	8:29 PM	7.54
SP008	6/6/2016	9:02 PM	7.72		SP011	6/6/2016	9:00 PM	7.54
SP008	6/6/2016	9:32 PM	7.68		SP011	6/6/2016	9:30 PM	7.54
SP008	6/6/2016	10:02 PM	7.66		SP011	6/6/2016	10:00 PM	7.54
SP008	6/6/2016	10:32 PM	7.65		SP011	6/6/2016	10:30 PM	7.54
SP008	6/6/2016	11:01 PM	7.57		SP011	6/6/2016	11:00 PM	7.54
SP008	6/6/2016	11:31 PM	7.55		SP011	6/6/2016	11:29 PM	7.54
SP008	6/7/2016	12:02 AM	7.52		SP011	6/7/2016	12:00 AM	7.54
SP008	6/7/2016	12:34 AM	7.51		SP011	6/7/2016	12:30 AM	7.54
SP008	6/7/2016	12:58 AM	7.53		SP011	6/7/2016	1:00 AM	7.55
SP008	6/7/2016	1:30 AM	7.53		SP011	6/7/2016	1:30 AM	7.54
SP008	6/7/2016	2:00 AM	7.53		SP011	6/7/2016	2:00 AM	7.55
SP008	6/7/2016	2:30 AM	7.53		SP011	6/7/2016	2:30 AM	7.55
SP008	6/7/2016	3:00 AM	7.53		SP011	6/7/2016	3:00 AM	7.55
SP008	6/7/2016	3:30 AM	7.54		SP011	6/7/2016	3:30 AM	7.55
SP008	6/7/2016	4:00 AM	7.54		SP011	6/7/2016	4:00 AM	7.55
SP008	6/7/2016	4:30 AM	7.56		SP011	6/7/2016	4:30 AM	7.53
SP008	6/7/2016	5:00 AM	7.57		SP011	6/7/2016	5:00 AM	7.52
SP008	6/7/2016	5:30 AM	7.57		SP011	6/7/2016	5:30 AM	7.48
SP008	6/7/2016	6:00 AM	7.57		SP011	6/7/2016	6:00 AM	7.31
SP008	6/7/2016	6:30 AM	7.56		SP011	6/7/2016	6:30 AM	7.32
SP008	6/7/2016	7:00 AM	7.54		SP011	6/7/2016	7:00 AM	7.31
SP008	6/7/2016	7:30 AM	7.52		SP011	6/7/2016	7:30 AM	7.35
SP008	6/7/2016	8:00 AM	8.17		SP011	6/7/2016	8:00 AM	7.34
SP008	6/7/2016	8:30 AM	7.51		SP011	6/7/2016	8:30 AM	7.28
SP008	6/7/2016	9:00 AM	7.39		SP011	6/7/2016	9:00 AM	7.28
SP008	6/7/2016	9:30 AM	7.32		SP011	6/7/2016	9:30 AM	7.28
SP008	6/7/2016	10:00 AM	7.32		SP011	Pump Back On ~10:00 AM		
SP008	Pump Back on ~10:00 AM				SP011			
SP008					SP011			

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Overflow pH Monitoring

Starting Date: 06/17/2016 **Ending Date: 06/17/2016**

Sample Point	Date	Time	pH		Sample Point	Date	Time	pH
SP008	6/17/2016	5:30 AM	7.63		SP011	6/17/2016	5:30 AM	8.58
SP008	6/17/2016	6:00 AM	7.65		SP011	6/17/2016	6:00 AM	8.52
SP008	6/17/2016	6:30 AM	7.71		SP011	6/17/2016	6:30 AM	8.77
SP008	6/17/2016	7:00 AM	7.55		SP011	6/17/2016	7:00 AM	8.35
SP008	6/17/2016	7:30 AM	7.37		SP011	6/17/2016	7:30 AM	8.55
SP008	6/17/2016	8:00 AM	6.81		SP011	6/17/2016	8:00 AM	8.64
SP008	6/17/2016	8:30 AM	6.8		SP011	6/17/2016	8:30 AM	8.76
SP008	6/17/2016	9:00 AM	6.87		SP011	6/17/2016	9:00 AM	8.32
SP008	6/17/2016	9:30 AM	6.82		SP011	6/17/2016	9:30 AM	8.78
SP008	Pumps back on ~ 9:30 AM				SP011	Pumps back on ~ 9:30 AM		

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ENVIRONMENTAL COMPLIANCE

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

July 18, 2016

Bruce Munholand
DEPARTMENT OF THE ARMY,
ST. LOUIS DISTRICT, CORPS OF ENGINEERS
8945 Latty Avenue
Berkeley, MO 63134

Re: FUSRAP St. Louis Downtown Site

Dear Mr. Munholand:

We have reviewed your request dated May 17, 2016 for extension of a special discharge originally approved in our letters dated July 23, 2001 and October 13, 2004, and extended in our most recent letter dated June 23, 2014. This approval was for stormwater and groundwater that accumulates in excavations of radioactively contaminated soils at the St. Louis Downtown FUSRAP site located at the Mallinckrodt facility, 3600 N. 2nd Street, St. Louis, Missouri. You have requested a two-year extension of your current approval.

Your request for an extension is granted. This approval will expire on July 23, 2018.

As a condition of this approval, you must notify us of any changes that would affect the characteristics of this discharge. The self-monitoring reporting requirements and all other conditions of the above-referenced approvals remain in effect.

Please contact me at (314) 436-8755 with questions or comments.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace

Steve Grace
Environmental Assistant Engineer

bv

ec: Brian Gibson
Doug Mendoza

File: IU – MALLINCKRODT INC [1011728100], SP809

DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT, CORPS OF ENGINEERS
8945 LATTY AVENUE
BERKELEY, MISSOURI 63134

May 17, 2016

REPLY TO
ATTENTION OF:

FUSRAP/SLDS

Mr. Steve Grace
Metropolitan St. Louis Sewer District
Office of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147

SUBJECT: FUSRAP St. Louis Downtown Site (SLDS) Metropolitan St. Louis Sewer District (MSD) Discharge Permit

Dear Mr. Grace:

The U.S. Army Corps of Engineers (USACE) is requesting a 2-year extension to the existing SLDS MSD Discharge Permit. The total amount of water discharged from this site will remain limited to 100,000 gallons per day, unless otherwise authorized by the MSD.

Please contact Mr. Dave Evans of the USACE at 314.202.2586 with any questions.

Sincerely,

Bruce Munholland
FUSRAP Program Manager

CF:
Distribution

Doug Mendoza

1011728100

From: John Elliott
Sent: Monday, July 11, 2016 7:24 AM
To: Doug Mendoza
Subject: Mallinckrodt 3501 North Second Street St. Louis, MO 63147

Good morning, I was informed on 7/10/2016 from Mallinchrodt Larry Heughatter (Environmental Health and Safety-314-683-8517) that at approximately 01:30 on 7/10/2016 they had a 245 gallon release of 93% sulfuric acid due to a pump seal leak. The spill was contained in the tank dike. He said while diluting the acid, they slowly released it to the sewer system, along with other process effluent. According to Larry, during releasing the sulfuric acid, they continually monitored the pH.

Thank you,

John Elliott
Industrial Waste Investigator
Division of Environmental Compliance
Metropolitan St. Louis Sewer District
10 East Grand Avenue
St. Louis, MO 63147-2913
PH: 314-436-8783
FAX:314-436-8766
Email: jelliott@stlmsd.com

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

July 6, 2016

Jeff Blaies
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Dear Mr. Blaies:

We have reviewed your application dated June 28, 2016 requesting approval to discharge 4,000 gallons of wastewater to the Metropolitan St. Louis Sewer District for treatment. This wastewater is 30% ethylene glycol solution generated during clean out activities at the North Plant Chiller located in Building 530 of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri. We understand that the wastewater will be discharged through sampling point 010.

Based on the information you provided, this wastewater meets MSD Ordinance 12559 standards and is approved for discharge into a combined sewer on site. **Due to the assumed elevated chemical oxygen demand (COD) concentration, the discharge is limited to 600 gallons per hour. This approval is valid for 30 days from the date of this letter.**

You must be certain the waste is discharged into a combined sewer inlet only. This letter does not authorize any discharge to a separate storm sewer, or to any watercourse, as any such discharge would be in violation of state and federal laws. **Please notify me at the number below when the discharge is to commence, and please ensure the onsite personnel discharging the wastewater in question are provided with a copy of this letter.**

For billing purposes associated with this high COD wastewater, you must confirm the volume of this wastewater discharged to us, in writing, at the completion of the discharge. This report is due no later than 28 days after this approval expires. Please refer to this letter and include the date of the discharge when providing that figure. Under the provisions of Ordinance 14395, you will be billed by invoice at the billing rate in effect at the time of discharge. The current rate contained in MSD Ordinance 14395 is $327.00 per ton for COD over 600 mg/L. Using the assumed COD concentration based on the percent of ethylene glycol contained in the wastewater in question, and the proposed discharge volume provided in your application, it is estimated that you will be discharging five tons of COD over 600 mg/L. Please do not pay this amount until you receive our invoice.

This discharge has been approved based upon the information and sample analysis you provided, and is subject to the conditions stated above. This approval may be revoked by the District at any time if any of the information is found to be incorrect, or if the conditions of this approval are violated. Also, if the discharge causes any operational or maintenance problem within the District's collection or treatment system, or results in violations of any conditions of the District's NPDES permit, Mallinckrodt will be considered responsible for damages. If you have any questions, please call me at (314) 436-8755.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace

Steve Grace
Environmental Assistant Engineer

bv

ec: Brian Gibson, Doug Mendoza

File: IU, MALLINCKRODT INC [1011728100]

C1A

SD EVALUATION CHECKLIST - ON SITE

APPLICATION INFORMATION

Source Name: Mallinckrodt, LLC Evaluated by: SMG

Premise Address: 3600 N. 2nd St. Date: 7/6/16

Send approval letter to applicant

Application Dated: 6/28/16 Received: 6/29/16 All Requested Info. Received: 7/6/16

SOURCE FILING/DESCRIPTION

1 - Source in PIMS? (Y) / N
2 - If No, on IU Cross-Ref list? * Y / N
3 - If No, MSD Account # from E-CIS? Y / N
4 - If none, on "Source" list (pre-IMS)? ** Y / N
5 - If No, assigned SOUR# from PIMS.

SOURCE TYPE (circle): (IU) / Dead IU / SD

INDUSTRY ID: 1011728100

* o:\costrecovery\cross reference xls file

** o:\costrecovery\sourlist xls file

Sample Point: No. Assigned: 856 Description: 30% ethylene glycol soln. generated during clean out of N. Plant Chiller in Bldg. 530

Normal WW flow from premise? N/A _____ ccf/month, _____ GPD, _____ GPH.

REGULATORY STATUS

Is waste a Hazardous Waste? (N) / Y _____

Categorical standards apply? (N) / Y _____

Contain PCB/ asbestos/ radioactive/ dioxin/ used oil? (N) / Y _____

Regulatory Agency Oversight? (N) / Y _____

DISCHARGE CONSIDERATIONS At MSD's connection:

Ordinance Limits (12559, p. 32) exceeded? (N) / Y _____

Ordinance other limits exceeded (dye, flash pt <140° F, temp >140° F, obstruction, nuisance foaming/odor, corrosion causing): (N) / Y _____

Water Quality Standard exceeded? (N) / Y _____

Fumes in sewer exceed PEL/TLV limits? (N) / Y _____

Vapors in sewer exceed 10% of LEL? (N) / Y _____

RECOMMENDATION: (APPROVE) / DENY (cc WWTP Mgr for timed discharge)

APPROVAL CONDITIONS:

Timed Discharge (COD/BOD/WQ/foam): N / Y Limit = 600 gal/hour

Require Treatment before Discharge? (N) / Y _____

Laboratory analysis fee due? (N) / Y $_____

SMR required? (N) / Y Frequency/analysis: _____

SMR log: (N/A) / Remediation.xls / Nonremediation.xls

Volume Billing applies (water unmetered or credited)? (N) / Y

Bill High Strength? N / (Y) Yes, If use >60,000 gal/month water ✓ and, > norm WW strgth

Surcharge calculation attached: N/A / N / (Y)

Expiration log updated: (N/A) / N / Y

O:\CostRecovery\Special Discharge\C1a.Checklist.doc

On-Site Special Discharge High Strength Flow Rate and Surcharge Calculator

1 GENERAL INFORMATION:

Date: 07/06/16
Calculated by: Steve Grace
Source name: MALLINCKRODT LLC [1011728100]
Waste material: ethylene glycol/water generated during clean out of north chilled water circulation loop
Discharge volume: 4,000 gallons

2 STRENGTH INFORMATION:

Sample BOD =	0	mg/l =	0	lbs BOD to be discharged
Sample COD =	300,000	mg/l =	10008	lbs COD to be discharged
Sample TSS =	6	mg/l =	for surcharge calculation only	

3 PLANT DATA: 2014

Treatment area: Bissell

	Flow (MGD)	BOD (mg/L)	COD (mg/L)	BOD (lb/hr)	COD (lb/hr)	Max Loading = 10% BOD (lb/hr)	COD (lb/hr)
Bissell	**119**	**174**	**348**	**7,171**	**14,341**	**717**	**1,434**
Coldwater	23	226	452	1,768	3,535	177	354
Fenton	5	307	614	482	964	48	96
Grand Glaize	16	152	399	830	2,183	83	218
Lemay	122	81	228	3,438	9,610	344	961
Lower Meramec	10	124	364	452	1,326	45	133
Missouri River	28	281	561	2,732	5,465	273	546

4 MINIMUM REQUIRED FLOW RATE:

	BOD (hours)	BOD (gpm)	COD (hours)	COD (gpm)
Bissell	**0.00**	**0**	**6.98**	**10**
Coldwater	0.00	0	28.31	2
Fenton	0.00	0	103.77	1
Grand Glaize	0.00	0	45.84	1
Lemay	0.00	0	10.41	6
Lower Meramec	0.00	0	75.45	1
Missouri River	0.00	0	18.31	4

5 SURCHARGE AND VOLUME BILLING

Is volume subject to billing? no (yes/no)
Ratio of BOD/COD = 0.00

(Sample BOD) - 300 = 0 mg/l subject to surcharge
(sample COD) - 600 = 299400 mg/l subject to surcharge
(sample TSS) - 300 = 0 mg/l subject to surcharge

If BOD/COD ratio <= 0.35, the following calculations use the COD value. Otherwise they use the BOD value

Current rates under Ordinance: 14395

Volume =	$ 3.59	/CcF
BOD =	$ 654.00	/ton
COD =	$ 327.00	/ton
TSS =	$ 262.00	/ton

Flow charge = $ - based on volume = 5.3 CcF
BOD surcharge = $ -
COD surcharge = $ 1,633.48
TSS surcharge = $ -
Total discharge charge = $ 1,633.48
Customer charge = $ 1,633.48 DEC charges special discharge customers for total charges > $20.00
Approximate charge/gallon = $ 0.41

Comments

require volume report for billing purposes. Smg

Metropolitan St. Louis Sewer District
2350 Market Street
St. Louis, MO 63103

APPLICATION FOR SPECIAL DISCHARGE APPROVAL

I. WASTEWATER SOURCE IDENTIFICATION:

Site Name: Mallinckrodt LLC
Premise Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Owner: Mallinckrodt LLC
Contact Person: Jeff Blaies
Title: Principal EHS Engineer
Phone: 314.654.2149 Fax: 314.654.1251

II. APPLICANT (mailing information):

Applicant Name: Jeff Blaies
Title: Principal EHS Engineer
Company Name: Mallinckrodt LLC
Mailing Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Phone: 314.654.2149 Fax: 314.654.1251

III. A. MATERIAL TO BE DISCHARGED (check all applicable boxes):

1. Wastewater description/location: Out of spec ethylene glycol mixture from North Plant Chiller/Building 530
2. Process/activity generating wastewater: Out of spec mixture generated in North Plant Chiller.
3. Physical and chemical composition: List all constituents, and known or potentially present regulated contaminants below.
   ☐ See separate listing enclosed, and/or ☐ See analytical results enclosed, and/or ■ Material Safety Data Sheet enclosed.

DESCRIPTION	RANGE	UNIT
Ethylene Glycol	30	%
Water	69	%
Solids	<1	%

DESCRIPTION *(continued)*	RANGE	UNIT

4. Is this wastewater from a process subject to EPA's categorical standards in 40 CFR Subchapter N? ☐ Yes ☑ No
   a. If yes, the applicable standards are in: 40 CFR Part _____, Subpart _____ ☐ Existing source ☐ New source
5. Does this wastewater contain polychlorinated biphenyls, asbestos or radioactive material? ☐ Yes ☑ No
   a. If yes, describe: _____
6. Representative sample: ☐ Laboratory results attached, and/or ☐ Sample provided (1/2 gallon minimum, clear container)
   a. Sample collection point/location: _____ Collection method: _____
   b. Sampler's name/Co.: _____ Sample date/time: _____
   c. Attach chain of custody as available
7. Discharge will occur over the following time period: ■ < 30 days ☐ ≥ Two years ☐ Other: _____
   a. Expected total volume of wastewater to be discharged over the time period above: _____ Gallons
   b. Proposed discharge volume: 4000 Gallons, at a frequency of: ■ One time ☐ Daily ☐ Weekly ☐ Monthly ☐ Once/three months ☐ Once/six months ☐ Other: _____
8. Pretreatment of wastewater prior to discharge: ☐ None ■ Yes, describe: pH adjustment at main plant outfall SP010
   a. If yes, attach site plan, pretreatment system schematic, and design specifications.
9. Wastewater from a remediation project under: ☐ Superfund/CERCLA ☐ RCRA ☐ Voluntary program ☐ UST ■ Not applicable
   a. If from a remediation project, briefly describe the past and present utilization of the property: _____

III.B. MATERIAL FROM UNDERGROUND STORAGE TANK SOURCE

☒ **Not applicable (go to Section IV)**

Please answer the following questions if you are requesting to discharge wastewater associated with an underground storage tank system.

1. a. Wastewater from: ☐ Inside UST(s) ☐ UST system pit ☐ Excavation outside UST system pit ☐ Monitoring well ☐ Groundwater remediation system

   b. UST project involves wastewater from: ☐ UST(s) closed in place ☐ UST(s) removed ☐ Remediation ☐ Upgrade ☐ Maintenance activities ☐ Well monitoring ☐ Other, explain: _____

   c. If wastewater is from a closure project, how long has UST(s) been out of service: _____ years

2. a. State assigned UST site identification number: _____ ☐ Not applicable

   b. Number of USTs affected: _____ ☐ Unknown

   c. For the UST(s) involved, their state identification number(s): _____ ☐ Not applicable

   d. Service Station Identification Number, as applicable: _____

3. Tank contents/former contents: ☐ Gasoline ☐ #2 diesel ☐ Used oil ☐ Unknown ☐ Other: _____

IV. DISCHARGE LOCATION

1. ☒ On-site. Describe proposed point of entry to sewer and the discharge rate (must be a sanitary or combined sewer): _____
Plant sewer to main outfall SP010 Note: Range of discharge must not surcharge sewer line.

2. ☐ Haul to MSD Bissell Point Hauled Waste Receiving Station at 10 E. Grand, St. Louis, MO.

   a. Transporters Name: _____ and MSD Hauler ID Number: _____

   b. Hazardous Waste Certification:

   For wastewater which is hauled to MSD's Bissell Point Hauled Waste Receiving Station, I hereby certify that to the best of my knowledge and belief, the above hauled waste is not classified as a RCRA "hazardous waste" as defined by the MDNR in 10 CSR 25 or USEPA in 40 CFR Part 261.

   Applicant Name (print): _____

   Signature: _____ **Date:** _____

ADDITIONAL INFORMATION:

_____

_____

_____

_____

_____

_____

V. APPLICANT SIGNATURE AND CERTIFICATION

This application must be signed by the applicant: either the source contact, or a contractor or agent directly responsible for site activities.

I hereby certify that I am directly responsible for activities at the site regarding the wastewater to be discharged, and to the best of my knowledge and belief, based on appropriate inquiry, the information in this application is true, complete, and accurate. The samples or analyses submitted are representative of the materials to be discharged. If granted approval to discharge, I agree to abide by the MSD Ordinances, and all applicable federal, state and local regulations. I agree to pay the costs of any pre-approval analyses performed by MSD and to pay any applicable disposal charges for the volume and strength of the wastes discharged.

Applicant Name (print): Jeff Blaies

Signature: Jeff Blaies **Date:** 06/28/16

FOR MSD USE ONLY:

File Name: Mallinckrodt LLC ID No. 1011728100 Sample Point No. 856

SRTA

PIMS - Pretreatment Information Management System [PIMS St. Louis (PIMS)]

File Edit Records Worklists Reports/Letters Tools Window Help

Facility ID: 1011728100 Name: MALLINCKRODT LLC [1011728100]

General Info | Sample Points | Metering | Monitoring | Permits | Results | Compliance | Enforcement | Water Use | Spec Dischg

General Info

General | **Contacts** | Hours | Waste | Ext Ref | Class | Materials/Products

Address: Premise Address - 3600 N 2nd St, St. Louis, MO 63147

Contacts

Contact Type: Field Contact - Primary
Title: Mr. First: Jonathan Last: Eckles
Email: Jonathan.Eckles@mallinckrodt.com
Job Title: Principal EHS Engineer
Suffix:
Authorized Signatory: ☑

Contact Type: Field Contact 1st Alt
Title: Mr. First: Jeff Last: Blaies
Email: Jeff.Blaies@mallinckrodt.com
Job Title: Principal Enviromental Engineer
Suffix:
Authorized Signatory: ☑

Contact Type: Field Contact 2nd Alt
Title: Mr. First: Brett Last: Shank
Email: Brett.Shank@mallinckrodt.com
Job Title: EHS Manager
Suffix:
Authorized Signatory: ☑

Sample Points

Number of Sample Points: **109** Sample Point: 010 MH w/square lid 50' N of neutralization control building at Hall & Salisbury

Definition | Pretreatment | Discharge | Limits | All Limits | Meters

Sample Point: 010 MH w/square lid 50' N of neutralization control building at Hall & Salisbury
Sample Point Type: Ordinance
Activated: 12/19/1995 Deactivated:
Dry Justify: ☐ Outlet ID: 10
NPDES Outfall Num:
Comments:
Autosampler Ready: ☑

Results

Start Date: 01/01/2016 End Date: 12/31/2016 Apply

Events | Inspections | Sampling | Limit Comp | Violations | SMDE | Gen Rpts | **Notifications** | Surcharge | Surcharge E

Notification Type	Date
Problem Discharge - 5 Day Written Follow Up	06/14/2016

Text

Rec'd 06/14/16, a follow up letter from Jonathan Eckles stated the cause of the 2900 gallons of ethylene glycol that was released because of an open steam condensate drain on a jacketed tank. The solution was 25% glycol/75% water. Immediate corrective action was to remove the compressed air connection so that the valve could not be opened automatically. Future action will be identify those valves that are at risk of being automatically opened to determine improvements to the control systems. 06/14/16 tcb

Ready

Tom Boehm

From:	Eckles, Jonathan <Jonathan.Eckles@mallinckrodt.com>
Sent:	Tuesday, June 14, 2016 9:59 AM
To:	Tom Boehm; Doug Mendoza
Subject:	5-day Letter for Glycol Release
Attachments:	Signed 5day Letter.pdf

JCB

Mallinkrodt LLC
1011728100

Hello Mr. Mendoza & Mr. Boehm,

Please find the attached 5-day follow up letter for the glycol release we reported on Saturday, June 11th, 2016.

Feel free to contact me if you have any questions.

Thank You,
Jonathan

Jonathan Eckles, CHMM
Environmental Manager
Mallinckrodt
Pharmaceuticals
3600 North Second Street I St. Louis, MO, 63147
T: 314.654.0138 I C: 314.267.1812 | F: 314.654.1251
www.mallinckrodt.com

Mallinckrodt
Pharmaceuticals

YCB -

June 14, 2016

- entered in PTMS
6/14/16

Mr. Doug Mendoza
Metropolitan St. Louis Sewer District
Department of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147

VIA EMAIL

RE: Follow-up to Bldg. 235 Glycol Release at the St. Louis Plant
PERMIT NO. 1011728100-2

This letter is a follow-up regarding the June 11th notification of an ethylene glycol release at the Mallinckrodt St. Louis Plant located at 3600 North Second Street as reported via 24-hour MSD emergency number.

At approximately 9:45 PM on June 10th, Bldg. 235 representatives discovered a release of ethylene glycol from a tank cooling jacket. Upon further investigation, it was discovered that an air-actuated steam condensate drain valve was open, which allowed a 25% glycol solution in the tank jacket to drain to the sewer. Mallinckrodt estimates approximately 2,900 gallons of a 25% glycol / 75% water solution were sent to MSD over the course of about 4.5 hours.

As an immediate corrective action, the air was disconnected from the condensate drain valve so it could not be opened. This corrective action was completed on June 11th, 2016. An additional corrective action will include improved identification of the valves and improvements to the control systems.

If you have any questions or require additional information, please contact me at 314-654-0138 or via email at jonathan.eckles@mallinckrodt.com.

Sincerely,

Jonathan Eckles, CHMM
Environmental Manager

MALLINCKRODT
3600 NORTH SECOND STREET
ST. LOUIS, MO 63147

TELEPHONE: 314-654-2000
FAX: 314-654-1251

SP

PIMS - Pretreatment Information Management System (PIMS St. Louis (PIMS))

File Edit Records Worklists Reports/Letters Tools Window Help

General Info | Sample Points | Monitoring | Permits | Reports | Compliance | Enforcement | Water Use | Spec Tracking

Facility ID: 1011728100 Name: MALLINCKRODT LLC (1011728100)

General Info

General | **Contacts** | Hours | Waste | Ext Ref | Class | Materials/Products

Address: Premise Address - 3600 N 2nd St, St. Louis, MO 63147

Contacts

Contact Type: Field Contact - Primary
Title: Mr. First: Jonathan Last: Eckles
Email: Jonathan.Eckles@mallinckrodt.com
Job Title: Principal EHS Engineer
Suffix:
Authorized Signatory: ☑

Contact Type: Field Contact 1st Alt
Title: Mr. First: Jeff Last: Blaies
Email: Jeff.Blaies@mallinckrodt.com
Job Title: Principal Enviromental Engineer
Suffix:
Authorized Signatory: ☑

Contact Type: Field Contact 2nd Alt
Title: Mr. First: Brett Last: Shank
Email: Brett.Shank@mallinckrodt.com
Job Title: EHS Manager
Suffix:
Authorized Signatory: ☑

Sample Points

Number of Sample Points: 109 Sample Point: 010 MH w/square lid 50' N of neutralization control building at Hall & Salisbury

Definition | Pretreatment | Discharge | Limits | All Limits | Meters

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Sample Point Type: Ordinance
Activated: 12/19/1995 Deactivated:
Dry Justify: ☐ Outlet ID: 10
NPDES Outfall Num:
Comments:
Autosampler Ready: ☑

Results

Start Date: 01/01/2016 End Date: 12/31/2016 Apply

Events | Inspections | Sampling | Limit Comp | Violations | SMDE | Gen Rpts | **Notifications** | Surcharge | Surcharge E

Notification Type	Date
Problem Discharge - Immediate Notice	06/13/2016

Text

We were notified via email by Wes Simmons (MSD) on 06/13/16 of a spill on 06/10/16. Maximo report/work order #3604816 contained the following information. On 06/10/16, Customer Service was informed of a spill of ethylene glycol. On 06/11/16, Wes was notified by Customer Service and contacted 'Kayla' @ Mallinckrodt (314.640.1129). ~ 2900 gallons of ethylene glycol was discharged into our system between 05:15 pm and 11:45 pm due to an 'open valve'. Follow up phone message from Jonathan Eckles explained the spill was from Bldg 235 and was collected by SP010. 06/13/16 tcb

Mallinckrodt
101/728100

TCB

Doug Mendoza

From: Wes Simmons
Sent: Monday, June 13, 2016 1:18 PM
To: Doug Mendoza
Subject: Weekend IDD at 3600 N 2nd Street

Mr. Mendoza,

→ Illicit Discharge + Disposal

I received a call over the weekend about an IDD at 3600 N 2nd Street involving 3000 gallons of 25% Ethylene Glycol being discharged into the sanitary sewer over a 4 hour time period on 6/10/2016.

The IDD work order I created at the time is #3604816.

If you need anything else please feel free to give me a call.

Thanks,

Wesley Simmons
Metropolitan St. Louis Sewer District
Division of Environmental Compliance
10 E. Grand Ave.
St. Louis, MO 63147
PH: 314-436-8722
FAX:314-436-8766
Email: wsimmons@stlmsd.com

Metropolitan St. Louis
Sewer District
2350 Market Street
St. Louis, MO 63103
Phone: 314.768.6200
www.stlmsd.com

IBM®

MSD 014383

Work Order Details

EDUCATIONAL HANDOUT TYPE	**EDUCATIONAL HAND OUT TYPE**	NONE
FILING STATUS	**FILING STATUS**	NEW
HANDOUT #	**HANDOUT NUMBER**	0
LAB SAMPLE MATCH #	**LAB SAMPLE MATCH NUMBER**	N/A
LAND MARK OR CROSS ST	**LAND MARK OR CROSS ST**	
PHONE NUMBER	**PHONE NUMBER**	314-640-1129
REGULATORY AGENCY CONTACTED	**REGULATORY AGENCY CONTACTED**	CUSTOMER
RESPONSIBLE PARTY	**COMPANY NAME OR CLAIMANT NAME**	KAYLA
RESPONSIBLE PARTY COMPANY NAME	**RESPONSIBLE PARTY COMPANY NAME**	MALLINCKRODT CHEMICAL INC
SEVICE ADDRESS	**SERVICE ADDRESS**	3600 N SECOND ST
SOURCE CATAGORIES	**SOURCE CATAGORIES**	IDD-DISCHARGE OTHER
STATE	**STATE**	MO
STORM WATER RELATED	**STORM WATER RELATED**	YES
WATERSHED	**WATERSHED**	BISSELL WATERSHED
ZIP CODE	**ZIP CODE**	63147

Metropolitan St. Louis
Sewer District
2350 Market Street
St. Louis, MO 63103
Phone: 314.768.6200
www.stlmsd.com

IBM®

MSD 014384

Work Order Details

Log

Log Entry Information:

Date	Class	Created By	Description
6/11/16	WORKORDER	WSIMMONS	DEC INV

Detailed Log Information:

RECEIVED CALL FROM DISPATCH ABOUT 2,900 GALLONS OF ETHYLENE GLYCOL BEING RELEASED INTO THE SEWER SYSTEM FROM 17:15 TO 21:45 O 6/10/2016 DUE TO AN OPEN VALVE. CONTACT PERSON FOR FACILITY IS KAYLA 314-640-1129

To: MALLINCKRODT LLC [1011728100] permit file

From: Doug Mendoza

Date: May 12, 2016

Re: Corrections to limit sets

During development of the 6/1/2015 permit for Mallinckrodt, certain items were overlooked. They have now been corrected as follows:

Within PIMS:

SP080
Ended the 1/1/2008 limit set
Made new limit set using newest permit date (should be 6/1/2015 – but use 7/1/2015, since other SPs used that date)
Changed NH3 limits to alert only, since Bissell nitrifies & so NH3 limits don't apply
Removed CN limits, since company certified its non-presence & so CN limits don't apply
Added CN alert limits, to verify CN is actually not present, 0.02 mg/L
Old set was missing DM limits for diethylamine & triethylamine. These are now included.
Added alert limits for diethylamine & triethylamine to verify they are actually not present, 30 mg/L

SP915
Kept 7/1/2015 limit set
Changed NH3 limits to alert only, since Bissell nitrifies & so NH3 limits don't apply
Removed CN limits, since company certified its non-presence & so CN limits don't apply
Added CN alert limits, to verify CN is actually not present, 0.02 mg/L
Changed alert limits for diethylamine & triethylamine to 30 mg/L. Were 15 mg/L, too low for lab.

SP936
Ended the 12/22/2006 limit set
Made new limit set using permit date (should be 6/1/2015 – but use 7/1/2015, since other SPs used that date)
Changed NH3 limits to alert only, since Bissell nitrifies & so NH3 limits don't apply
Removed CN limits, since company certified its non-presence & so CN limits don't apply
Added CN alert limits, to verify CN is actually not present, 0.02 mg/L
Added alert limits for diethylamine & triethylamine to verify they are actually not present, 30 mg/L

Permit (to be changed for next permit renewal/revision):

SP080 – No NH3 monitoring included. Will be added as monitoring requirement only.

SP915 – Should not include CN monitoring, since company certified its absence & regulation states that compliance may be achieved by certification. Note that MSD will continue to monitor for CN.

SP936 – No NH3 monitoring included. Will be added as monitoring requirement only.

From: Doug Mendoza
To: Fabian Grabski
Date: 5/16/2006 9:47:09 AM
Subject: MALLINCKRODT INC [2112059600] & Nitrification at Bissell Point

Fabian,

Got the results from the lab, and nitrification has been verified to occur in the trickling filters. So the shutdown of the activated sludge will not impact Mallinckrodt. The 40 CFR 439 ammonia limit will still be "not applicable" because we have nitrification at their receiving treatment plant.

Samples were taken on 5/9/06 and analyzed as follows:

Primary effluent: BOD = 67 mg/l, CBOD = 70 mg/l
Trickling filter effluent: BOD = 30 mg/l , CBOD = 22 mg/l (27% less than BOD)

Primary effluent: Kjeldahl nitrogen (TKN) = 22.96 mg/l, Nitrate-Nitrite = 0.68 mg/l
Trickling filter effluent: Kjeldahl nitrogen (TKN) = 14.57 mg/l, Nitrate-Nitrite = 4.42 mg/l (ammonia decreased, nitrogens increased)

So go ahead with the permit modification for the other items. In the cover letter, please also tell them that we are shutting down our activated sludge process on or about June 1, 2006. But because nitrification has been verified to occur in the trickling filters, the pharmaceutical ammonia limit will continue to be "not applicable".

Doug

From: JOHN LODDERHOSE
To: DMMEND
Date: 6/10/99 3:23pm
Subject: PHARMACEUTICAL RULE AMMONIA LIMIT & NITRIFICATION -Reply

It appears that there is partial nitrification at the Bissell Point treatment point. Lab analysis of the influent and effluent indicate that there is a 67.5% and a 56.5% reduction of Kjeldahl and ammonia nitrogen, respectively. There is also a 706% increase in nitrite/nitrate. Don Torretti called EPA about the bioassays needed to confirm the presence of nitrifying bacteria and they indicated that a BOD test with nitrogen inhibitors (CBOD) could be compared to a standard BOD test to verify the presence of nitrifying bacteria. The Bissell Point plant routinely analyzes for BOD and CBOD and the results indicate that the CBOD is typically 61% less than the BOD which confirms the presence of nitrifying bacteria. Therefore, I think we have met the requirements of the regulations for nitrification and the industries should be granted relief from the ammonia standard.

Please draft a letter to Mallinckrodt & Rhodia advising them of this information and inform them that we have the right to impose the pretreatment limits for ammonia in the future if it is determine necessary because of concerns for the hypoxia in the Gulf of Mexico.

CC: BARAIN, ROZEMA

From: BERNARD RAINS
To: JRLODD@HMPTN.BP,
Date: 6/10/99 4:04pm
Subject: PHARMACEUTICAL RULE AMMONIA LIMIT & NITRIFICATION -Reply -Reply

Hypoxia statement okay but better to say "should nitrogen limits be placed on the District's discharges".

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

May 10, 2016

Jonathan Eckles
MALLINCKRODT LLC
3600 North 2nd St.
St. Louis, MO 63147

Dear Mr. Eckles:

We have reviewed your application dated May 6, 2016 requesting approval to discharge 2,000 gallons of wastewater to the Metropolitan St. Louis Sewer District for treatment. This wastewater is a 5% magnesium sulfate solution from Building X of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri. Information provided on the application indicates the solution in question was generated during stearate production in Building X, and will be discharged through sampling point 010.

Based on the information you provided, this wastewater meets MSD Ordinance 12559 standards and is approved for discharge into a sanitary sewer on site. **This approval is valid for 30 days from the date of this letter.**

You must be certain the waste is discharged into a sanitary or combined sewer inlet only. This letter does not authorize any discharge to a separate storm sewer, or to any watercourse, as any such discharge would be in violation of state and federal laws. **Please notify me at the number below when the discharge is to commence, and please ensure the onsite personnel discharging the wastewater in question are provided with a copy of this letter.**

This discharge has been approved based upon the information and sample analysis you provided, and is subject to the conditions stated above. This approval may be revoked by the District at any time if any of the information is found to be incorrect, or if the conditions of this approval are violated. Also, if the discharge causes any operational or maintenance problem within the District's collection or treatment system, or results in violations of any conditions of the District's NPDES permit, Mallinckrodt will be considered responsible for damages.

If you have any questions, please call me at (314) 436-8755.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace

Steve Grace
Environmental Assistant Engineer

bv

ec: Brian Gibson
Doug Mendoza

File: IU, MALLINCKRODT LLC [1011728100], 3600 N. 2nd St., St. Louis

C1A

SD EVALUATION CHECKLIST - ON SITE

APPLICATION INFORMATION

Source Name: Mallinckrodt, LLC Evaluated by: SMG

Premise Address: 3600 N. 2nd St. Date: 5/10/16

Send approval letter to applicant

Application Dated: 5/6/16 Received: 5/9/16 All Requested Info. Received: 5/9/16

SOURCE FILING/DESCRIPTION

1 - Source in PIMS? (Y) / N

2 - If No, on IU Cross-Ref list? * Y / N

3 - If No, MSD Account # from E-CIS? Y / N

4 - If none, on "Source" list (pre-IMS)? ** Y / N

5 - If No, assigned SOUR# from PIMS.

* o:\costrecovery\cross reference xls file

** o:\costrecovery\sourlist xls file

SOURCE TYPE (circle): (IU) / Dead IU / SD

INDUSTRY ID: 10117281-00

Sample Point: No. Assigned: 844 Description: Magnesium sulfate soln. from Bldg. X generated during stearate prod.

Normal WW flow from premise? (N/A) _____ ccf/month, _____ GPD, _____ GPH.

REGULATORY STATUS

Is waste a Hazardous Waste? (N) / Y

Categorical standards apply? (N) / Y

Contain PCB/ asbestos/ radioactive/ dioxin/ used oil? (N) / Y

Regulatory Agency Oversight? (N) / Y

DISCHARGE CONSIDERATIONS At MSD's connection:

Ordinance Limits (12559, p. 32) exceeded? (N) / Y

Ordinance other limits exceeded (dye, flash pt <140° F, temp >140° F, obstruction, nuisance foaming/odor, corrosion causing): (N) / Y

Water Quality Standard exceeded? (N) / Y

Fumes in sewer exceed PEL/TLV limits? (N) / Y

Vapors in sewer exceed 10% of LEL? (N) / Y

RECOMMENDATION: (APPROVE) / DENY (cc WWTP Mgr for timed discharge)

APPROVAL CONDITIONS:

Timed Discharge (COD/BOD/WQ/foam): (N) / Y Limit = _____ gal/hour

Require Treatment before Discharge? (N) / Y

Laboratory analysis fee due? (N) / Y $_____

SMR required? (N) / Y Frequency/analysis: _____

SMR log: (N/A) / Remediation.xls / Nonremediation.xls

Volume Billing applies (water unmetered or credited)? (N) / Y

Bill High Strength? (N) / Y Yes, If use >60,000 gal/month water ___and, > norm WW strgth

Surcharge calculation attached: N/A / (N) / Y

Expiration log updated: (N/A) / N / Y

O:\CostRecovery\Special Discharge\C1a.Checklist.doc

Metropolitan St. Louis Sewer District
2350 Market Street
St. Louis, MO 63103

APPLICATION FOR SPECIAL DISCHARGE APPROVAL

I. WASTEWATER SOURCE IDENTIFICATION:

Site Name: Mallinckrodt LLC
Premise Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Owner: Mallinckrodt LLC
Contact Person: Jonathan Eckles
Title: Environmental Manager
Phone: 314.654.0138 Fax: 314.654.1251

II. APPLICANT (mailing information):

Applicant Name: Jonathan Eckles
Title: Environmental Manager
Company Name: Mallinckrodt LLC
Mailing Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Phone: 314.654.0138 Fax: 314.654.1251

III. A. MATERIAL TO BE DISCHARGED (check all applicable boxes):

1. Wastewater description/location: 5% Solution of Magnesium Sulfate (epsom salt) in water
2. Process/activity generating wastewater: Off spec magnesium sulfate from Building X manufacturing
3. Physical and chemical composition: List all constituents, and known or potentially present regulated contaminants below.
   ☐ See separate listing enclosed, and/or ☐ See analytical results enclosed, and/or ■ Material Safety Data Sheet enclosed.

DESCRIPTION	RANGE	UNIT
Magnesium Sulfate	5	%
Water	95	%

DESCRIPTION *(continued)*	RANGE	UNIT

4. Is this wastewater from a process subject to EPA's categorical standards in 40 CFR Subchapter N? ☐ Yes ☑ No
   a. If yes, the applicable standards are in: 40 CFR Part _____, Subpart _____ ☐ Existing source ☐ New source
5. Does this wastewater contain polychlorinated biphenyls, asbestos or radioactive material? ☐ Yes ☑ No
   a. If yes, describe: _____
6. Representative sample: ☐ Laboratory results attached, and/or ☐ Sample provided (1/2 gallon minimum, clear container)
   a. Sample collection point/location: _____ Collection method: _____
   b. Sampler's name/Co.: _____ Sample date/time: _____
   c. Attach chain of custody as available
7. Discharge will occur over the following time period: ■ < 30 days ☐ ≥ Two years ☐ Other: _____
   a. Expected total volume of wastewater to be discharged over the time period above: _____ Gallons
   b. Proposed discharge volume: 2000 Gallons, at a frequency of: ■ One time ☐ Daily ☐ Weekly ☐ Monthly ☐ Once/three months ☐ Once/six months ☐ Other: _____
8. Pretreatment of wastewater prior to discharge: ☐ None ■ Yes, describe: pH adjustment at main plant outfall SP010
   a. If yes, attach site plan, pretreatment system schematic, and design specifications.
9. Wastewater from a remediation project under: ☐ Superfund/CERCLA ☐ RCRA ☐ Voluntary program ☐ UST ■ Not applicable
   a. If from a remediation project, briefly describe the past and present utilization of the property: _____

III.B. MATERIAL FROM UNDERGROUND STORAGE TANK SOURCE

☒ **Not applicable (go to Section IV)**

Please answer the following questions if you are requesting to discharge wastewater associated with an underground storage tank system.

1. a. Wastewater from: ☐ Inside UST(s) ☐ UST system pit ☐ Excavation outside UST system pit ☐ Monitoring well ☐ Groundwater remediation system

   b. UST project involves wastewater from: ☐ UST(s) closed in place ☐ UST(s) removed ☐ Remediation ☐ Upgrade ☐ Maintenance activities ☐ Well monitoring ☐ Other, explain: _____

   c. If wastewater is from a closure project, how long has UST(s) been out of service: _____ years

2. a. State assigned UST site identification number: _____ ☐ Not applicable

   b. Number of USTs affected: _____ ☐ Unknown

   c. For the UST(s) involved, their state identification number(s): _____ ☐ Not applicable

   d. Service Station Identification Number, as applicable: _____

3. Tank contents/former contents: ☐ Gasoline ☐ #2 diesel ☐ Used oil ☐ Unknown ☐ Other: _____

IV. DISCHARGE LOCATION

1. ☒ On-site. Describe proposed point of entry to sewer and the discharge rate (must be a sanitary or combined sewer): _____
Plant sewer to main outfall SP010 Note: Range of discharge must not surcharge sewer line.

2. ☐ Haul to MSD Bissell Point Hauled Waste Receiving Station at 10 E. Grand, St. Louis, MO.

   a. Transporters Name: _____ and MSD Hauler ID Number: _____

   b. Hazardous Waste Certification:

   For wastewater which is hauled to MSD's Bissell Point Hauled Waste Receiving Station, I hereby certify that to the best of my knowledge and belief, the above hauled waste is not classified as a RCRA "hazardous waste" as defined by the MDNR in 10 CSR 25 or USEPA in 40 CFR Part 261.

   Applicant Name (print): _____

   Signature: _____ **Date:** _____

ADDITIONAL INFORMATION:

_____

V. APPLICANT SIGNATURE AND CERTIFICATION

This application must be signed by the applicant: either the source contact, or a contractor or agent directly responsible for site activities.

I hereby certify that I am directly responsible for activities at the site regarding the wastewater to be discharged, and to the best of my knowledge and belief, based on appropriate inquiry, the information in this application is true, complete, and accurate. The samples or analyses submitted are representative of the materials to be discharged. If granted approval to discharge, I agree to abide by the MSD Ordinances, and all applicable federal, state and local regulations. I agree to pay the costs of any pre-approval analyses performed by MSD and to pay any applicable disposal charges for the volume and strength of the wastes discharged.

Applicant Name (print): Jonathan Eckles

Signature: _____ **Date:** 5/6/16

FOR MSD USE ONLY:

File Name: Mallinckrodt LLC ID No. 1011728(-00 Sample Point No. 844

SR

METROPOLITAN ST LOUIS SEWER DISTRICT
INDUSTRIAL USER RADIOACTIVE MATERIALS DISCHARGE REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **MALLINCKRODT LLC**

Permit No: 1011728100-2

Premise Address: 3600 North Second Street, St. Louis, MO 63147

Reporting Period: [X] JAN-MAR [ ] APR-JUN [ ] JUL-SEP [ ] OCT-DEC

PART II: RECORD OF DISPOSAL OF RADIOACTIVE MATERIALS TO THE SEWER SYSTEM

RADIONUCLIDE	ACTIVITY DISCHARGED (millicuries)
TOTAL ACTIVITY DISCHARGED:	**No activity recorded this period.**

PART III: CERTIFICATION STATEMENTS

Place your initials in the box under item A.

Everyone must complete the information under items A & B and sign this report.

A. CERTIFICATION OF COMPLIANCE WITH STATE AND FEDERAL REGULATIONS

[✓] I certify that to the best of my knowledge & belief, all requirements of 10 CFR Part 20.2003 and 19 CSR Part 20-10.090 governing disposal by release into sanitary sewage for material regulated by the Nuclear Regulatory Commission and the Missouri Department of Health, respectively, have been met for the period covered by this report.

B. RADIOACTIVE MATERIALS DISCHARGE REPORT CERTIFICATION

I certify under penalty of Law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Print/type name of signing official: John Leonard

Title: Senior Site Director

Telephone: 314-654-1879

Signature: John Leonard

Date: 5/6/16

RECEIVED ON 05-06-16. SR

Mallinckrodt
Pharmaceuticals

SR
5/10

April 19th, 2016

Mr. Doug Mendoza
Metropolitan St. Louis Sewer District
Department of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147

Re: 2016 1st Quarter Self-Monitoring Report for Permit No. 1011728100-2

Dear Mr. Mendoza,

Please find enclosed the 2016 1st Quarter Self-Monitoring report for Mallinckrodt LLC

The following sample points received no pharmaceutical process water flow during the first quarter: SP008, SP011, SP080, SP927, SP930, and SP933. The lab encountered interference with the Cyanide Amenable to Chlorination method for SP010 and provided a total Cyanide result of <0.007 mg/L, which is well below the permit limit of 1.2 mg/L

If you have any questions or require more detailed information, please contact me at 314-654-0138 or via email at jonathan.eckles@mallinckrodt.com.

Sincerely,

pH
009

Jonathan Eckles
Environmental Manager

ENCLOSURES

RECEIVED
MAY 02 2016
DIVISION OF
ENVIRONMENTAL COMPLIANCE

MALLINCKRODT
3600 NORTH SECOND STREET
ST. LOUIS, MO 63147

TELEPHONE: 314-654-2000
FAX: 314-654-1251

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **MALLINCKRODT LLC**

Permit No: **1011728100-1.1** Effective Date: July 01, 2013 Expiration Date: May 31, 2015

Premise Address: 3600 North Second Street, 63147

Monitoring Period: ☐(JAN-MAR) ☐(APR-JUNE) ☐(JULY-SEPT) ☐(OCT-DEC)

Samples Collected By: _____

Analyses Performed By: _____

PART II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS ⇨								
DATES ON WHICH SAMPLES WERE COLLECTED ⇨								
TIMES AT WHICH SAMPLES WERE COLLECTED ⇨								
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G, C, M OR E) AND RESULTS BELOW (G=grab, C=composite, M=measured flow, E=estimated flow)						UNITS
FLOW								

You must complete and sign the certification statements on the second page.

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PART III: SPECIAL CERTIFICATION STATEMENTS

Based on the special conditions contained in your discharge permit you may be required to certify the following. Please review your permit and **PLACE YOUR INITIALS ON THE LINES NEXT TO THE CERTIFICATIONS**.

A	NO CHANGE IN WASTEWATER DISCHARGE AT SAMPLE POINTS WITH NO MONITORING REQUIRED
	For permit special conditions that waive monitoring at any sample point(s) specified in your permit, you are required to make the following certification for each report in which monitoring is waived: JL I certify, since the last discharge monitoring report, there has been no change in the character of the wastes discharged at sample points **001 and 002**. JL I certify, since the last discharge monitoring report, there has been no discharge from sample points **008 and 011**.
B	NO CHANGE IN WASTEWATER DISCHARGE AT ACTIVE CONNECTIONS WITHOUT SAMPLE POINTS
	For permit special conditions that waive monitoring at active connection points which are not specified as sample points in your permit, you are required to make the following certification: JL I certify, since the last discharge monitoring report, there has been no change in the character of wastes discharged at those active connection points which are not specified in my permit.
E	NO DISCHARGE OF CATEGORICAL WASTE
	For permit special conditions that prohibit discharge of wastes which are subject to certain categorical pretreatment standards, you are required to make the following certification: JL I certify, since the last discharge monitoring report, there has been no discharge of wastes which are subject to pretreatment standards in 40 CFR 414 (except for those wastes conveyed by Sample Point **905**).
F	CYANIDE NOT USED OR GENERATED IN 40 CFR 439 OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from limitations and monitoring for Total Cyanide at the Pharmaceutical sample points **080, 915, and 936,** subject to the following certification: JL I certify, since the last discharge monitoring report, cyanide has not been used or generated in any pharmaceutical manufacturing process subject to Categorical Standards in 40 CFR 439.
H	CATEGORICAL POLLUTANTS NOT USED OR GENERATED IN CATEGORICAL OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from monitoring for certain 40 CFR 439-regulated pollutants at the Pharmaceutical sample points **915 and 936,** subject to the following certification: JL I certify, since the last discharge monitoring report, the 40 CFR 439-regulated pollutants, as determined in permittee's report dated April 5, 2010, have not been used or generated in any pharmaceutical manufacturing process subject to Categorical Standards in 40 CFR 439. In addition, the above-referenced report remains valid.
I	SURROGATE MONITORING ALLOWED FOR 40 CFR 439 OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from monitoring for certain 40 CFR 439-regulated pollutants, and replaced by monitoring for surrogate pollutant(s), at the Pharmaceutical sample points **920 and 937** subject to the following certification: JL I certify, since the last discharge monitoring report, the 40 CFR 439-regulated pollutants, as determined in permittee's report dated April 5, 2010, continue to receive the same degree of treatment as the surrogate pollutant(s). In addition, the above-referenced report remains valid.

PART IV: GENERAL CERTIFICATION STATEMENTS

B	DISCHARGE MONITORING REPORT CERTIFICATION
	All permittees must sign and complete the information below: I certify under penalty of Law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Print or type name of signing official: John Leonard Title: Sr. Site Director Telephone: 314 654-1878 Signature: John Leonard Date: 4/26/16

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: Teklab

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	------>		**001**					
DATES ON WHICH SAMPLES WERE COLLECTED	------>		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	------>		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	1,000					gal/day
NO MONITORING REQUIRED (Sanitary Only)								
There have been no change in the character of the wastes discharged since the last report.								

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

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Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) __(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: Teklab

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**002**						
DATES ON WHICH SAMPLES WERE COLLECTED	----->		NA						
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		NA						
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo							UNITS
FLOW		E	2,200						gal/day
NO MONITORING REQUIRED (Sanitary Only)									
There have been no change in the character of the wastes discharged since the last report.									

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INDUSTRIAL USER SELF MONITORING REPORT

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Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS ----->			003		009		099	
DATES ON WHICH SAMPLES WERE COLLECTED ----->			1/14/2016		~~12/2/2015~~		Calculated	
TIMES AT WHICH SAMPLES WERE COLLECTED ----->			Grab: 1:18; Comp Start: 1:20; End:1:20		~~Grab: 10:25, 10:30; Comp Start: 11:15; Stop: 10:30~~ see next page		N/A	
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	20,327	E	7,700	E	12,627	gal/day
Oil & Grease	200	G	26	G	6	E	38	mg/l
Biochemical Oxygen Demand[1]	****	C	93	C	83	E	99	mg/l
Chemical Oxygen Demand	****	C	216	C	260	E	189	mg/l
Total Suspended Solids	****	C	64	C	15	E	94	mg/l
Temperature	60	G	22.7	G	20	E	21.4	deg C
pH	5.5-11.5	G	7.6	G	7.8	E	7.7	S.U.
**** No limits for SP003 or SP009; monitoring requirement only for calculation at SP099								
Shaded values represent detection limits								
Lab Dilution Factor			1		1		N/A	

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METROPOLITAN ST. LOUIS SEWER DISTRICT
2013 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-1.1 Effective Date: 07-01-2013 Expiration Date: 05-31-2015

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: _X_(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS				----->		003		009		099	
DATES ON WHICH SAMPLES WERE COLLECTED				----->		1/14/2016		1/14/2016		calculated	
TIMES AT WHICH SAMPLES WERE COLLECTED				----->		Grab: 1:18; Comp Start: 1:20, Stop: 1:20		Grab: 2:45; Comp Start: 2:15, Stop: 2:15			
PARAMETER				LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated fl						UNITS
FLOW				****	E	20,327	E	7,700		12,627	gal/day
1,1,1-Trichloroethane				****	G	<0.005	G	<0.005		0.005	mg/l
1,1,2,2-Tetrachloroethane				****	G	<0.005	G	<0.005		0.005	mg/l
1,1,2-Trichloroethane				****	G	<0.005	G	<0.005		0.005	mg/l
1,1-Dichloroethane				****	G	<0.005	G	<0.005		0.005	mg/l
1,1-Dichloroethene				****	G	<0.005	G	<0.005		0.005	mg/l
1,2-Dichlorobenzene				****	G	<0.005	G	<0.005		0.005	mg/l
1,2-Dichloroethane				****	G	<0.005	G	<0.005		0.005	mg/l
1,2-Dichloropropane				****	G	<0.005	G	<0.005		0.005	mg/l
1,3-Dichlorobenzene				****	G	<0.005	G	<0.005		0.005	mg/l
1,4-Dichlorobenzene				****	G	<0.005	G	<0.005		0.005	mg/l
2-Chloroethylvinylether				****	G	<0.02	G	<0.02		0.020	mg/l
Acrolein				****	G	<0.1	G	<0.1		0.100	mg/l
Acrylonitrile				****	G	<0.005	G	<0.005		0.005	mg/l
Benzene				****	G	<0.002	G	<0.002		0.002	mg/l
Bromodichloromethane				****	G	<0.005	G	<0.005		0.005	mg/l
Bromoform				****	G	<0.005	G	<0.005		0.005	mg/l
Bromomethane				****	G	<0.01	G	<0.01		0.010	mg/l
Carbon Tetrachloride				****	G	<0.005	G	<0.005		0.005	mg/l
Chlorobenzene				****	G	<0.005	G	<0.005		0.005	mg/l
Chloroethane				****	G	<0.01	G	<0.01		0.010	mg/l
Chloroform				****	G	0.0073	G	<0.005		0.009	mg/l
Chloromethane				****	G	<0.01	G	<0.01		0.010	mg/l
cis-1,3-Dicholropropene				****	G	<0.005	G	<0.005		0.005	mg/l
Dibromochloromethane				****	G	<0.005	G	<0.005		0.005	mg/l
Ethylbenzene				****	G	<0.005	G	<0.005		0.005	mg/l
Methylene Chloride				****	G	<0.005	G	<0.005		0.005	mg/l
Tetrachloroethene				****	G	<0.005	G	<0.005		0.005	mg/l
Toluene				****	G	<0.005	G	<0.005		0.005	mg/l
1,2-Dichloroethene				****	G	<0.005	G	<0.005		0.005	mg/l
trans-1,3-Dichloropropene				****	G	<0.005	G	<0.005		0.005	mg/l
Trichloroethene				****	G	0.0092	G	<0.005		0.012	mg/l
Vinyl Chloride				****	G	0.0034	G	<0.002		0.004	mg/l

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METROPOLITAN ST. LOUIS SEWER DISTRICT
2013 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-1.1 Effective Date: 07-01-2013 Expiration Date: 05-31-2015

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: __X__(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->	003		009		099	
DATES ON WHICH SAMPLES WERE COLLECTED	----->	1/14/2016		1/14/2016		calculated	
TIMES AT WHICH SAMPLES WERE COLLECTED	----->	Grab: 1:18; Comp Start: 1:20, Stop: 1:20		Grab: 2:45; Comp Start: 2:15, Stop: 2:15			
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW G=grab,C=composite,M=measured flow,E=estimated fl					UNITS
FLOW	****	E	20,327	E	7,700	12,627	gal/day
1,2,4-Trichlorobenzene	****	C	<0.039	C	<0.041	0.038	mg/l
2,4,6-Trichlorophenol	****	C	<0.039	C	<0.041	0.038	mg/l
2,4-Dichlorophenol	****	C	<0.039	C	<0.041	0.038	mg/l
2,4-Dimethylphenol	****	C	<0.039	C	<0.041	0.038	mg/l
2,4-Dinitrophenol	****	C	<0.079	C	<0.082	0.077	mg/l
2,4-Dinitrotoluene	****	C	<0.039	C	<0.041	0.038	mg/l
2,6-Dinitrotoluene	****	C	<0.039	C	<0.041	0.038	mg/l
2-Chloronapthalene	****	C	<0.039	C	<0.041	0.038	mg/l
2-Chlorophenol	****	C	<0.039	C	<0.041	0.038	mg/l
2-Nitrophenol	****	C	<0.079	C	<0.082	0.077	mg/l
3,3-Dichlorobenzidine	****	C	<0.039	C	<0.041	0.038	mg/l
2-Methyl-4,6-dinitrophenol	****	C	<0.079	C	<0.082	0.077	mg/l
4-Bromophenyl-phenylether	****	C	<0.039	C	<0.041	0.038	mg/l
4-Chloro-3-methylphenol	****	C	<0.079	C	<0.082	0.077	mg/l
4-Chlorophenyl-phenylether	****	C	<0.039	C	<0.041	0.038	mg/l
4-Nitrophenol	****	C	<0.079	C	<0.082	0.077	mg/l
Acenapthene	****	C	<0.039	C	<0.041	0.038	mg/l
Acenaphthylene	****	C	<0.039	C	<0.041	0.038	mg/l
Anthracene	****	C	<0.039	C	<0.041	0.038	mg/l
Benzidine	****	C	<0.157	C	<0.164	0.153	mg/l
Benzo(a)anthracene	****	C	<0.039	C	<0.041	0.038	mg/l
Benzo(a)pyrene	****	C	<0.039	C	<0.041	0.038	mg/l
Benzo(b)fluoranthene	****	C	<0.039	C	<0.041	0.038	mg/l
Benzo(g,h,i)perylene	****	C	<0.039	C	<0.041	0.038	mg/l
Benzo(k)fluoranthene	****	C	<0.039	C	<0.041	0.038	mg/l
Bis(2-chloroethoxy)methane	****	C	<0.039	C	<0.041	0.038	mg/l
Bis(2-chloroethyl)ether	****	C	<0.039	C	<0.041	0.038	mg/l
Bis(2-chloroisopropyl)ether	****	C	<0.039	C	<0.041	0.038	mg/l
Bis(2-ethylhexyl)phthalate	****	C	<0.024	C	<0.025	0.023	mg/l
Butyl benzyl phthalate	****	C	<0.039	C	<0.041	0.038	mg/l
Chrysene	****	C	<0.039	C	<0.041	0.038	mg/l
Dibenzo(a,h)anthracene	****	C	<0.039	C	<0.041	0.038	mg/l
Diethyl phthalate	****	C	<0.039	C	<0.041	0.038	mg/l
Dimethyl phthalate	****	C	<0.039	C	<0.041	0.038	mg/l
Di-n-butyl phthalate	****	C	<0.039	C	<0.041	0.038	mg/l
Di-n-octyl-phthalate	****	C	<0.039	C	<0.041	0.038	mg/l
Fluorene	****	C	<0.039	C	<0.041	0.038	mg/l
Fluoranthene	****	C	<0.039	C	<0.041	0.038	mg/l
Hexachlorobenzene	****	C	<0.039	C	<0.041	0.038	mg/l
Hexachlorobutadiene	****	C	<0.039	C	<0.041	0.038	mg/l
Hexachlorocyclopentadiene	****	C	<0.079	C	<0.082	0.077	mg/l
Hexachloroethane	****	C	<0.039	C	<0.041	0.038	mg/l
Ideno(1,2,3-cd)pyrene	****	C	<0.039	C	<0.041	0.038	mg/l
Isophorone	****	C	<0.039	C	<0.041	0.038	mg/l
Naphthalene	****	C	<0.039	C	<0.041	0.038	mg/l
Nitrobenzene	****	C	<0.039	C	<0.041	0.038	mg/l
N-nitrosodimethylamine	****	C	<0.079	C	<0.082	0.077	mg/l
N-nitrosodi-n-propylamine	****	C	<0.039	C	<0.041	0.038	mg/l
N-nitrosodiphenylamine	****	C	<0.039	C	<0.041	0.038	mg/l
Pentachlorophenol	****	C	<0.079	C	<0.082	0.077	mg/l
Phenanthrene	****	C	<0.039	C	<0.041	0.038	mg/l
Phenol	****	C	<0.02	C	<0.020	0.020	mg/l
Pyrene	****	C	<0.039	C	<0.041	0.038	mg/l
1,2-Diphenylhydrazine	****	C	<0.039	C	<0.079	0.015	mg/l
* If calculated number was negative, it was reported as 0.							
Total Toxic Organics	5.844	--	2.797	--	0.000	-- 2.739	mg/l
**** No limits for SP003 or SP009; monitoring requirement only for calculation at SP099							
Lab Dilution Factor			1 (G), 5 (C)		1 (G), 5 (C)	NA	

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PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ___(APR-JUNE) __(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	---->		**005**					
DATES ON WHICH SAMPLES WERE COLLECTED	---->		1/14/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	---->		Grab: 1:40; Comp Start: 1:50; End: 1:50					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	1,000					gal/day
Oil & Grease	200	G	7					mg/l
Biochemical Oxygen Demand[1]	****	C	125					mg/l
Chemical Oxygen Demand	****	C	250					mg/l
Total Suspended Solids	****	C	6					mg/l
Temperature	60	G	18.3					deg C
pH	5.5 - 11.5	G	7.9					S.U.
**** No limits for SP005								
Lab Dilution Factor			1					

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Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		005					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		1/14/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 1:40; Comp Start: 1:50, End: 1:50					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated fl						UNITS
FLOW		E	1,000					gal/day
1,1,1-Trichloroethane		G	<0.005					mg/l
1,1,2,2-Tetrachloroethane		G	<0.005					mg/l
1,1,2-Trichloroethane		G	<0.005					mg/l
1,1-Dichloroethane		G	<0.005					mg/l
1,1-Dichloroethene		G	<0.005					mg/l
1,2-Dichlorobenzene		G	<0.005					mg/l
1,2-Dichloroethane		G	<0.005					mg/l
1,2-Dichloropropane		G	<0.005					mg/l
1,3-Dichlorobenzene		G	<0.005					mg/l
1,4-Dichlorobenzene		G	<0.005					mg/l
2-Chloroethylvinylether		G	<0.02					mg/l
Acrolein		G	<0.1					mg/l
Acrylonitrile		G	<0.005					mg/l
Benzene		G	<0.002					mg/l
Bromodichloromethane		G	<0.005					mg/l
Bromoform		G	<0.005					mg/l
Bromomethane		G	<0.01					mg/l
Carbon Tetrachloride		G	<0.005					mg/l
Chlorobenzene		G	<0.005					mg/l
Chloroethane		G	<0.01					mg/l
Chloroform		G	<0.005					mg/l
Chloromethane		G	<0.01					mg/l
cis-1,3-Dicholropropene		G	<0.005					mg/l
Dibromochloromethane		G	<0.005					mg/l
Ethylbenzene		G	<0.005					mg/l
Methylene Chloride		G	<0.005					mg/l
Tetrachloroethene		G	<0.005					mg/l
Toluene		G	<0.005					mg/l
trans-1,2-Dichloroethene		G	<0.005					mg/l
trans-1,3-Dichloropropene		G	<0.005					mg/l
Trichloroethene		G	<0.005					mg/l
Vinyl Chloride		G	<0.002					mg/l

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METROPOLITAN ST. LOUIS SEWER DISTRICT
2013 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-1.1 Effective Date: 07-01-2013 Expiration Date: 05-31-2015

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->>		005					
DATES ON WHICH SAMPLES WERE COLLECTED	----->>		1/14/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->>		Grab: 1:40; Comp Start: 1:50, End: 1:50					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated fl						UNITS
FLOW		E	1,000					gal/day
1,2,4-Trichlorobenzene		C	<0.041					mg/l
2,4,6-Trichlorophenol		C	<0.041					mg/l
2,4-Dichlorophenol		C	<0.041					mg/l
2,4-Dimethylphenol		C	<0.041					mg/l
2,4-Dinitrophenol		C	<0.081					mg/l
2,4-Dinitrotoluene		C	<0.041					mg/l
2,6-Dinitrotoluene		C	<0.042					mg/l
2-Chloronapthalene		C	<0.043					mg/l
2-Chlorophenol		C	<0.044					mg/l
2-Nitrophenol		C	<0.081					mg/l
3,3-Dichlorobenzidine		C	<0.041					mg/l
2-Methyl-4,6-dinitrophenol		C	<0.081					mg/l
4-Bromophenyl-phenylether		C	<0.041					mg/l
4-Chloro-3-methylphenol		C	<0.081					mg/l
4-Chlorophenyl-phenylether		C	<0.041					mg/l
4-Nitrophenol		C	<0.081					mg/l
Acenapthene		C	<0.041					mg/l
Acenaphthylene		C	<0.041					mg/l
Anthracene		C	<0.041					mg/l
Benzidine		C	<0.163					mg/l
Benzo(a)anthracene		C	<0.041					mg/l
Benzo(a)pyrene		C	<0.041					mg/l
Benzo(b)fluoranthene		C	<0.041					mg/l
Benzo(g,h,i)perylene		C	<0.041					mg/l
Benzo(k)fluoranthene		C	<0.041					mg/l
Bis(2-chloroethoxy)methane		C	<0.041					mg/l
Bis(2-chloroethyl)ether		C	<0.041					mg/l
Bis(2-chloroisopropyl)ether		C	<0.041					mg/l
Bis(2-ethylhexyl)phthalate		C	0.105					mg/l
Butyl benzyl phthalate		C	<0.041					mg/l
Chrysene		C	<0.041					mg/l
Dibenzo(a,h)anthracene		C	<0.041					mg/l
Diethyl phthalate		C	<0.041					mg/l
Dimethyl phthalate		C	<0.041					mg/l
Di-n-butyl phthalate		C	<0.041					mg/l
Di-n-octyl-phthalate		C	<0.041					mg/l
Fluoranthene		C	<0.041					mg/l
Fluorene		C	<0.041					mg/l
Hexachlorobenzene		C	<0.041					mg/l
Hexachlorobutadiene		C	<0.041					mg/l
Hexachlorocyclopentadiene		C	<0.081					mg/l
Hexachloroethane		C	<0.041					mg/l
Ideno(1,2,3-cd)pyrene		C	<0.041					mg/l
Isophorone		C	<0.041					mg/l
Naphthalene		C	<0.041					mg/l
Nitrobenzene		C	<0.041					mg/l
N-nitrosodimethylamine		C	<0.081					mg/l
N-nitrosodi-n-propylamine		C	<0.041					mg/l
N-nitrosodiphenylamine		C	<0.041					mg/l
Pentachlorophenol		C	<0.081					mg/l
Phenanthrene		C	<0.041					mg/l
Phenol		C	<0.02					mg/l
Pyrene		C	<0.041					mg/l
1,2-Diphenylhydrazine		C	<0.041					mg/l
Total Toxic Organics	5.844	--	0					mg/l
Lab Dilution Factor			1 (G), 5 (C)					

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: _X_(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**008**						
DATES ON WHICH SAMPLES WERE COLLECTED	----->		N/A						
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		N/A						
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW		E	*						gal/day
Oil & Grease	200	G	*						mg/l
Biochemical Oxygen Demand[1]	****	G	*						mg/l
Chemical Oxygen Demand	****	G	*						mg/l
Temperature	60	G	*						deg C
Total Suspended Solids	****	G	*						mg/L
pH	5.5 - 11.5	G	*						S.U.
***No flow for SP008 in 1st QTR 2015**									
Lab Dilution Factor			1,1,1,33.3		1,1,1,2.17		1		

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Monitoring Period: __X__(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**008**						
DATES ON WHICH SAMPLES WERE COLLECTED	----->		N/A						
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		N/A						
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo							UNITS
FLOW		E	*						gal/day
1,1,1-Trichloroethane		G	*						mg/l
1,1,2,2-Tetrachloroethane		G	*						mg/l
1,1,2-Trichloroethane		G	*						mg/l
1,1-Dichloroethane		G	*						mg/l
1,1-Dichloroethene		G	*						mg/l
1,2-Dichlorobenzene		G	*						mg/l
1,2-Dichloroethane		G	*						mg/l
1,2-Dichloropropane		G	*						mg/l
1,3-Dichlorobenzene		G	*						mg/l
1,4-Dichlorobenzene		G	*						mg/l
2-Chloroethylvinylether		G	*						mg/l
Acrolein		G	*						mg/l
Acrylonitrile		G	*						mg/l
Benzene		G	*						mg/l
Bromodichloromethane		G	*						mg/l
Bromoform		G	*						mg/l
Bromomethane		G	*						mg/l
Carbon Tetrachloride		G	*						mg/l
Chlorobenzene		G	*						mg/l
Chloroethane		G	*						mg/l
Chloroform		G	*						mg/l
Chloromethane		G	*						mg/l
cis-1,3-Dichloropropene		G	*						mg/l
Dibromochloromethane		G	*						mg/l
Ethylbenzene		G	*						mg/l
Methylene Chloride		G	*						mg/l
Tetrachloroethene		G	*						mg/l
Toluene		G	*						mg/l
1,2-Dichloroethene		G	*						mg/l
trans-1,3-Dichloropropene		G	*						mg/l
Trichloroethene		G	*						mg/l
Vinyl Chloride		G	*						mg/l
1,2,4-Trichlorobenzene		G	*						mg/l
2,4,6-Trichlorophenol		G	*						mg/l
2,4-Dichlorophenol		G	*						mg/l
2,4-Dimethylphenol		G	*						mg/l
2,4-Dinitrophenol		G	*						mg/l
2,4-Dinitrotoluene		G	*						mg/l
2,6-Dinitrotoluene		G	*						mg/l
2-Chloronapthalene		G	*						mg/l
2-Chlorophenol		G	*						mg/l
2-Nitrophenol		G	*						mg/l
3,3-Dichlorobenzidine		G	*						mg/l
2-Methyl-4,6-dinitrophenol		G	*						mg/l
4-Bromophenyl-phenylether		G	*						mg/l
4-Chloro-3-methylphenol		G	*						mg/l
4-Chlorophenyl-phenylether		G	*						mg/l
4-Nitrophenol		G	*						mg/l

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: __X__(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**008**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		N/A					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		N/A					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	*					gal/day
Acenapthene		G	*					mg/l
Acenaphthylene		G	*					mg/l
Anthracene		G	*					mg/l
Benzidine		G	*					mg/l
Benzo(a)anthracene		G	*					mg/l
Benzo(a)pyrene		G	*					mg/l
Benzo(b)fluoranthene		G	*					mg/l
Benzo(g,h,i)perylene		G	*					mg/l
Benzo(k)fluoranthene		G	*					mg/l
Bis(2-chloroethoxy)methane		G	*					mg/l
Bis(2-chloroethyl)ether		G	*					mg/l
Bis(2-chloroisopropyl)ether		G	*					mg/l
Bis(2-ethylhexyl)phthalate		G	*					mg/l
Butyl benzyl phthalate		G	*					mg/l
Chrysene		G	*					mg/l
Dibenzo(a,h)anthracene		G	*					mg/l
Diethyl phthalate		G	*					mg/l
Dimethyl phthalate		G	*					mg/l
Di-n-butyl phthalate		G	*					mg/l
Di-n-octyl-phthalate		G	*					mg/l
Fluorene		G	*					mg/l
Fluoranthene		G	*					mg/l
Hexachlorobenzene		G	*					mg/l
Hexachlorobutadiene		G	*					mg/l
Hexachlorocyclopentadiene		G	*					mg/l
Hexachloroethane		G	*					mg/l
Ideno(1,2,3-cd)pyrene		G	*					mg/l
Isophorone		G	*					mg/l
Naphthalene		G	*					mg/l
Nitrobenzene		G	*					mg/l
N-nitrosodimethylamine		G	*					mg/l
N-nitrosodi-n-propylamine		G	*					mg/l
N-nitrosodiphenylamine		G	*					mg/l
Pentachlorophenol		G	*					mg/l
Phenanthrene		G	*					mg/l
Phenol		G	*					mg/l
Pyrene		G	*					mg/l
1,2-Diphenylhydrazine		G	*					mg/l
Total Toxic Organics	5.844	--	*					mg/l
Lab Dilution Factor								
***There were no overflow events in Qtr 1.**								

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MSD 014405

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ___(APR-JUNE) __JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**010**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		1/15/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 12:35; Comp Start: 1:00; End: 12:45					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	1,197,295					gal/day
Oil & Grease	200	G	6					mg/l
Biochemical Oxygen Demand[1]	****	C	760					mg/l
Chemical Oxygen Demand	****	C	1550					mg/l
Total Suspended Solids	****	C	18					mg/l
Temperature	60	G	26.6					deg C
pH	5.5 - 11.5	G	8.5					S.U.
Chromium	5.0	C	<0.0050					mg/l
Copper	2.7	C	0.0170					mg/l
Nickel	2.3	C	0.0062					mg/l
Zinc	3.0	C	0.0373					mg/l
Cyanide **	1.2	C	<0.007					mg/l
Shaded values represent detection limits								
** Total Cyanide result. Interference prevented analysis of Cyanide Amenable to Chlorination								
Lab Dilution Factor			1,5,5,1,1,1,1,1,1					

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PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-1.1 Effective Date: 07-01-2013 Expiration Date: 05-31-2015

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: __X__(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		010					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		1/15/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 12:35; Comp Start: 1:00; End: 12:45					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** osite,M=measured flow,E=estimated flow						UNITS
FLOW		E	1,197,295	E		E		gal/day
1,1,1-Trichloroethane		G	<0.005	G		G		mg/l
1,1,2,2-Tetrachloroethane		G	<0.005	G		G		mg/l
1,1,2-Trichloroethane		G	<0.005	G		G		mg/l
1,1-Dichloroethane		G	<0.005	G		G		mg/l
1,1-Dichloroethene		G	<0.005	G		G		mg/l
1,2-Dichlorobenzene		G	<0.005	G		G		mg/l
1,2-Dichloroethane		G	<0.005	G		G		mg/l
1,2-Dichloropropane		G	<0.005	G		G		mg/l
1,3-Dichlorobenzene		G	<0.005	G		G		mg/l
1,4-Dichlorobenzene		G	<0.005	G		G		mg/l
2-Chloroethylvinylether		G	<0.02	G		G		mg/l
Acrolein		G	<0.1	G		G		mg/l
Acrylonitrile		G	<0.005	G		G		mg/l
Benzene		G	<0.002	G		G		mg/l
Bromodichloromethane		G	<0.005	G		G		mg/l
Bromoform		G	<0.005	G		G		mg/l
Bromomethane		G	<0.01	G		G		mg/l
Carbon Tetrachloride		G	<0.005	G		G		mg/l
Chlorobenzene		G	<0.005	G		G		mg/l
Chloroethane		G	<0.01	G		G		mg/l
Chloroform		G	<0.005	G		G		mg/l
Chloromethane		G	<0.1	G		G		mg/l
cis-1,3-Dicholropropene		G	<0.005	G		G		mg/l
Dibromochloromethane		G	<0.005	G		G		mg/l
Ethylbenzene		G	<0.005	G		G		mg/l
Methylene Chloride		G	<0.005	G		G		mg/l
Tetrachloroethene		G	<0.005	G		G		mg/l
Toluene		G	<0.005	G		G		mg/l
trans-1,2-Dichloroethene		G	<0.005	G		G		mg/l
trans-1,3-Dichloropropene		G	<0.005	G		G		mg/l
Trichloroethene		G	<0.005	G		G		mg/l
Vinyl Chloride		G	<0.002	G		G		mg/l

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Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	---->		010					
DATES ON WHICH SAMPLES WERE COLLECTED	---->		1/15/2016					
TIMES AT WHICH SAMPLES WERE COLLECTED	---->		Grab: 12:35; Comp Start: 1:00; End: 12:45					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** osite,M=measured flow,E=estimated flow						UNITS
FLOW		E	1,197,295	E		E		gal/day
1,2,4-Trichlorobenzene		C	<0.041	G		G		mg/l
2,4,6-Trichlorophenol		C	<0.041	G		G		mg/l
2,4-Dichlorophenol		C	<0.041	G		G		mg/l
2,4-Dimethylphenol		C	<0.041	G		G		mg/l
2,4-Dinitrophenol		C	<0.082	G		G		mg/l
2,4-Dinitrotoluene		C	<0.041	G		G		mg/l
2,6-Dinitrotoluene		C	<0.041	G		G		mg/l
2-Chloronapthalene		C	<0.041	G		G		mg/l
2-Chlorophenol		C	<0.041	G		G		mg/l
2-Nitrophenol		C	<0.082	G		G		mg/l
3,3-Dichlorobenzidine		C	<0.041	G		G		mg/l
2-Methyl-4,6-dinitrophenol		C	<0.082	G		G		mg/l
4-Bromophenyl-phenylether		C	<0.041	G		G		mg/l
4-Chloro-3-methylphenol		C	<0.082	G		G		mg/l
4-Chlorophenyl-phenylether		C	<0.041	G		G		mg/l
4-Nitrophenol		C	<0.082	G		G		mg/l
Acenapthene		C	<0.041	G		G		mg/l
Acenaphthylene		C	<0.041	G		G		mg/l
Anthracene		C	<0.041	G		G		mg/l
Benzidine		C	<0.164	G		G		mg/l
Benzo(a)anthracene		C	<0.041	G		G		mg/l
Benzo(a)pyrene		C	<0.041	G		G		mg/l
Benzo(b)fluoranthene		C	<0.041	G		G		mg/l
Benzo(g,h,i)perylene		C	<0.041	G		G		mg/l
Benzo(k)fluoranthene		C	<0.041	G		G		mg/l
Bis(2-chloroethoxy)methane		C	<0.041	G		G		mg/l
Bis(2-chloroethyl)ether		C	<0.041	G		G		mg/l
Bis(2-chloroisopropyl)ether		C	<0.041	G		G		mg/l
Bis(2-ethylhexyl)phthalate		C	<0.025	G		G		mg/l
Butyl benzyl phthalate		C	<0.041	G		G		mg/l
Chrysene		C	<0.041	G		G		mg/l
Dibenzo(a,h)anthracene		C	<0.041	G		G		mg/l
Diethyl phthalate		C	<0.041	G		G		mg/l
Dimethyl phthalate		C	<0.041	G		G		mg/l
Di-n-butyl phthalate		C	<0.041	G		G		mg/l
Di-n-octyl-phthalate		C	<0.041	G		G		mg/l
Fluoranthene		C	<0.041	G		G		mg/l
Fluorene		C	<0.041	G		G		mg/l
Hexachlorobenzene		C	<0.041	G		G		mg/l
Hexachlorobutadiene		C	<0.041	G		G		mg/l
Hexachlorocyclopentadiene		C	<0.082	G		G		mg/l
Hexachloroethane		C	<0.041	G		G		mg/l
Ideno(1,2,3-cd)pyrene		C	<0.041	G		G		mg/l
Isophorone		C	<0.041	G		G		mg/l
Naphthalene		C	<0.041	G		G		mg/l
Nitrobenzene		C	<0.041	G		G		mg/l
N-nitrosodimethylamine		C	<0.082	G		G		mg/l
N-nitrosodi-n-propylamine		C	<0.041	G		G		mg/l
N-nitrosodiphenylamine		C	<0.041	G		G		mg/l
Pentachlorophenol		C	<0.082	G		G		mg/l
Phenanthrene		C	<0.041	G		G		mg/l
Phenol		C	<0.020	G		G		mg/l
Pyrene		C	<0.041	G		G		mg/l
1,2-Diphenylhydrazine		C	<0.041	G		G		mg/l
Total Toxic Organics	5.844	--	0.000000					mg/l
Lab Dilution Factor			(G) 1, (C) 5					

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**011**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		N/A					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		N/A					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	*					gal/day
Oil & Grease	200	G	*					mg/l
Biochemical Oxygen Demand	****	G	*					mg/l
Chemical Oxygen Demand	****	G	*					mg/l
Total Suspended Solids	****	G	*					mg/l
Temperature	60	G	*					deg C
pH	5.5 - 11.5	G	*					S.U.
*** No flow from SP011 in 1st QTR 2016**								
Shaded values represent detection limits								
Lab Dilution Factor			1		1		1	

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METROPOLITAN ST. LOUIS SEWER DISTRICT
2013 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: __X__(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**011**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		N/A					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		N/A					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	*					gal/day
1,1,1-Trichloroethane		G	*					mg/l
1,1,2,2-Tetrachloroethane		G	*					mg/l
1,1,2-Trichloroethane		G	*					mg/l
1,1-Dichloroethane		G	*					mg/l
1,1-Dichloroethene		G	*					mg/l
1,2-Dichlorobenzene		G	*					mg/l
1,2-Dichloroethane		G	*					mg/l
1,2-Dichloropropane		G	*					mg/l
1,3-Dichlorobenzene		G	*					mg/l
1,4-Dichlorobenzene		G	*					mg/l
2-Chloroethylvinylether		G	*					mg/l
Acrolein		G	*					mg/l
Acrylonitrile		G	*					mg/l
Benzene		G	*					mg/l
Bromodichloromethane		G	*					mg/l
Bromoform		G	*					mg/l
Bromomethane		G	*					mg/l
Carbon Tetrachloride		G	*					mg/l
Chlorobenzene		G	*					mg/l
Chloroethane		G	*					mg/l
Chloroform		G	*					mg/l
Chloromethane		G	*					mg/l
cis-1,3-Dicholropropene		G	*					mg/l
Dibromochloromethane		G	*					mg/l
Ethylbenzene		G	*					mg/l
Methylene Chloride		G	*					mg/l
Tetrachloroethene		G	*					mg/l
Toluene		G	*					mg/l
trans-1,2-Dichloroethene		G	*					mg/l
trans-1,3-Dichloropropene		G	*					mg/l
Trichloroethene		G	*					mg/l
Vinyl Chloride		G	*					mg/l
1,2,4-Trichlorobenzene		G	*					mg/l
2,4,6-Trichlorophenol		G	*					mg/l
2,4-Dichlorophenol		G	*					mg/l
2,4-Dimethylphenol		G	*					mg/l
2,4-Dinitrophenol		G	*					mg/l
2,4-Dinitrotoluene		G	*					mg/l
2,6-Dinitrotoluene		G	*					mg/l
2-Chloronapthalene		G	*					mg/l
2-Chlorophenol		G	*					mg/l
2-Nitrophenol		G	*					mg/l
3,3-Dichlorobenzidine		G	*					mg/l
2-Methyl-4,6-dinitrophenol		G	*					mg/l
4-Bromophenyl-phenylether		G	*					mg/l
4-Chloro-3-methylphenol		G	*					mg/l
4-Chlorophenyl-phenylether		G	*					mg/l
4-Nitrophenol		G	*					mg/l

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METROPOLITAN ST. LOUIS SEWER DISTRICT
2013 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: __X__(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**011**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		N/A					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		N/A					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated fld						UNITS
FLOW		E	*					gal/day
Acenapthene		G	*					mg/l
Acenaphthylene		G	*					mg/l
Anthracene		G	*					mg/l
Benzidine		G	*					mg/l
Benzo(a)anthracene		G	*					mg/l
Benzo(a)pyrene		G	*					mg/l
Benzo(b)fluoranthene		G	*					mg/l
Benzo(g,h,i)perylene		G	*					mg/l
Benzo(k)fluoranthene		G	*					mg/l
Bis(2-chloroethoxy)methane		G	*					mg/l
Bis(2-chloroethyl)ether		G	*					mg/l
Bis(2-chloroisopropyl)ether		G	*					mg/l
Bis(2-ethylhexyl)phthalate		G	*					mg/l
Butyl benzyl phthalate		G	*					mg/l
Chrysene		G	*					mg/l
Dibenzo(a,h)anthracene		G	*					mg/l
Diethyl phthalate		G	*					mg/l
Dimethyl phthalate		G	*					mg/l
Di-n-butyl phthalate		G	*					mg/l
Di-n-octyl-phthalate		G	*					mg/l
Fluoranthene		G	*					mg/l
Fluorene		G	*					mg/l
Hexachlorobenzene		G	*					mg/l
Hexachlorobutadiene		G	*					mg/l
Hexachlorocyclopentadiene		G	*					mg/l
Hexachloroethane		G	*					mg/l
Ideno(1,2,3-cd)pyrene		G	*					mg/l
Isophorone		G	*					mg/l
Naphthalene		G	*					mg/l
Nitrobenzene		G	*					mg/l
N-nitrosodimethylamine		G	*					mg/l
N-nitrosodi-n-propylamine		G	*					mg/l
N-nitrosodiphenylamine		G	*					mg/l
Pentachlorophenol		G	*					mg/l
Phenanthrene		G	*					mg/l
Phenol		G	*					mg/l
Pyrene		G	*					mg/l
1,2-Diphenylhydrazine		G	*					mg/l
Total Toxic Organics	5.844	--	*					mg/l
*** No flow from SP011 in 1st QTR 2016**								
Lab Dilution Factor								

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147
Monitoring Period: _X_(JAN-MAR) __(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)
Samples Collected By: Mallinckrodt Inc
Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS			---->		**080**					
DATES ON WHICH SAMPLES WERE COLLECTED			---->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED			---->		NA					
PARAMETER	EPA METHOD	DAILY MAX	AVG MONTHLY	**RECORD SAMPLE TYPES (G, C, M OR E) & RESULTS** G=Grab, C-composite, M=measured flow, E=estimated						UNITS
FLOW				E	*					gal/day
Acetone	524.2	20.70	8.20	G	*					mg/L
n-Amyl Acetate	1666	20.70	8.20	G	*					mg/L
Benzene	524.2	3.00	0.70	G	*					mg/L
n-Butyl acetate	1666	20.70	8.20	G	*					mg/L
Chlorobenzene	524.2	3.00	0.70	G	*					mg/L
Chloroform*	524.2	0.10	0.03	G	*					mg/L
1,2-Dichlorobenzene	524.2	20.70	8.20	G	*					mg/L
1,2-Dichloroethane	524.2	20.70	8.20	G	*					mg/L
Diethyl amine	1671	255.00	100.00	G	*					mg/L
Ethyl Acetate	1666	20.70	8.20	G	*					mg/L
n-Heptane	1666	3.00	0.70	G	*					mg/L
n-Hexane	1666	3.00	0.70	G	*					mg/L
Isobutyraldehyde	1666	20.70	8.20	G	*					mg/L
Isopropyl acetate	1666	20.70	8.20	G	*					mg/L
Isopropyl ether	1666	20.70	8.20	G	*					mg/L
Methylene chloride	524.2	3.00	0.70	G	*					mg/L
Methyl formate	1666	20.70	8.20	G	*					mg/L
4-Methyl-2-pentanone	1666	20.70	8.20	G	*					mg/L
Tetrahydrofuran	1666	9.20	3.40	G	*					mg/L
Toluene	524.2	0.30	0.20	G	*					mg/L
Triethyl amine	1671	255.00	100.00	G	*					mg/L
Xylenes	1666	3.00	0.70	G	*					mg/L
Oil & Grease	1664	200		G	*					mg/L
Biochemical Oxygen Demand		****		C	*					mg/L
Chemical Oxygen Demand		****		C	*					mg/L
Total Suspended Solids		****		C	*					mg/L
Temperature		60		G	*					deg C
pH		5.5 - 11.5		G	*					S.U.
*** No flow from SP080 in 1st QTR 2016**										
Dilution by lab					NA					

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METROPOLITAN ST. LOUIS SEWER DISTRICT
2011 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->>		**080**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->>		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->>		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=						UNITS
FLOW		E	*					gal/day
1,1,1-Trichloroethane		G	*					mg/l
1,1,2,2-Tetrachloroethane		G	*					mg/l
1,1,2-Trichloroethane		G	*					mg/l
1,1-Dichloroethane		G	*					mg/l
1,1-Dichloroethene		G	*					mg/l
1,2-Dichlorobenzene		G	*					mg/l
1,2-Dichloroethane		G	*					mg/l
1,2-Dichloropropane		G	*					mg/l
1,3-Dichlorobenzene		G	*					mg/l
1,4-Dichlorobenzene		G	*					mg/l
2-Chloroethylvinylether		G	*					mg/l
Acrolein		G	*					mg/l
Acrylonitrile		G	*					mg/l
Benzene		G	*					mg/l
Bromodichloromethane		G	*					mg/l
Bromoform		G	*					mg/l
Bromomethane		G	*					mg/l
Carbon Tetrachloride		G	*					mg/l
Chlorobenzene		G	*					mg/l
Chloroethane		G	*					mg/l
Chloroform		G	*					mg/l
Chloromethane		G	*					mg/l
cis-1,3-Dicholropropene		G	*					mg/l
Dibromochloromethane		G	*					mg/l
Ethylbenzene		G	*					mg/l
Methylene Chloride		G	*					mg/l
Tetrachloroethene		G	*					mg/l
Toluene		G	*					mg/l
trans-1,2-Dichloroethene		G	*					mg/l
trans-1,3-Dichloropropene		G	*					mg/l
Trichloroethene		G	*					mg/l
Vinyl Chloride		G	*					mg/l
1,2,4-Trichlorobenzene		G	*					mg/l
2,4,6-Trichlorophenol		G	*					mg/l
2,4-Dichlorophenol		G	*					mg/l
2,4-Dimethylphenol		G	*					mg/l
2,4-Dinitrophenol		G	*					mg/l
2,4-Dinitrotoluene		G	*					mg/l
2,6-Dinitrotoluene		G	*					mg/l
2-Chloronapthalene		G	*					mg/l
2-Chlorophenol		G	*					mg/l
2-Nitrophenol		G	*					mg/l
3,3-Dichlorobenzidine		G	*					mg/l
2-Methyl-4,6-dinitrophenol		G	*					mg/l
4-Bromophenyl-phenylether		G	*					mg/l
4-Chloro-3-methylphenol		G	*					mg/l
4-Chlorophenyl-phenylether		G	*					mg/l
4-Nitrophenol		G	*					mg/l

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METROPOLITAN ST. LOUIS SEWER DISTRICT
2011 INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: __X__(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**080**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=						UNITS
FLOW		E	*					gal/day
Acenapthene		G	*					mg/l
Acenaphthylene		G	*					mg/l
Anthracene		G	*					mg/l
Benzidine		G	*					mg/l
Benzo(a)anthracene		G	*					mg/l
Benzo(a)pyrene		G	*					mg/l
Benzo(b)fluoranthene		G	*					mg/l
Benzo(g,h,i)perylene		G	*					mg/l
Benzo(k)fluoranthene		G	*					mg/l
Bis(2-chloroethoxy)methane		G	*					mg/l
Bis(2-chloroethyl)ether		G	*					mg/l
Bis(2-chloroisopropyl)ether		G	*					mg/l
Bis(2-ethylhexyl)phthalate		G	*					mg/l
Butyl benzyl phthalate		G	*					mg/l
Chrysene		G	*					mg/l
Dibenzo(a,h)anthracene		G	*					mg/l
Diethyl phthalate		G	*					mg/l
Dimethyl phthalate		G	*					mg/l
Di-n-butyl phthalate		G	*					mg/l
Di-n-octyl-phthalate		G	*					mg/l
Fluoranthene		G	*					mg/l
Fluorene		G	*					mg/l
Hexachlorobenzene		G	*					mg/l
Hexachlorobutadiene		G	*					mg/l
Hexachlorocyclopentadiene		G	*					mg/l
Hexachloroethane		G	*					mg/l
Ideno(1,2,3-cd)pyrene		G	*					mg/l
Isophorone		G	*					mg/l
Naphthalene		G	*					mg/l
Nitrobenzene		G	*					mg/l
N-nitrosodimethylamine		G	*					mg/l
N-nitrosodi-n-propylamine		G	*					mg/l
N-nitrosodiphenylamine		G	*					mg/l
Pentachlorophenol		G	*					mg/l
Phenanthrene		G	*					mg/l
Phenol		G	*					mg/l
Pyrene		G	*					mg/l
1,2-Diphenylhydrazine		G	*					mg/l
Total Toxic Organics	5.844	--	*					mg/l
*** No flow from SP080 in 1st QTR 2016**								
Lab Dilution Factor			NA					

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

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Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147 _____

Monitoring Period: __X__(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**905**			
DATES ON WHICH SAMPLES WERE COLLECTED		---->		2/22/2016			
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		10:50 AM			
	MONTHLY LIMIT (ave)	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow				
PARAMETER	(gm/day)	(gm/day)		Results mg/L	Results gm/day		UNITS
FLOW			M	35258	35258		gal/day
1,2,4-Trichlorobenzene	45	182	G	0.010	1.335		gm/day
1,2-Dichlorobenzene	45	182	G	0.005	0.667		gm/day
1,3-Dichlorobenzene	33	87	G	0.005	0.667		gm/day
1,4-Dichlorobenzene	33	87	G	0.005	0.667		gm/day
2-Nitrophenol	15	53	G	0.020	2.669		gm/day
2-Methyl-4,6-dinitrophenol	18	64	G	0.020	2.669		gm/day
4-Nitrophenol	37	132	G	0.020	2.669		gm/day
Acenapthene	4	11	G	0.010	1.335		gm/day
Anthracene	4	11	G	0.010	1.335		gm/day
Bis(2-ethylhexyl)phthalate	22	59	G	0.006	0.801		gm/day
Diethyl phthalate	11	26	G	0.010	1.335		gm/day
Dimethyl phthalate	4	11	G	0.010	1.335		gm/day
Di-n-butyl phthalate	5	10	G	0.010	1.335		gm/day
Fluoranthene	5	12	G	0.010	1.335		gm/day
Fluorene	4	11	G	0.010	1.335		gm/day
Hexachlorobenzene	45	182	G	0.010	1.335		gm/day
Hexachlorobutadiene	33	87	G	0.010	1.335		gm/day
Hexachloroethane	45	182	G	0.010	1.335		gm/day
Naphthalene	4	11	G	0.010	1.335		gm/day
Phenanthrene	4	11	G	0.010	1.335		gm/day
Pyrene	5	11	G	0.010	1.335		gm/day
1,1,1-Trichloroethane	5	14	G	0.005	0.667		gm/day
1,1,2-Trichloroethane	7	29	G	0.005	0.667		gm/day
1,1-Dichloroethane	5	14	G	0.005	0.667		gm/day
1,1-Dichloroethene	5	14	G	0.005	0.667		gm/day
1,2-Dichloroethane	41	132	G	0.005	0.667		gm/day
1,2-Dichloropropane	45	182	G	0.005	0.667		gm/day
Benzene	13	31	G	0.002	0.267		gm/day
Carbon Tetrachloride	33	87	G	0.005	0.667		gm/day
Chlorobenzene	33	87	G	0.005	0.667		gm/day
Chloroethane	25	68	G	0.010	1.335		gm/day
Chloroform	25	75	G	0.005	0.667		gm/day
Chloromethane	25	68	G	0.010	1.335		gm/day
cis-1,3-Dichloropropene	45	182	G	0.005	0.667		gm/day
Ethylbenzene	33	87	G	0.005	0.667		gm/day
Methylene Chloride	8	39	G	0.005	0.667		gm/day
Nitrobenzene	514	1470	G	0.010	1.335		gm/day
Tetrachloroethene	12	38	G	0.005	0.667		gm/day
Toluene	6	17	G	0.005	0.667		gm/day
trans-1,2-Dichloroethene	6	16	G	0.005	0.667		gm/day
trans-1,3-Dichloropropene	45	182	G	0.005	0.667		gm/day
Trichloroethene	6	16	G	0.005	0.667		gm/day
Vinyl Chloride	22	44	G	0.002	0.267		gm/day
Shaded values represent detection limits							
Lab Dilution Factor:				1	1		

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ____(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**912**		**912**		**912**	
DATES ON WHICH SAMPLES WERE COLLECTED	----->		1/14/2016		2/19/2016		3/3/2016	
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		2:20 PM		11:20 AM		3:10 PM	
		RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW						
PARAMETER	LIMIT	G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		M	57279	M	41074	M	41074	gal/day
DMAC (daily max)	7091	G	1021	G	802	G	767	lb/day
DMAC (monthly average)	5459	G	1021	G	802	G	767	lb/day
			2141		2345		2242	MG/L
Lab Dilution Factor			1		2		2	

$$\# \frac{LB}{day} \times \frac{1\ day}{FLOW\ gal} \times \frac{1\ GAL}{3.785\ L} \times \frac{1\ kg}{2.2\ LB} \times \frac{10^6\ mg}{1\ kg}$$

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Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ____(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		----->		**915**						
DATES ON WHICH SAMPLES WERE COLLECTED		----->		1/14/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED		----->		2:20 PM						
PARAMETER	MONTHLY AVG LIMIT (mg/L)	DAILY MAX LIMIT (mg/L)	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW			E	4,746						gal/day
Cyanide (Total)	9.4	33.5	G	0.007						mg/L
Nitrogen, Ammonia (as N)	****	****	G	395		mg/L				N
Diethylamine	100	255	G	5						mg/L
Triethylamine	100	255	G	10						mg/L
4-Methyl-2-pentanone	8.2	20.7	G	0.200						mg/L
Diisopropyl ether	8.2	20.7	G	0.100						mg/L
Ethyl acetate	8.2	20.7	G	0.200						mg/L
Isobutyraldehyde	8.2	20.7	G	0.200						mg/L
Isopropyl acetate	8.2	20.7	G	0.200						mg/L
m,p Xylene	0.7	3	G	0.160						mg/L
Methyl formate	8.2	20.7	G	1.000						mg/L
n-Amyl acetate	8.2	20.7	G	0.100						mg/L
n-Butyl acetate	8.2	20.7	G	0.100						mg/L
n-Heptane	0.7	3	G	0.200						mg/L
n-Hexane	0.7	3	G	0.200						mg/L
o-Xylene	0.7	3	G	0.100						mg/L
Tetrahydrofuran	9.2	3.4	G	0.400						mg/L
1,2-Dichlorobenzene	8.2	20.7	G	0.100						mg/L
1,2-Dichloroethane	8.2	20.7	G	0.100						mg/L
Acetone	8.2	20.7	G	1.000						mg/L
Benzene	0.7	3	G	0.100						mg/L
Chlorobenzene	0.7	3	G	0.100						mg/L
Chloroform	0.03	0.1	G	0.020						mg/L
Methylene Chloride	0.7	3	G	0.100						mg/L
Toluene	0.2	0.3	G	0.100						mg/L
Temperature	****	****	E	30						deg C
Shaded values represent detection limits										
Lab Dilution Factors: 1(EPA 335.4, 600 167A) 20 (EPA 600 350, 1666A, 524.2)				1, 20						

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Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**920**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		1/14/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		9:51						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	38,021						gal/day
Cyanide (Total)	9.4	33.5	G	0.007						mg/l
Tetrahydrofuran	3.4	9.2	G	0.400						mg/l
Toluene	0.2	0.3	G	0.100						mg/l
**** No limits for SP920										
Shaded values represent detection limi										
Lab Dilution Factor: 1 (Cyanide), 20 (Tetrahydrofuran, Toluene)				1, 20						

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Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**927**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->								
TIMES AT WHICH SAMPLES WERE COLLECTED		---->								
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	*						gal/day
Acetone	8.2	20.7	G	*						mg/l
Ethyl acetate	8.2	20.7	G	*						mg/l
Isopropul acetate	8.2	20.7	G	*						mg/l
Methylene chloride	0.7	3	G	*						mg/l
n-Amyl acetate	8.2	20.7	G	*						mg/l
* No flow from SP927 in 1st QTR 2016										
Not in use in 1st QTR 2016										
Shaded values represent detection limi										
Lab Dilution Factor:										

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Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		----->		**930**					
DATES ON WHICH SAMPLES WERE COLLECTED		----->							
TIMES AT WHICH SAMPLES WERE COLLECTED		----->							
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW	****	****	E	*					gal/day
Acetone	8.2	20.7	G	*					mg/L
Ethyl acetate	8.2	20.7	G	*					mg/L
Isopropyl acetate	8.2	20.7	G	*					mg/L
Methylene chloride	0.7	3	G	*					mg/L
n-Amyl acetate	8.2	20.7	G	*					mg/L
* No flow from SP930 in 1st QTR 2015									
Building not in operation									
Shaded values represent detection limit									
Lab Dilution Factor:									

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Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: __X__(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**933**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->								
TIMES AT WHICH SAMPLES WERE COLLECTED		---->								
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	*						gal/day
Acetone	8.2	20.7	G	*						mg/L
Ethyl acetate	8.2	20.7	G	*						mg/L
Isopropyl acetate	8.2	20.7	G	*						mg/L
Methylene chloride	0.7	3	G	*						mg/L
n-Amyl acetate	8.2	20.7	G	*						mg/L
* No flow from SP933 in 1st QTR 2015										
Building not in operation										
Shaded values represent detection limits										
Lab Dilution Factor:										

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Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: X (JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) ____(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		----->		**936**							
DATES ON WHICH SAMPLES WERE COLLECTED		----->		1/14/2016							
TIMES AT WHICH SAMPLES WERE COLLECTED		----->		2:20 PM							
PARAMETER	MONTHLY AVG LIMIT (mg/L)	DAILY MAX LIMIT (mg/L)	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow								UNITS
FLOW			E	13,957							gal/day
Diethylamine	100	255	G	5							mg/L
Triethylamine	100	255	G	10							mg/L
4-Methyl-2-pentanone	8.2	20.7	G	0.200							mg/L
Diisopropyl ether	8.2	20.7	G	0.100							mg/L
Ethyl acetate	8.2	20.7	G	0.200							mg/L
Isobutyraldehyde	8.2	20.7	G	0.200							mg/L
Isopropyl acetate	8.2	20.7	G	0.100							mg/L
m,p Xylene	0.7	3	G	0.160							mg/L
Methyl formate	8.2	20.7	G	1.000							mg/L
n-Amyl acetate	8.2	20.7	G	0.100							mg/L
n-Butyl acetate	8.2	20.7	G	0.100							mg/L
n-Heptane	0.7	3	G	0.200							mg/L
n-Hexane	0.7	3	G	0.200							mg/L
o-Xylene	0.7	3	G	0.100							mg/L
Tetrahydrofuran	9.2	3.4	G	0.400							mg/L
1,2-Dichlorobenzene	8.2	20.7	G	0.100							mg/L
1,2-Dichloroethane	8.2	20.7	G	0.100							mg/L
Acetone	8.2	20.7	G	1.000							mg/L
Benzene	0.7	3	G	0.100							mg/L
Chlorobenzene	0.7	3	G	0.100							mg/L
Chloroform*	0.03	0.1	G	<0.020							mg/L
Methylene Chloride	0.7	3	G	0.100							mg/L
Toluene	0.2	0.3	G	0.100							mg/L
Temperature	****	****	G	30							deg C
***Chloroform Results**	**Raw Water**	**SP936**	**SP936-Raw Water**								
	0.020	**0.020**		**<0.0200**							
Shaded values represent detection limits											
Lab Dilution Factors: 1(EPA 600 167A) 20 (EPA 600 350, 1666A, 524.2)				1, 20							

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Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		---->		**937**						
DATES ON WHICH SAMPLES WERE COLLECTED		---->		1/20/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED		---->		12:15						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	65,820						gal/day
Cyanide (Total)	9.4	33.5	G	0.007						mg/l
Tetrahydrofuran	3.4	9.2	G	0.400						mg/l
Toluene	0.2	0.3	G	0.100						mg/l
Shaded values represent detection limi										
Lab Dilution Factor: 1 (Cyanide), 20 (Tetrahydrofuran, Toluene)				1, 20						

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Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		----->		**938**						
DATES ON WHICH SAMPLES WERE COLLECTED		----->		2/16/2016						
TIMES AT WHICH SAMPLES WERE COLLECTED		----->		7:30						
PARAMETER	MONTHLY AVG LIMIT	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow							UNITS
FLOW	****	****	E	40						gal/day
Acetone	8.2	20.7	G	1						mg/L
Ethyl acetate	8.2	20.7	G	0.2						mg/L
Isopropyl acetate	8.2	20.7	G	0.1						mg/L
Methylene chloride	0.7	3	G	0.1						mg/L
n-Amyl acetate	8.2	20.7	G	0.1						mg/L
Shaded values represent detection limits										
Lab Dilution Factor:				20						

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DIVISION OF
ENVIRONMENTAL COMPLIANCE

Metropolitan St. Louis Sewer District
Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

March 29, 2016

Jeff Blaies
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Re: Wastewater User Charge Billing for Special Discharge

Dear Mr. Blaies:

This is to advise you of the wastewater user charges applicable to an on-site special discharge approved in our letter to you dated March 17, 2016. That charge was determined using the MP-2106 concentration in your application for special discharge. The discharge dates and quantities are from information submitted by you in an email dated March 22, 2016.

Our Finance Department will bill you by invoice for the charges described below. These charges are based on the rates in MSD Wastewater User Charge Ordinance 13758. For your convenience, using the volume and strength of the waste discharged, the ordinance rates have been converted to a per-gallon basis.

PARTY TO BILL: Addressee

BILLING IS FOR: On-Site Special Discharge

DISCHARGE PERIOD: March 21, 2016

SOURCE OF WASTE: Off specification batch of MP-2106 from Building 504 of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri.

Discharge Period	Billing Item	Quantity	Units	Rate	Charge
3/21/16	Extra-Strength Surcharge	2,000	Gal	$0.13	$260.00
Total:	------	**2,000**	Gal	-----	**$260.00**

Please do not pay until you receive our invoice. Payments made without invoice could potentially be misapplied.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steve Grace
Environmental Assistant Engineer

bv

ec: Doug Mendoza
Brian Gibson

File: IU, MALLINCKRODT LLC [1011728100], 3600 N. 2nd Street, St. Louis

Steve Grace

From: Blaies, Jeff T <Jeff.Blaies@mallinckrodt.com>
Sent: Tuesday, March 22, 2016 1:03 PM
To: Steve Grace
Cc: Eckles, Jonathan
Subject: FW: Time frame for discarding MP-2016 batch

Steve;
Here is the time of the MP-2106 2,000 gallon discharge. Let me know if you have any questions.

Thanks,

Jeff Blaies | Principal EHS Engineer
Mallinckrodt Pharmaceuticals
3600 N Second St | Z-4
St. Louis, MO | USA 63147
T: 314.654.2149 | M: 314.239.2736

Jeff.blaies@mallinckrodt.com | www.mallinckrodt.com

This information may be confidential and/or privileged. Use of this information by anyone other than the intended recipient is prohibited. If you receive this in error, please inform the sender and remove any record of this message.

From: Petrov, Alex N
Sent: Tuesday, March 22, 2016 12:13 PM
To: Blaies, Jeff T
Subject: Time frame for discarding MP-2016 batch

Jeff,

This is the time frame for discarding MP-2106 batch:
Start 1:00 PM on 03/21/2016
End 8:00 PM on 03/21/2016
Discharge rate -4.6 to 4.8 gallons/min

There were no issues during transferring of the batch (approx.. 2000 gallons).

Let me know if you need any additional information.

Thanks,

Alex

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

March 17, 2016

Jeff Blaies
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Dear Mr. Blaies:

We have reviewed your application dated March 15, 2016 requesting approval to discharge 2,000 gallons of wastewater to the Metropolitan St. Louis Sewer District for treatment. This wastewater consists of an off specification batch of MP-2106 from Building 504 of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri. Additional information provided indicates MP-2106 is an intermediate product for injecting into patients for image testing, and that the wastewater in question will be discharged through sampling point 010.

Based on the information you provided, this wastewater meets MSD Ordinance 12559 standards and is approved for discharge into a sanitary or combined sewer on site. **This approval is valid for 30 days from the date of this letter.**

You must be certain the waste is discharged into a sanitary or combined sewer inlet only. This letter does not authorize any discharge to a separate storm sewer, or to any watercourse, as any such discharge would be in violation of state and federal laws. **Please notify me at the number below when the discharge is to commence, and please ensure the onsite personnel discharging the wastewater in question are provided with a copy of this letter.**

For billing purposes associated with this wastewater, you must confirm the volume of this wastewater discharged to us, in writing, at the completion of the discharge. This report is due no later than 28 days after this approval expires. Please refer to this letter and include the date of the discharge when providing that figure. Under the provisions of Ordinance 13758, you will be billed by invoice at the billing rate in effect at the time of discharge. The current rate contained in MSD Ordinance 13758 is $316.19 per ton for chemical oxygen demand (COD) over 600 mg/L. Using the assumed COD concentration based on the percent of MP-2106 contained in the wastewater in question, it is estimated that you will be discharging just under one ton of COD over 600 mg/L (our quantitative estimate is 0.83 tons COD times $316.19). Please do not pay this amount until you receive our invoice.

This discharge has been approved based upon the information and sample analysis you provided, and is subject to the conditions stated above. This approval may be revoked by the District at any time if any of the information is found to be incorrect, or if the conditions of this approval are violated. Also, if the discharge causes any operational or maintenance problem within the District's collection or treatment system, or results in violations of any conditions of the District's NPDES permit, Mallinckrodt LLC will be considered responsible for damages. If you have any questions, please call me at (314) 436-8755.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace
Steve Grace
Environmental Assistant Engineer

bv

ec: Brian Gibson, Doug Mendoza
File: IU, MALLINCKRODT INC [1011728100]

C1A

SD EVALUATION CHECKLIST - ON SITE

APPLICATION INFORMATION

Source Name: Mallinckrodt LLC Evaluated by: SMG

Premise Address: 3600 N. 2nd St. Date: 3/17/16

Send approval letter to applicant

Application Dated: 3/15/16 Received: 3/15/16 All Requested Info. Received: 3/17/16

SOURCE FILING/DESCRIPTION

1 - Source in PIMS? (Y) / N |
2 - If No, on IU Cross-Ref list? * Y / N |
3 - If No, MSD Account # from E-CIS? Y / N |
4 - If none, on "Source" list (pre-IMS)? ** Y / N |
5 - If No, assigned SOUR# from PIMS. |

SOURCE TYPE (circle): (IU) / Dead IU / SD

INDUSTRY ID: 1011728100

* o:\costrecovery\cross reference xls file

** o:\costrecovery\sourlist xls file

Sample Point: No. Assigned: 845 Description: off spec MP-2106 batch from Bldg. 504

Normal WW flow from premise? (N/A) _____ ccf/month, _____GPD, _____GPH.

REGULATORY STATUS

Is waste a Hazardous Waste? (N) / Y _____

Categorical standards apply? (N) / Y _____

Contain PCB/ asbestos/ radioactive/ dioxin/ used oil? (N) / Y _____

Regulatory Agency Oversight? (N) / Y _____

DISCHARGE CONSIDERATIONS At MSD's connection:

Ordinance Limits (12559, p. 32) exceeded? (N) / Y _____

Ordinance other limits exceeded (dye, flash pt <140° F, temp >140° F, obstruction, nuisance foaming/odor, corrosion causing): (N) / Y _____

Water Quality Standard exceeded? (N) / Y _____

Fumes in sewer exceed PEL/TLV limits? (N) / Y _____

Vapors in sewer exceed 10% of LEL? (N) / Y _____

RECOMMENDATION: (APPROVE) / DENY (cc WWTP Mgr for timed discharge)

APPROVAL CONDITIONS:

Timed Discharge (COD/BOD/WQ/foam): (N) / Y Limit = _____ gal/hour

Require Treatment before Discharge? (N) / Y _____

Laboratory analysis fee due? (N) / Y $_____

SMR required? (N) / Y Frequency/analysis: _____

SMR log: (N/A) / Remediation.xls / Nonremediation.xls

Volume Billing applies (water unmetered or credited)? (N) / Y

Bill High Strength? N / (Y) Yes, If use >60,000 gal/month water ✓ and, > norm WW strgth

Surcharge calculation attached: N/A / N / (Y)

Expiration log updated: (N/A) / N / Y

O:\CostRecovery\Special Discharge\C1a.Checklist.doc

On-Site Special Discharge High Strength Flow Rate and Surcharge Calculator

1 GENERAL INFORMATION:

Date: 03/17/16
Calculated by: Steve Grace
Source name: Mallinckrodt LLC
Waste material: MP-2106 contrast imaging media solution
Discharge volume: 2,000 gallons

2 STRENGTH INFORMATION:

Sample BOD =	0	mg/l =	0	lbs BOD to be discharged
Sample COD =	100,000	mg/l =	1668	lbs COD to be discharged
Sample TSS =	100	mg/l =	for surcharge calculation only	

3 PLANT DATA: 2010

Treatment area: Bissell

	Flow (MGD)	BOD (mg/L)	COD (mg/L)	BOD (lb/hr)	COD (lb/hr)	Max Loading = 10% BOD (lb/hr)	COD (lb/hr)
Bissell	**140**	**146**	**292**	**7,113**	**14,227**	**711**	**1,423**
Coldwater	26	188	377	1,704	3,408	170	341
Fenton	5	388	776	679	1,357	68	136
Grand Glaize	16	129	405	708	2,218	71	222
Lemay	131	78	210	3,531	9,584	353	958
Lower Meramec	13	124	409	543	1,785	54	179
Missouri River	27	280	559	2,671	5,341	267	534

4 MINIMUM REQUIRED FLOW RATE:

	BOD (hours	BOD (gpm)	COD (hours)	COD (gpm)
Bissell	**0.00**	**0**	**1.17**	**28**
Coldwater	0.00	0	4.89	7
Fenton	0.00	0	12.29	3
Grand Glaize	0.00	0	7.52	4
Lemay	0.00	0	1.74	19
Lower Meramec	0.00	0	9.34	4
Missouri River	0.00	0	3.12	11

5 SURCHARGE AND VOLUME BILLING

Is volume subject to billing? no (yes/no)
Ratio of BOD/COD = 0.00

(Sample BOD) - 300 = 0 mg/l subject to surcharge
(sample COD) - 600 = 99400 mg/l subject to surcharge
(sample TSS) - 300 = 0 mg/l subject to surcharge

If BOD/COD ratio <= 0.35, the following calculations use the COD value. Otherwise they use the BOD value

Current rates under Ordinance: 13758

Volume = $ 3.21 /CcF
BOD = $ 632.38 /ton
COD = $ 316.19 /ton
TSS = $ 251.88 /ton

Flow charge = $ - based on volume = 2.7 CcF
BOD surcharge = $ -
COD surcharge = $ 262.19
TSS surcharge = $ -
Total discharge charge = $ 262.19
Customer charge = $ 262.19 DEC charges special discharge customers for total charges > $20.00
Approximate charge/gallon = $ 0.13

Comments

require volume report for billing purposes. Smg

Metropolitan St. Louis Sewer District
2350 Market Street
St. Louis, MO 63103

APPLICATION FOR SPECIAL DISCHARGE APPROVAL

I. WASTEWATER SOURCE IDENTIFICATION:

Site Name: Mallinckrodt LLC
Premise Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Owner: Mallinckrodt LLC
Contact Person: Jeff Blaies
Title: Principal EHS Engineer
Phone: 314.654.2149 Fax: 314.654.1251

II. APPLICANT (mailing information):

Applicant Name: Jeff Blaies
Title: Principal EHS Engineer
Company Name: Mallinckrodt LLC
Mailing Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Phone: 314.654.2149 Fax: 314.654.1251

III. A. MATERIAL TO BE DISCHARGED (check all applicable boxes):

1. Wastewater description/location: 2000 gallon mixture of product (MP-2106 - See SDS), Sodium Chloride, Hydrochloric Acid and Deionized Water/ Bldg 504
2. Process/activity generating wastewater: Bldg 504 Product out of specification
3. Physical and chemical composition: List all constituents, and known or potentially present regulated contaminants below.
   ☐ See separate listing enclosed, and/or ☐ See analytical results enclosed, and/or ■ Material Safety Data Sheet enclosed.

DESCRIPTION	RANGE	UNIT
MP-2106 (See SDS)	10	%
Sodium Chloride	3-4	%
Deionized Water	86-87	%

DESCRIPTION *(continued)*	RANGE	UNIT

4. Is this wastewater from a process subject to EPA's categorical standards in 40 CFR Subchapter N? ☐ Yes ☑ No
   a. If yes, the applicable standards are in: 40 CFR Part _____, Subpart _____ ☐ Existing source ☐ New source
5. Does this wastewater contain polychlorinated biphenyls, asbestos or radioactive material? ☐ Yes ☑ No
   a. If yes, describe: _____
6. Representative sample: ☐ Laboratory results attached, and/or ☐ Sample provided (1/2 gallon minimum, clear container)
   a. Sample collection point/location: _____ Collection method: _____
   b. Sampler's name/Co.: _____ Sample date/time: _____
   c. Attach chain of custody as available
7. Discharge will occur over the following time period: ■ < 30 days ☐ ≥ Two years ☐ Other: _____
   a. Expected total volume of wastewater to be discharged over the time period above: _____ Gallons
   b. Proposed discharge volume: 2000 Gallons, at a frequency of: ■ One time ☐ Daily ☐ Weekly ☐ Monthly ☐ Once/three months ☐ Once/six months ☐ Other: _____
8. Pretreatment of wastewater prior to discharge: ☐ None ■ Yes, describe: pH adjustment at main plant outfall SP010
   a. If yes, attach site plan, pretreatment system schematic, and design specifications.
9. Wastewater from a remediation project under: ☐ Superfund/CERCLA ☐ RCRA ☐ Voluntary program ☐ UST ■ Not applicable
   a. If from a remediation project, briefly describe the past and present utilization of the property: _____

III.B. MATERIAL FROM UNDERGROUND STORAGE TANK SOURCE

☒ **Not applicable (go to Section IV)**

Please answer the following questions if you are requesting to discharge wastewater associated with an underground storage tank system.

1. a. Wastewater from: ☐ Inside UST(s) ☐ UST system pit ☐ Excavation outside UST system pit ☐ Monitoring well ☐ Groundwater remediation system

   b. UST project involves wastewater from: ☐ UST(s) closed in place ☐ UST(s) removed ☐ Remediation ☐ Upgrade ☐ Maintenance activities ☐ Well monitoring ☐ Other, explain: _____

   c. If wastewater is from a closure project, how long has UST(s) been out of service: _____ years

2. a. State assigned UST site identification number: _____ ☐ Not applicable

   b. Number of USTs affected: _____ ☐ Unknown

   c. For the UST(s) involved, their state identification number(s): _____ ☐ Not applicable

   d. Service Station Identification Number, as applicable: _____

3. Tank contents/former contents: ☐ Gasoline ☐ #2 diesel ☐ Used oil ☐ Unknown ☐ Other: _____

IV. DISCHARGE LOCATION

1. ☒ On-site. Describe proposed point of entry to sewer and the discharge rate (must be a sanitary or combined sewer): _____
Plant sewer to main outfall SP010 Note: Range of discharge must not surcharge sewer line.

2. ☐ Haul to MSD Bissell Point Hauled Waste Receiving Station at 10 E. Grand, St. Louis, MO.

   a. Transporters Name: _____ and MSD Hauler ID Number: _____

   b. Hazardous Waste Certification:

   For wastewater which is hauled to MSD's Bissell Point Hauled Waste Receiving Station, I hereby certify that to the best of my knowledge and belief, the above hauled waste is not classified as a RCRA "hazardous waste" as defined by the MDNR in 10 CSR 25 or USEPA in 40 CFR Part 261.

   Applicant Name (print): _____

   Signature: _____ **Date:** _____

ADDITIONAL INFORMATION:

_____

V. APPLICANT SIGNATURE AND CERTIFICATION

This application must be signed by the applicant: either the source contact, or a contractor or agent directly responsible for site activities.

I hereby certify that I am directly responsible for activities at the site regarding the wastewater to be discharged, and to the best of my knowledge and belief, based on appropriate inquiry, the information in this application is true, complete, and accurate. The samples or analyses submitted are representative of the materials to be discharged. If granted approval to discharge, I agree to abide by the MSD Ordinances, and all applicable federal, state and local regulations. I agree to pay the costs of any pre-approval analyses performed by MSD and to pay any applicable disposal charges for the volume and strength of the wastes discharged.

Applicant Name (print): Jeff Blaies

Signature: Jeff Blaies **Date:** 03/15/2016

FOR MSD USE ONLY:

File Name: Mallinckrodt LLC ID No. 1011728100 Sample Point No. 845

Doug Mendoza

From: Doug Mendoza
Sent: Tuesday, March 01, 2016 2:43 PM
To: 'McAllister, Bill'
Subject: RE: MWEA Industrial Pretreatment Awards
Attachments: St Louis MSD's MWEA Industrial Awardees for 2015.xlsx

Bill,

Here are St. Louis' nominations for Industrial awards. Note that the platinum awardees also are gold awardees.

Doug

From: McAllister, Bill [mailto:bmcallister@burnsmcd.com]
Sent: Tuesday, January 26, 2016 5:29 PM
To: Bill Jacobs-Wentzville; Craig Perry; David Erwin-Jeff City WWTP; David Sims-Monett; David Weant; Denise Burkett; Dennis Ottman-Fenton; Doug Mendoza; Dustin Sterling; Dwayne Linch; gblakey@cityofmoberly.com; Gene Stanton; Jeff Stephens-Carthage; Jimmy Coles; John O'Dell; Karla Pierce; Kent Spainhour (kent.spainhour@yahoo.com); Kevin Devenport; Lisa O'Dell; Lynn Calton; Mark Grose-Sedalia; Orvil Maples-Aurora; Phil Adlich-Warrensburg; Randy Lyman-Springfield; Richard Stephan-O'Fallon; Rick Bailey-Marshall; Robert Schaffer; Ronnie Smith; SGuthrie@peopleservice.com; Sherri Irving; Steve Schweitzer-St. Louis; Susan Haywood; Water Fett-MDNR; Wendy Dalton
Cc: Karla Pierce
Subject: FW: MWEA Industrial Pretreatment Awards

Since I have added many names to my Industrial Pretreatment Coordinators List provided to me by Karla Pierce, I decided to resend the pretreatment awards announcement & criteria documents to the coordinators. For those of you that previously received this email, you may ignore it. For those seeing this email for the first time, please review the instructions below and the attached documents. I again thank everyone for their help.

Attached are the documents for the Industrial Pretreatment Awards including the nomination form. As a reminder, if you have over 10 nominations, please place the necessary information on an Excel spreadsheet. Please include the current nominee's contact information including current email address.
Please provide the required information by February 19. If you will require more time than February 19, please let me know.

If you have any questions, please let me know.

Bill

William (Bill) McAllister, P.E.
Project Manager
(816) 822-3031 (Office)
(816) 591-7993 (Cell)
bmcallister@burnsmcd.com

From: McAllister, Bill
Sent: Thursday, January 07, 2016 9:07 AM
To: Bill Jacobs-Wentzville; David Erwin-Jeff City WWTP; David Sims-Monett; Denise Burkett; Dennis Ottman-Fenton; Doug Mendoza-St. Louis; gblakey@cityofmoberly.com; Jeff Stephens-Carthage; Jimmy Coles; Karla Pierce; Kent

Award	Industry Name	Premise Address
GOLD 2	LAIRD TECHNOLOGIES	3481 Rider Trail South
SILVER	LAMBERT-ST LOUIS INTERNATIONAL AIRPORT	10701 Lambert International Blvd.
SILVER	LEE BIOSOLUTIONS INC	10850 Metro Ct.
SILVER	LMC INDUSTRIES	100-110 Manufacturers Dr.
GOLD 1	LOUISA FOOD PRODUCTS INC	1918 Switzer
SILVER	MADISON FARMS BUTTER COMPANY	4112 Papin St.
GOLD 1	MALLINCKRODT LLC	2703 Wagner Place
SILVER	MALLINCKRODT LLC	3600 N 2nd St
PLATINUM	MALLINCKRODT LLC	385 Marshall Ave.
PLATINUM	MARK ANDY INC	18081 Chesterfield Airport Road
GOLD 1	MERIDIAN MEDICAL TECHNOLOGIES	2555 Hermelin Dr.
GOLD 2	MERRELL BROS INC ST LOUIS DISPOSAL	6400 McKissock Ave.
SILVER	METAL CONTAINER CORPORATION	42 Tenbrook Industrial Court
SILVER	MICROFINISH CO INC	8353 Courtney Ave.
SILVER	MICROFINISH IPC LLC	4001 Gratiot Street
SILVER	MISSOURI METALS LLC	9970 Page Avenue
GOLD 4	MISSOURI PLATING	2501 Texas Ave
GOLD 1	MONSANTO COMPANY	700 Chesterfield Parkway West
PLATINUM	MONSANTO COMPANY	800 N. Lindbergh Boulevard
GOLD 1	NESHER PHARMACEUTICALS (USA) LLC	2303 Schuetz Road
SILVER	NESTLE PURINA PETCARE CO	901 Chouteau Ave.
GOLD 3	OBCORP LLC	1900-1910 Crystal Industrial Court
GOLD 1	ORIGINAL CAST LIGHTING INC	11902 & 11888 Lackland Rd.
PLATINUM	PATHEON BIOLOGICS LLC	4751 & 4777 LeBourget Drive/ 4766 LaGuardia Drive
SILVER	PAULO PRODUCTS COMPANY	5711 West Park Ave
PLATINUM	PD INTERNATIONAL LLC	2629-35 S. Hanley Rd.
GOLD 1	PEPSI BEVERAGES COMPANY	One Union 70 Center Drive
GOLD 4	PERFORMANCE POWDER COATING	8838 Frost Ave.
SILVER	PM RESOURCES INC	13001 St. Charles Rock Road
PLATINUM	PQ CORPORATION	4238 Geraldine Ave
GOLD 1	PRECOAT METALS	4301 South Spring Ave.
PLATINUM	PROCTER & GAMBLE MFG COMPANY	169 E. Grand Avenue
SILVER	REICHHOLD LLC 2	249 St. Louis Avenue
SILVER	RELIABLE BIOPHARMACEUTICAL CORP	1945 Walton Road
SILVER	SENSIENT COLORS INC	2515 N. Jefferson Ave.
SILVER	SENSORY EFFECTS FLAVOR SYSTEMS	231 Rock Industrial Park Dr
GOLD 1	SIGMA ALDRICH MFG LLC	3500 Dekalb St
SILVER	STANDARD MACHINE & MFG CO	10014 Big Bend Blvd
SILVER	STANGE COMPANY	2324 Weldon Parkway
GOLD 1	STERICYCLE INC	6240 McKissock
SILVER	STERIS CORP ST LOUIS OPERATIONS	7373 - 7525 Page Ave
GOLD 4	SUNNEN PRODUCTS COMPANY	7910 Manchester Road
GOLD 1	THEISS PLATING CORP	9314 Manchester Road
GOLD 3	TRIGEN - ST LOUIS ENERGY CORP	1 Ashley Place
GOLD 1	TRUCK TRANSPORT INC	119 E Loughborough Avenue
GOLD 3	UNITED PARCEL SERVICE AIR CARGO FACILITY	6097 McDonnell Blvd
SILVER	VALLEY TECHNOLOGIES INC	555 St. Louis Avenue
GOLD 1	VI-JON LABORATORIES INC	8515 Page Ave
SILVER	YOUNG DENTAL MANUFACTURING CO	13705-13733 Shoreline Ct. East

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

March 1, 2016

Jonathan Eckles
Principal EHS Engineer
MALLINCKRODT LLC
3600 N. Second St.
St. Louis, MO 63147

RE: Approval to Discharge: ProSweet (H_2S Scavenger)
Discharge Permit No: 1011728100 - 2
For premise at: 3600 N. Second, 63147

Dear Mr. Eckles:

We have reviewed your request regarding the appropriateness of using and discharging an H_2S scavenger (ProSweet) from your facility to the Metropolitan St. Louis Sewer District. We have also reviewed the Material Safety Data Sheet. We understand that this product is designed to react with sulfides in the wastewater and will be introduced into the stream where the reaction will yield stable liquid phase reactants. One concern we had was that the MSDS shows relatively low exposure limits presented in terms of aerosols and inhalable fractions but during a brief conversation you explained that the product will not be sprayed/atomized into the atmosphere but introduced directly into the stream.

We understand that the planned discharge is approximately 21 gallons per day of this solution, which is made up of 46-60% Glyoxal and 1-2.5% Ethylene Glycol. This mixture will be conveyed through your wastewater system and Sample Point 010 (MH w/square lid 50' N of neutralization control building at Hall & Salisbury) that connects to the combined sewer system. Our records show the estimated flow at this sampling point is ~740K gpd, which equates to a concentration of approximately 28.5 ppm of the ProSweet product if it does not react with sulfides in the water, and a lesser concentration after reaction.

Based on the information you provided, it appears that the addition of this wastewater to the effluent from your facility would result in a total facility effluent which would meet the standards of MSD Ordinance 12559.

There are a number of factors which can affect the compliance of the facility effluent with federal standards and MSD Ordinance 12559 standards, and it is the user who has the responsibility to maintain the facility in compliance with those limits. This letter is not intended to allow discharge of any material that would cause a violation of federal standards or the ordinance.

Thank you for your assistance in helping us to comply with state and federal regulations. If you have any questions, please contact me at 314.436.8756.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Tom Boehm
Environmental Engineering Associate

cc: Doug Mendoza

Tom Boehm

From:	Eckles, Jonathan <Jonathan.Eckles@mallinckrodt.com>
Sent:	Friday, February 26, 2016 10:53 AM
To:	Scott Rehmer; Tom Boehm
Subject:	H2S Treatment
Attachments:	ProSweet Ltr to MSD.pdf; PROSWEET OC2543 SDS.pdf; Prosweet OC2543.pdf

Mallinckrodt
1011 728100

Hello Tom & Scott,

I wasn't sure who to send this to, so please let me know if I should send it to someone else at MSD.

Attached is the request for MSD concurrence regarding the treatment of H2S in our sewers using a sulfide scavenger. From what I understand this product should pose no harm to the treatment plant or employees, and in fact may continue to control H2S generation downstream of our facility.

Please let me know if you have any questions or concerns. We would like to start treatment as soon as possible.

Thank You,
Jonathan

Jonathan Eckles, CHMM
Principal EHS Engineer
Mallinckrodt Pharmaceuticals
3600 North Second Street I St. Louis, MO, 63147
T: 314.654.0138 I C: 314.267.1812 | F: 314.654.1251
www.mallinckrodt.com

Mallinckrodt LLC
Pharmaceuticals

1011728100

February 26th, 2016

Mr. Doug Mendoza
Metropolitan St. Louis Sewer District
Department of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147

Re: Request for Approval to Use a Sulfide Scavenger to Control H_2S for Mallinckrodt St. Louis Plant: Permit No. 1011728100-2

Dear Mr. Mendoza,

The Mallinckrodt plant, located in downtown St. Louis, has been experiencing some issues with hydrogen sulfide (H_2S) generation in parts of the facility sewer system. We have been unable to locate the source of the sulfide or eliminate the environment that produces the H_2S in the sewer system.

Mallinckrodt has identified a sulfide scavenger - ProSweet, which can be added to the sewers near the source of the issue, that significantly reduces the H2S generated. The ProSweet product is a non-amine based sulfide scavenger that forms stable, nontoxic, liquid-phase reaction products. A copy of the literature and SDS for ProSweet is enclosed.

ProSweet would be continuously injected into the sewer at two locations, using metering pumps, based on sulfide monitoring results (from GE Odalog meter). Initial ProSweet dosage, based on monitoring results, is expected to be about 21 gallons per day. Total site flow at SP010 is approximately 1.1 MGD, so the resulting ProSweet concentration would be about 24 ppm (assuming no reaction). The dosing may be adjusted periodically based on sulfide readings. (~19ppm)

If you have any questions or require more detailed information, please contact me at 314-654-0138 or via email at jonathan.eckles@mallinckrodt.com.

Sincerely,

Jonathan Eckles
Principal EHS Engineer

ENCLOSURES

MALLINCKRODT
3600 NORTH SECOND STREET
ST. LOUIS, MO 63147

TELEPHONE: 314-654-2000
FAX: 314-654-1251

GE Power & Water
Water & Process Technologies

Fact Sheet

ProSweet* OC2543

Odor Control Agent

- Highly effective hydrogen sulfide (H_2S) scavenging agent
- Reacts with H_2S and mercaptans to form stable reaction products
- No solid precipitates formed

Description and Use

ProSweet* OC2543 is a GE application patented non-amine based sulfide scavenger that complexes malodorous H_2S and mercaptans in water and wastewater streams. ProSweet OC2543 reacts with H_2S and mercaptans in water streams to form stable, liquid phase reaction products. Compared with traditional amine based sulfide scavenger, ProSweet OC2543 offers the benefits of effectiveness at broader pH range, a faster scavenging reaction rate, and a lower toxicity to wastewater treatment processes such as activated sludge systems making it a more effective sulfide scavenging agent.

ProSweet OC2543 is effective in scavenging H_2S and mercaptans from wastewater streams in steel, food, paper, refining and automotive industries, as well as in municipal applications.

Treatment and Feeding Requirements

Proper treatment levels for ProSweet OC2543 depend on many factors such as stream flow rate or system volume, application point and H_2S concentration in air and water. Assessment of these factors will aid the GE representative in recommending treatment rates, control procedures, and specific application points.

For optimum performance, ProSweet OC2543 may be base fed continuously or controlled by an appropriate variable signal (i.e., flow rate, ambient air H_2S concentration, etc.). If fed to a full flowing pipe, an injection quill is recommended. If fed to an open channel, no special equipment is required other than a metering pump.

For best treatment performance, any GE odor control programs for sulfide scavenging should be evaluated by monitoring H_2S in the air at selected locations using an approved H_2S monitoring device.

ProSweet OC2543 is compatible with wide range of materials including copper, brass, stainless steel, most plastics, Teflon and Viton (Teflon and Viton are registered trademark of DuPont). The use of mild steel is not recommended. Consult your GE representative for more information in the selection of tanks, pumps and fittings.

General Properties

Physical properties of ProSweet OC2543 are shown on the Material Safety Data Sheet (MSDS), a copy is available upon request.

Packaging Information

ProSweet OC2543 is a liquid blend. Consult your GE representative for delivery and container options.

Safety Precautions

A Material Safety Data Sheet containing detailed information about this product is available on request.

Find a contact near you by visiting www.ge.com/water and clicking on "Contact Us".

* Trademark of General Electric Company; may be registered in one or more countries.
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pfw2036.doc Sep-10

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

January 29, 2016

Jonathan Eckles
Principal EHS Engineer
MALLINCKRODT LLC
3600 N. Second Street
St. Louis, MO 63147

RE: Failure to Show Compliance – WASTEWATER DISCHARGE PERMIT NO. 1011728100-2
For premise at: 3600 N. Second Street, 63147

Dear Mr. Eckles:

We have received the fourth quarter 2015 self-monitoring report, required under the permit referenced above. Unfortunately, and as you already have informed us, we have identified the following violation:

VIOLATION OF PERMIT TERMS/CONDITIONS:

- MSD Ordinance 12559, Article VIII, Section 4, Part G – requires the following: "If any sampling performed by a user using the methods specified in Article X, Section Two produces an analytical result that is reported as "not detected," where the detection limit is **greater** than the applicable limitation, the user shall notify the Director and resample in the same manner as in paragraph F of this Section. Resampling must be completed within the same reporting period as the original sampling in order for the user to fulfill its self-monitoring requirements."

  At sample point **933**, your fourth quarter 2015 self-monitoring report had a reported value for ethyl acetate (<10 mg/L) that was above the monthly average limit (8.2 mg/L). This represents a **"failure to perform self-monitoring in order to demonstrate compliance."**

REQUIRED ACTION/RESPONSE:

You have reported that your facility "will resample first quarter 2016 to confirm." In addition, please inform and work with your testing lab in order to reach lower detection limits. Please keep us informed of your progress.

Thank you for helping us to comply with state and federal regulations. If you have any questions, please contact me at 314.436.8756.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

SM Rehmer

Scott Rehmer, Assistant Engineer

cc: Doug Mendoza

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

January 28, 2016

Jonathan Eckles, Principal EHS Engineer
MALLINCKRODT LLC
3600 N. Second Street
St. Louis, MO 63147

RE: NOTICE OF VIOLATION – WASTEWATER DISCHARGE PERMIT NO. 1011728100-2
For premise at: 3600 N. Second Street, 63147

Dear Mr. Eckles:

As you have informed MSD by phone on 10-20-2015, and as confirmed by your self-monitoring report received on 01-25-2016, we have identified the following violation:

VIOLATION OF DISCHARGE LIMITATIONS:

DATE	TIME	SAMPLE POINT	SAMPLE TYPE	POLLUTANT	DISCHARGE LIMIT	LIMIT TYPE	VALUE FOUND
10-11-15	1350	008	Grab	Oil & Grease (T)	200 mg/L	IN	1010 mg/L**

Sample Point 008 is the Overflow chamber on N side of pump station on W side of storage pad T
mg/L = milligrams per liter IN = Instantaneous T = Total substance
See enclosure for explanation of asterisks which appear in the Value Found column.

REQUIRED ACTION/RESPONSE:

No further action or response is required. On 10-26-2015, we have received your corrective action report for the Oil & Grease exceedance, which explained the unexpected power outage, and investigation of the potential contents in the sewer line. On 01-25-2016, we have received your self-monitoring report which included the exceedance and four samples showing a return to compliance, dated from 10-12-2015 through 12-26-2015.

Refer to the enclosure for additional information on:

a. Potential enforcement actions should noncompliance continue
b. The meaning of the asterisks that appear in the Value Found column above
c. Percentages applicable to Significant Noncompliance, when planning for additional sampling

Thank you for helping us to comply with state and federal regulations. If you have any questions, please contact me at 314.436.8756.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

SM Rehmer

Scott Rehmer, Assistant Engineer

Enclosures: SNC enclosure

cc: Doug Mendoza

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL FACILITY INSPECTION REPORT

Company: Mallinckrodt, LLC Account #: 1011728100
Premise Address: 3600 N. 2nd St. Zip Code: 63147
MSD Classes: SIU ☒ Non-Significant CIU ☐ CIU ☒ Surcharge ☒ Non-Toxic Process Water/Wastes ☐
Toxics-Bearing Waste ☒ No Process Discharge ☐ Multi-User ☐ Special Handling/Billing ☐
Company Representative: Jonathan Eckles
Title: Principal EHS Engineer Phone#: 314.654.0138
Inspector: Tom Boehm
Others Present: Jeff Blaies - EHS Manager - 314.654.2149
Inspection Date: **1/26/16** Time: From 08:00 am To 12:00 pm (Last Insp. 12/29/14)

NOTE: ALL ITEMS ARE TO BE COMPLETED BASED ON EVENTS SINCE LAST INSPECTION. ANSWERS ARE BASED ON INFORMATION OBTAINED OR PROVIDED BY COMPANY DURING INSPECTION, AS WELL AS INFORMATION IN FILE.

***** DATABASE ALSO UPDATED WITH APPROPRIATE CHANGES - see attached database reports *****

1. A. ARE THERE ADDITIONAL NON-STORMWATER ACCOUNT NUMBERS? Yes☐ No☒
   List them, note any changes: _____
   B. Were any changes (including to the primary or changes only to suffixes) for acct no's with RFs? NA☐ Yes☐ No☒
   C. If yes to B, was Cost Recovery Unit informed of the change(s)? NA☐ Yes☐ No☐
   D. Did all acct no's have water usage on PIMS? Yes☒ No☐
   E. If no to D, explain: _____

2. PROCESSES & CLEANUP/WASHDOWN:

	Cont/ Batch?	Water/ Liquids Used?	DISCHARGE Frequency (or how else disposed?)	Sample pt.
Pharmaceutical mnfg via extraction (and associated washdown) (439 Sub B)	Batch	Yes	Daily	927, 930, 933, > combo sewer
Stearate mnfg (and associated washdown) (414 Sub G&H)	Batch	Yes	Daily	905> combo sewer
Imaging compound mnfg (non-radioactive contrast media) (and associated washdown)	Batch	Yes	Daily	912> combo sewer
Inorganic (salts) compound mnfg (and associated washdown)	Batch	Yes	Daily	010> combo sewer
Pharmaceutical mnfg via mixing/compounding (and associated washdown) (439 Sub D)	Batch	Yes	Daily	938, > combo sewer
Pharmaceutical mnfg via chemical synthesis (and associated washdown) (439 Sub C)	Batch	Yes	Daily	080, 915, 920, 936, 937, > combo sewer
Pharmaceutical - lollipop type single dose preparation (and associated washdown)	Batch	Yes	Daily	938> combo sewer
QC and R+D lab wastewater	Batch	Yes	Daily	003,005,010, 080, 099> combo sewer
Ground water (from FUSRAP radioactive soil excavation)	Batch	Yes	Daily	809> combo sewer
Kitchen waste	Batch	Yes	Daily	010> combo sewer
Peptide Mnfg (and associated washdown)	Batch	Yes	Daily	010> combo sewer

3. PRETREATMENT (other than grease traps) - describe:

	Sample pt.
pH adjustment	005, 010, 080, 905, 912, 930, 933
Steam stripping (PEG systems)	920, 937, 010
Oil/water separator	003, 010
Filtration	809, 927
Chemical precipitation	809, 905
Filter press	905
Carbon absorption	809
Settling	809
Micro-screening	010

4. DOES COMPANY HAVE ANY GREASE TRAPS? Yes☒ No☐

If yes:
- A. List sample points: 010
- B. What is the frequency for cleaning & maintenance? Quarterly
- C. Are any additives used in traps? Yes☐ No☒
- D. If yes to C, was company warned MSD will bill them for blockages they cause? Yes☐ No☐
- E. Was company informed that MSD performs separate grease trap inspections? Yes☒ No☐

5. HAS COMPANY CONSTRUCTED NEW BLDGS/ADDITIONS WITH SEWERS SINCE LAST INSPECTION? Yes☐ No☒

If yes:
- A. Ask company: Did they notify MSD's Plan Review group? Unknown☐ Yes☐ No☐
- B. If no or unknown, has inspector notified Plan Review group? Yes☐ No☐
- C. Comments: _____

6. HAS COMPANY BEGUN DISCHARGING ANY NEW POLLUTANTS SINCE THE LAST INSPECTION? Yes☐ No☒

If yes:
- A. List pollutants & process: _____
- B. Will MSD STP exceed existing NPDES discharge limit(s)? Yes☐ No☐
- C. Will MSD STP's discharge exceed 0.1 mg/l for any new pollutant? Yes☐ No☐
  (MSD must notify MDNR if B or C is yes and discharge will continue [40CFR122.42(b)].)
- D. Comments: _____

7. ARE THERE ANY FEDERALLY REGULATED (40 CFR 405-471) OPERATIONS THAT ARE "NOT APPLICABLE"? Yes☒ No☐
(including those that are 'No PSES' and 'General Stds Only')

If yes:
- A. List regulation & describe operations (including any discharge):
  40 CFR 439 Sub E - N/A
- B. Explain why it is N/A: No limits in CFR;

8. ARE THERE ANY FEDERALLY REGULATED (40 CFR 405-471) OPERATIONS SUBJECT TO DISCHARGE LIMITS? Yes☒ No☐

If yes:
- A. List regulation & describe operations (including any discharge):
  40CFR439 Sub B, C, D (PSES); pharma synsthesis, extraction, mixing/compounding; 414 Sub G&H PSES - stearates, discharged to sewer;
- B. Is maximum daily categorical discharge ≤ 100 GPD? (includes batch discharges) Yes☐ No☒

If yes to B:
- C. Batch ☐ or Continuous ☐? Volume verified how? _____
- D. Does company ever discharge untreated, concentrated categorical wastewater? Yes☐ No☐
- E. Was company in SNC during any part of the previous **24** months? Yes☐ No☐
- F. Date of last NSCIU Certification Statement: _____ or not currently NSCIU ☐
  (If no to B, yes to D or E, or Cert. Statement not submitted as required, company is not eligible to be an NSCIU)

9. HAS COMPANY CERTIFIED TO THE ABSENCE OF SPECIFIC CATEGORICAL POLLUTANTS? Yes☒ No☐
(New certification also is required for each permit renewal)

If yes: A. Certification date: 05/17/15

B. Pollutants accepted by MSD as absent: Diethylamine, triethylamine, acetone, ethyl acetate, isopropyl alcohol, n-amyl acetate, methylene chloride

C Were any requested "absent" pollutants rejected by MSD? Yes☐ No☒

If yes to C: D. List them and explain why: _____

E. Were all the accepted pollutants non-detect in all monitoring since certification was approved? Yes☒ No☐
(If compared to intake water levels, explain details below)

If no to E: F. Explain: _____

G. Does Wastewater Discharge Permit need to be updated to remove detected pollutants? Yes☐ No☐

H. Comments: _____

10. DOES CATEGORICAL WASTEWATER COMBINE WITH NON-CATEGORICAL WW PRIOR TO SAMPLING? Yes☐ No☒

If yes: A. At which points? _____

B. Current applied factor: _____ Is it correct? Yes☐ No☐

C. If no, list correct factor/explain? _____

11. IS ANY WASTEWATER SUBJECT TO PRODUCTION ☐ OR MASS ☒ BASED STANDARDS? Yes☒ No☐

If yes: A. At which points? 905, 912

B. Since calculation of the current limits, has the long term avg production rate or discharge volume changed by 20% or more? Yes☐ No☒

C. If yes to B, explain: _____

12. ARE ANY RADIOACTIVE MATERIALS HANDLED? Yes☒ No☐

If yes: A. Describe operations & disposal: Soil/groundwater remediation by Corps of Engineers

B. If non-exempt & disposed to sewer, does company submit quarterly reports to MSD? NA☐ Yes☒ No☐
(If No to B, write company & require quarterly reports of discharge to sewer – or have permit revised as needed)

C. Amount discharged in most recent four complete calendar quarters: 0.0 mCi

D. Is company in compliance with requirements of sewer use ordinance prohibition? Yes☒ No☐

13. DOES COMPANY GENERATE WASTES/WASTEWATER BY GENETIC ENGINEERING RESEARCH? Yes☐ No☒

If yes: A. Does company render wastes/wastewater innocuous? Yes☐ No☐

B. If yes, describe how: _____

C. Does company have MSD authorization for disposal to sewer? NA☐ Yes☐ No☐

D. Most recent authorization date: _____

14. DOES PROCESS or P&E WASHDOWN WATER USE APPEAR EXCESSIVE? Yes☐ No☒
(IS COMPANY USING DILUTION TO MEET DISCHARGE LIMITATIONS?)

A. Explain how use was verified & any needed changes:
Pharma processes require large amounts of water for P+E wash; no excess usage noted during inspection;

15. BASED ON OBSERVATIONS DURING INSPECTION, DOES COMPANY APPEAR TO HAVE SOME WATER THAT IS NOT DISCHARGED TO SEWER? Yes☒ No☐

If yes: A. Describe: In-product, evap, hauled

B. Was "Return Factor Program" brochure given to company? Yes☒ No☐
(regardless of whether some water is not discharged to sewer)

16. HAS COMPANY BEEN GRANTED A VARIANCE FROM DISCHARGE LIMITATIONS CONTAINED IN THE SEWER USE ORDINANCE? Yes☐ No☒

If yes: A. Pollutant(s) and variance limit: _____

B. Latest approval date: _____

C. Is the approved variance more than 5 years old? Yes☐ No☐
(If yes to C, a new variance must be requested – write company)

17. HAVE ANY NUMERICAL LIMITATIONS BEEN APPLIED TO COMPANY, IN ADDITION TO THOSE ALREADY CONTAINED IN THE SEWER USE ORDINANCE? Yes☐ No☒

If yes: A. Pollutant(s) and discharge limit: _____

B. Date originally applied: _____, or as part of variance above? ☐

18. HAS COMPANY EXCEEDED ORDINANCE DISCHARGE LIMITS SINCE LAST INSPECTION OR WITHIN THE LAST 12 MONTHS (if last insp <12 months ago)? Yes☒ No☐

If yes: A.

Pollutant	When	Sample Points	Is problem resolved? Y/N	Describe
Oil/Grease (T)	10/11/15	008	Yes	They believe it was an anomaly, no source found; follow-up sampling showed return to compliance;
pH	12/26/15 + 12/29/15	008	Yes	Automatic pretreatment was bypassed because of a broken pipe; they manually pretreated the DI units (3) backflush while the pipe was being repaired; multiple other pH results showed return to compliance;
			N/A	
			N/A	
			N/A	

B. Comments: _____

19. HAS COMPANY EXCEEDED CATEGORICAL PRETREATMENT LIMITS SINCE THE LAST INSPECTION OR WITHIN LAST 12 MONTHS (if last insp <12 months ago)? NA☐ Yes☐ No☒

If yes: A.

Pollutant	When	Sample Points	Is problem resolved? Y/N	Describe
			N/A	
			N/A	
			N/A	
			N/A	
			N/A	

B. Comments: _____

20. HAVE THERE BEEN ANY PROBLEM DISCHARGES SINCE LAST INSPECTION? Yes☒ No☐

If yes: A. Upsets? ☐ Bypasses of pretreatment facilities? ☒

Spills? ☐ Slug discharges? ☐ Other? Accidental discharges

B. Explain any marked: 01/06/15, 02/18/15, 03/27/15, 05/19/15, 05/21/15, 07/31/15, 09/17/15, 10/20/15, 10/26/15, 12/28/15; (see comments for explanations)

21. COULD SPILLS OR LEAKS OF ANY PROCESS TANKS, OR STORAGE TANKS, OR STORED WASTES, OR STORED CHEMICALS EASILY REACH SANITARY SEWERS OR STORM DRAINS? Yes☐ No☒

If yes: A. What needs to be done?

_____

If no: B. How are they controlled?

Larger volumes of process materials are stored in AST farms that are contained; they have emergency response materials and personnel trained to respond, if needed;

22. BASED ON OBSERVATIONS DURING INSPECTION, ARE THERE ANY AREAS WHERE COMPANY ACTIVITIES APPEAR TO IMPAIR STORMWATER RUNOFF? Yes☐ No☒

If yes: A. Describe: Outdoor AST farms and truck pads are contained; no major staining trails noted;

B. What needs to be done? _____

C. Was "Illicit Stormwater Discharges" brochure given to company? (regardless of whether there are any problem areas) Yes☒ No☐

23. DOES COMPANY HAVE ANY WRITTEN SLUG DISCHARGE CONTROL (INCLUDES SPILLS) PLANS [40CFR403.8(f)(2)(vi)]? Yes ☒ No ☐

If yes: A.

	Title (actual title, NOT "SPCCP")	Last Update
1.	Mallinckrodt Pharma SPCCP	09/00/12
2.	Mallinckrodt Spill & Slug Discharge Control Plan	3/1/10

B. Were Plans reviewed for completeness, especially regarding batch discharges/slugs and Q.19/20/21? (must be done) Yes ☒ No ☐

C. Are updates needed to existing Plans? (If yes, write company & require) Yes ☐ No ☒

D. Are any Plans needed (either in addition to those listed in Part A, or if there currently are no written control plans)? (If yes, write company & require) Yes ☐ No ☒

E. Explain why/why not for C or D: Larger volumes in AST farm containment; short term storage of process materials staged for use will be controlled with absobants/pigs in spill kits;

24. DOES COMPANY HAVE ANY MAINTENANCE SHOP PARTS WASHERS? Yes ☒ No ☐

If yes: A. Parts washer solvent name: Mineral spirits (3)

B. Priority pollutants (or "none"): Typically BTEX

C. How is spent solvent disposed? Hauled

(These solvents are not included in database's priority pollutants list, nor monitored for unless conditions show potential discharges)

25. ARE ANY ORGANICS OR SOLVENTS USED (OTHER THAN IN PARTS WASHERS)? Yes ☒ No ☐

If yes: A.

Solvent name/ components	Used for?	413/433/469 Process?	How disposed?	Priority Pollutant?
See list attached to IDS	In process or for cleaning	Yes ☐ No ☒	Sold in product, hauled;	Yes ☒ No ☐
		Yes ☐ No ☐		Yes ☐ No ☐
		Yes ☐ No ☐		Yes ☐ No ☐
		Yes ☐ No ☐		Yes ☐ No ☐
		Yes ☐ No ☐		Yes ☐ No ☐
		Yes ☐ No ☐		Yes ☐ No ☐

26. DOES COMPANY HAVE A 413/433/469-REGULATORY "SOLVENT MANAGEMENT PLAN"? Yes ☐ No ☒

(Applies if co. has 413/433/469 processes, whether or not solvents used)

If yes: A. Is it part of a Spill/Slug Control Plan listed above? Yes[1. ☐ 2. ☐] No ☐

B. If no to A, date of last update for SMP: _____

C. Is there a copy of the Spill/Slug Plan or SMP in the files? Yes ☐ No ☐

D. Does SMP address all 413/433/469 solvents? (or verify "none" ☐) Yes ☐ No ☐

(If no to C or D, write company and require submittal and/or update)

27. ARE EMERGENCY NOTIFICATION PROCEDURES POSTED THAT INCLUDE MSD CONTACTS? Yes ☒ No ☐

A. Was company provided notification cards & told to post where emergency response personnel can locate them? Yes ☒ No ☐

(Must post if company generates process wastewater or stores chemicals of concern)

28. IS COMPANY REQUIRED TO SELF-MONITOR ANY OF THEIR DISCHARGES? Yes ☒ No ☐

If yes: A. Is requirement contained in permit ☒ or other document ☐.

B. If other document, date & description: _____

C. How frequently is sampling required? Quarterly

D. How frequently are reports required? Quarterly

E. Have reports been on-time, complete & signed by proper person? Yes ☒ No ☐

F. If no, explain:

29. DOES COMPANY SELF-MONITOR ITS WASTEWATER DISCHARGE? Yes☒ No☐

If yes:
- A. Does sample collection time period match co's production shifts? Yes☒ No☐
- B. Are representative grab/comp samples collected? Yes☒ No☐
- C. Are EPA-approved 40 CFR 136 wastewater test methods used? Yes☒ No☐
- D. Does company measure pH and/or temperature itself? Yes☒ No☐
- If yes: E. Have the company show equipment and procedure (meters, calibration stds, etc.). Is measurement performed properly? Yes☒ No☐
- F. If no to A,B,C, or E, explain needed changes: Calibration of pH meter @ 010 is done quarterly;

30. DOES COMPANY CONTINUOUSLY MONITOR AT SAMPLE POINT AND KEEP A PERMANENT RECORD FOR: pH ☒, TEMP ☐, LEL ☐? Yes☒ No☐

If yes:
- A. At which SPs? 010
- B. Are discharge limits in PIMS "alert only"? (If not, change to that & make note: _____) Yes☒ No☐
- C. Does company submit quarterly summaries? Yes☒ No☐
- D. If no, explain: _____

31. DOES MSD SPLIT SAMPLES WITH THE COMPANY? Yes☐ No☒

If yes:
- A. Is company having the samples analyzed Yes☐ No☐
- B. How does company insure proper preservation, holding times & analytical methods? _____
- C. Has company submitted results of all split sample analyses since the last insp? Yes☐ No☐
- D. Have results been submitted within 28 days of the collection's calendar quarter? Yes☐ No☐
- E. If no to C, or D, explain: _____
- F. Does company still want to split samples? Yes☐ No☐
- G. Comments: _____

32. IS COMPANY REQUIRED TO REGULARLY SUBMIT ANY REPORTS OTHER THAN SELF-MONITORING REPORTS? Yes☒ No☐

If yes:
- A. Is requirement contained in permit ☒ or other document ☐.
- B. If other document, date & description: _____
- C. What is required to be reported? Continuous monitoring results for pH @ 010; Rad Discharge report from Corps of Engineers for the FUSRAP remediation site;
- D. How frequently are reports required? Quarterly
- E. Have reports been on-time, complete & signed by proper person? Yes☒ No☐
- F. If no, explain: _____

33. IS COMPANY UNDER ANY ENVIRONMENTAL ENFORCEMENT ORDERS OR REQUIREMENTS TO SUBMIT COMPLIANCE SCHEDULE REPORTS? Yes☐ No☒

If yes:
- A. Type and date: _____
- B. Have the reports & actions been on-time & complete? Yes☐ No☐
- C. If no, explain: _____

34. ASK COMPANY: IS COMPANY IN COMPLIANCE W/APPLICABLE NESHAP REGULATIONS FOR WW DISCHARGES? Yes☒ No☐
[To see if 40CFR63 applies to MSD plant, per §§63.1580(b) & 63.1582(a). Some MDNR-issued Title V air permits for specific processes allow pre-approved WW discharge. City/County-issued air permits are not NESHAP permits.]

If no:
- A. Describe: _____
- B. Was MDNR Air Pollution Control informed? (must be done) Yes☐ No☐

35. DOES COMPANY RETAIN ALL WASTEWATER RECORDS FOR AT LEAST 5 YEARS? Yes☒ No☐

If no:
- A. How long does company retain records? _____
- B. Was company told to retain for at least 5 years, per ordinance? Yes☐ No☐
- C. Where are they kept? In general EHS Department files;

36. IS COMPANY CLASSIFIED AS A SIGNIFICANT INDUSTRIAL USER (SIU)? Yes☒ No☐

If yes: A. Check & explain applicable criteria:

☒ Process subject to categorical stds under 40 CFR 403.6. Which cat. stds? 40 CFR 439 Sub B,C,D; 414 Sub G&H;

☒ Process discharge => 25,000 GPD Total process volume: 452,800

☐ Process discharge => 5% of TP ADW hydraulic capacity TP ADW hydraulic capacity: _____. Percent: _____

☐ Process discharge => 5% of TP ADW organic capacity Which organic pollutant? _____

TP ADW organic capacity: _____. Percent: _____

☐ Reasonable potential for adverse effect on operations Why? _____

☐ Reasonable potential for violating PT std or req't Which ones & why? _____

B. Does company own its bldg (is it listed as the owner in E-CIS)? Yes☒ No☐

If no: C. What is Bldg owner name (use DBA if avail.)? _____
(check E-CIS CAPS Customer Info)

D: What is Bldg owner mailing address? _____
(check E-CIS CAPS Customer Info)

37. DO MSD CLASSIFICATIONS NEED TO BE REVISED? Yes☐ No☒

If yes: A. Indicate correct classifications:

SIU ☐ Non-Significant CIU ☐ CIU ☐ Surcharge ☐ Non-Toxic Process Water/Wastes ☐

Toxics-Bearing Waste ☐ No Process Discharge ☐ Multi-User ☐ Special Handling/Billing ☐

B. Explain changes: _____

38. IS COMPANY CLASSIFIED AS "Multi-User"? Yes☐ No☒

If yes: A. Is company's discharge segregated from other tenants' discharge? Yes☐ No☐

B. If no to A, does the company own the bldg/receive the MSD bills? Yes☐ No☐

C. If yes to B, was company informed it is responsible for total discharge, or else must provide segregated sample points? Yes☐ No☐

D. If no to B, are any Process/P&E Wash-type wastes discharged? Yes☐ No☐

E. If yes to D, are the wastes completely innocuous? Yes☐ No☐
(And explain why/why not: _____)

F. If yes to D, and no to E, company must accept responsibility or provide segregated SP.
Acceptance letter date: _____ Or write company with requirement ☐

G. If no to D or yes to E, are limits "alert only" on PIMS? Yes☐ No☐

H. Comments: _____

39. IS COMPANY CLASSIFIED AS "Special Handling/Billing"? Yes☐ No☒

If yes: A. Why? _____

B. Are any changes needed to reasons/details? Yes☐ No☐

C. If yes, explain: _____

D. Were company records reviewed & verified for special handling/billing reports? NA☐ Yes☐ No☐

40. SAMPLE POINTS

						Auto-sampler ready?	DJ (y/n)
SP #		Fed.Reg.		Components:	See attached IDS report;	N/A	N/A
SP #		Fed.Reg.		Components:		N/A	N/A
SP #		Fed.Reg.		Components:		N/A	N/A
SP #		Fed.Reg.		Components:		N/A	N/A
SP #		Fed.Reg.		Components:		N/A	N/A

41. ARE ANY SAMPLE POINTS TRAPPED VENTS? Yes☐ No☒

If yes: A. List SPs: _____

B. Was co. informed that T-vents are preferred, and told why? Yes☐ No☐

42. ARE DISCHARGES AT ANY SPs SMALL/IRREGULAR ENOUGH TO ALLOW GRAB SAMPLES? Yes☒ No☐

If yes: A. List SPs and reasons: 001 - relatively minor flow, san only;

43. ARE THERE ANY UNSAMPLED DISCHARGES? (list each lateral separately) Yes☐ No☒

Dummy SP #		Components:	
Dummy SP #		Components:	

If yes: A. Was company informed that SPs may be required in the future if the discharges change? Yes☐ No☐
B. Are all unsampled discharges very low flow and/or innocuous? Yes☐ No☐
C. If No to B, explain:_____
(Must also write company and require installation of SP)

44. DO ANY SAMPLE POINTS (including Unsampled/Dummy SPs) RECEIVE STORMWATER? Yes☒ No☐
If yes: A. List Sample Points: 001, 003, 008, 009, 010, 011, 080, 099

45. WERE ALL SAMPLE POINTS (except Dummy SPs) OPENED & INSPECTED? No SPs☐ Yes☒ No☐
A. If any SPs cannot be located or opened, explain: _____
B. If any SP descript's need to be changed, explain: _____
C. Was ANY grease or other problem/debris observed in any SP? Yes☐ No☒
D. If yes to C, list SPs & describe: _____
E. If yes to C, was company directed to take corrective actions? Yes☐ No☐

46. REVIEW THE SAMPLE POINT MAP! Last map revision date: 01/16/15
A. Is the map correct and accurate in all its details? Yes☒ No☐
B If no, what changes are needed: _____

47. DO INSTRUCTIONS FOR "Contact Prior to Sampling" or FIELD VISIT "Special Instructions" NEED REVISION? Yes☐ No☒
If yes: A. List needed changes: 'To provide flow measurement form' and 'Flow Measurement Form only needed when collecting SP905 annual sample.
Turn off wireless phones - "flash" danger.
SP927 will be collected by company, while MSD observes, for safety reasons.
SP938 will be collected by company, while MSD observes from window in door of Clean Room 406.
SP009 is an upstream point (SP003 is downstream). If a violation or questionable sample is collected from the upstream point, samplers should check for an upstream source of the problem.
SP912's N,N-Dimethyl Acetamide is not normally analyzed by the MSD lab. The lab will be notified if it needs to be analyzed after collection of the sample.
SP011: upstream overflow point - check w/ contact to see if overflow is occurring '
'Company continuously monitors pH at SP010. If a pH 'violation' is detected, Field Notice of Discharge Violation still should be given to company, but "Potential" should be written at the top. (Continuous monitoring allows for excursions of up to 60 minutes.)'
---all already in PIMS; no updates;

USE THIS SPACE FOR ANY OTHER COMMENTS/OBSERVATIONS PERTINENT TO YOUR INSPECTION OF THIS SITE.
- As stated in the previous inspection: 2-65K gallon tanks are dedicated to sewer diversion if needed; they have a few 72 hour outdoor holding areas for barrels/totes/etc that are not contained for delivery, staging, etc.; the areas are not used for longer term storage;
---------- Q. 20 Details:
-- 01/06/15 - Spill of sulfuric acid and sodium hydroxide because of a failure of overfilling controls; controls were fixed;
-- 02/18/15 - Spill of glycol due to faulty temperature probe; probes put on a monthly PM schedule;
-- 04/18/15 - Plant wide electrical shut down - 008 and 011 bypassed PT due to gravity overflow;
-- 05/19/15 - Methanol leak due to faulty logic controller; PLC replaced;
-- 05/21/15 - Glycol leak from cooling system; faulty coil in heat module repaired;
-- 07/31/15 - Gravity overflow @ 008 due to electrical lockout for other equipment;
-- 09/17/15 - 1% DMAC to 010 due to faulty valve; replaced valve;
-- 10/25/15 - Unplanned power outage @ 008 allowed gravity overflow; new power outage alarm installed to notify EHS of issues at 008;
-- 10/26/15 - Glycol leak from cooling system; replaced worn coil in heat exchanger;
-- 11/06/15 - Plant wide electrical shut down - 008 and 011 bypassed PT due to gravity overflow;
-- 12/28/15 - Broken pipe for pumps to PT before overflow @ 008; gravity overflow with manual pH adjustment for DI backflushes;

pipe fixed within a week;
Q, 18+19 comment: There were multiple instances of both our lab and their contract lab not demostrating compliance by having a less than lower detection limit result that was not as low as our Fume Tox Screening limit;
- All AST farms have a tanker containment area for offloading trucks that is directed back to the farm for capture and disposal;
- Contacts asked that the Grease trap @ 003 be changed to Oil interceptor that is used in the machine shop's floor drains and the Grease Trap be designated for 010 where the Kitchen discharges to; changes made to PIMS;
- They 'triple' rinse some of their barrels and totes prior to sending back to vendor or disposal; it is done in open area on Pad T next to SP008; the waste is captured in a modified contained pallet and pumped to 008 (the MH acting as sump just prior to gravity overflow) which is pumped to PT prior to discharge @ 010;

MSD 014448

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL DATA SHEET - FACILITY INFORMATION

INDUSTRY NAME **MALLINCKRODT LLC**
PRIMARY MSD ACCOUNT NO. **1011728100**

Premise Address 3600 N 2nd St
St. Louis MO. 63147

INDUSTRIAL USER CLASSIFICATIONS

03/06/1997	SIU
03/06/1997	CIU
03/06/1997	SURC
03/06/1997	TOX

WUNNENBERG INFO.

Base Map 17D4
Wun:St. Louis City & Co.
Grid: E 18 Page 27

SIU CRITERIA

CAT Process subject to Cat Stds under 40 CFR 4
PR25 Process Disch => 25,000 GPD

GENERAL INFORMATION

Office Mailing Address
3600 N. 2nd Street
St. Louis, MO. 63147

Billing Address
3600 N. 2nd St.
St. Louis, MO. 63147

INSPECTION INFORMATION

Next Due
Insp Rslt
01/26/2016 RIN Tom Boehm

PERMIT INFORMATION

Issue Date: 06/01/2015
Expire Date: 05/31/2020
Extended Date:
Writer Scott Rehmer

IUQ INFORMATION

IUQ Recvd Date: 08/31/1999
Reviewer: Fabian Grabski
IUQ Recvd Date: 10/04/2004
Reviewer: Jason Gill
IUQ Recvd Date: 12/01/2014
Reviewer: Tom Boehm
IUQ Recvd Date: 12/01/2009
Reviewer: Jason Gill

CONTACTS

BILL	Brett Shank	EHS Manager	OFF	(314) 654-0002 Ext.
	Brett Shank	EHS Manager	CELL	(314) 724-4157 Ext.
FLD1	Jonathan Eckles	Principal EHS Engineer	OFF	(314) 654-0138 Ext.
	Jonathan Eckles	Principal EHS Engineer	CELL	(314) 267-1812 Ext.
	Jonathan Eckles	Principal EHS Engineer	SWR	(314) 654-2000 Ext.
FLD2	Jeff Blaies	Principal Enviromental Engineer	CELL	(314) 239-2736 Ext.
	Jeff Blaies	Principal Enviromental Engineer	OFF	(314) 654-2149 Ext.
FLD3	Brett Shank	EHS Manager	CELL	(314) 724-4157 Ext.
	Brett Shank	EHS Manager	OFF	(314) 654-7695 Ext.
OFF1	Brett Shank	EHS Manager	CELL	(314) 724-4157 Ext.
	Brett Shank	EHS Manager	OFF	(314) 654-7695 Ext.
OFF2	Jonathan Eckles	Principal EHS Engineer	CELL	(314) 267-1812 Ext.
	Jonathan Eckles	Principal EHS Engineer	OFF	(314) 654-0138 Ext.

OPERATIONAL INFORMATION

Work Days: 7

				S	M	T	W	T	F	S
1	255	07:30AM	8.0	Y	Y	Y	Y	Y	Y	Y
2	198	04:00PM	8.0	Y	Y	Y	Y	Y	Y	Y
3	198/	02:00PM	8.0	Y	Y	Y	Y	Y	Y	Y

Total Emp: 651 Hrs: 24.0

OTHER AGENCIES INFORMATION

11/18/1996	MDNR - Hazardous Waste Program	01029
11/19/1996	EPA - Hazardous Waste Program	MOD096726484
11/01/1997	Nuclear Regulatory Commission	24-05804-02
09/28/2005	MSD - Billing Account Number	00118821

NON-SEWERED WASTE

On-Site Storage N On-Site Disposal N Off-Site Disposal Y

12/01/2014	Solvents/Thinners	4000000	LB/YR
12/01/2014	Paints or Paint Sludge:	4435	LB/YR
12/01/2014	Organic Compounds	2065502	LB/YR
12/01/2014	Kitchen/Food Service	1000	LB/YR
12/01/2014	Infectious Waste	1051	LB/YR
12/01/2014	Equipment Oils and/o	7154	LB/YR
12/01/2014	Acids and/or Alkalies	205000	LB/YR

COMMENTS

Report No. PIMS012A 02/10/2016 10:28:35 am
Data Date & Time: 02/10/2016 10:28:35 am

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL DATA SHEET - FACILITY INFORMATION

INDUSTRY NAME **MALLINCKRODT LLC**
PRIMARY MSD ACCOUNT NO. **1011728100**

Premise Address 3600 N 2nd St
St. Louis MO. 63147

RAW MATERIALS

EFF DATE	MATERIAL_DESCRIPTION	QUANTITY	UNIT

SIC INFORMATION

SIC	DESCRIPTION
2819	Industrial Inorganic Chemicals, N.E.C.
2833	Medicinal Chemicals & Botanical Products
2834	Pharmaceutical Preparations
2835	In Vitro & In Vivo Diagnostic Substances
2869	Industrial Organic Chemicals, N.E. C.

PRODUCTS

EFF DATE	DESCRIPTION	UNIT	AVG_PROD	MAX_PROD
05/07/2004	Industrial chemicals			
05/07/2004	FDA drugs			

SEWER ACCOUNTS

Sewer Accounts
1011728100

WATER CONSUMPTION AND WASTEWATER DISCHARGE

Start Date = 01/01/2014 End Date = 12/31/2015

Acct. No.			Consumption			Wdays	Cdays	Discharge	
1011728100			CCF's	Gallons				Gal/ Wday	Gal/ Cday
1011728100	12/20/2013	04/01/2014	142,691	142,691	A	103	103	103	
1011728100	04/02/2014	07/02/2014	97,326	240,017		92	92	195	
1011728100	07/03/2014	09/24/2014	44,596	284,613		84	84	279	
1011728100	09/25/2014	03/17/2015	129,245	413,858		174	174	453	
1011728100	03/18/2015	09/14/2015	70,092	483,950		181	181	634	
1011728100	09/15/2015	12/14/2015	30,482	514,432		91	91	725	
RF 0.96	Acct. Total		514,432	84,821,886		725	725	509,557	509,557
	Facility Total		514,432						

Report No. PIMS012A 02/10/2016 10:28:35 am
Data Date & Time: 02/10/2016 10:28:35 am

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL DATA SHEET - FACILITY INFORMATION

INDUSTRY NAME **MALLINCKRODT LLC**
PRIMARY MSD ACCOUNT NO. **1011728100**

Premise Address 3600 N 2nd St
St. Louis MO. 63147

CONNECTION and SAMPLE POINT INFORMATION

LATERAL NO.	Lateral Type	DSMH		Treatment Area	Bissell Point
01	Sanitary Or Combined	17D3	028C	Trunk Sewer	10 - Salisbury

Description: Multiple lines from buildings in Plant 6E,

Sewer Route: Discharge to Destrehan St and to Salisbury

SAMPLE POINT NO. 001 Ordinance NPDES Outfall No.

Description: MH (Gatewell) at foot of Destrahan 100' E of RR

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Sanitary		1,000	GPD		GPD	D	12/1/14
Storm Water		0	GPD		GPD	D	12/1/14
	Total Flow Avg =	1,000		Max =			

CONNECTION and SAMPLE POINT INFORMATION

LATERAL NO.	Lateral Type	DSMH		Treatment Area	Bissell Point
02	Sanitary Or Combined	17D4	072C	Trunk Sewer	10 - Salisbury

Description: 6" line SW from Building 96 to Salisbury :

Sewer Route: East on Salisbury across Hall St. in 5' bricl

SAMPLE POINT NO. 002 Ordinance NPDES Outfall No.

Description: MH 5' S of bldg #96, 30' E of SP 003, (6" pipe from NE, 3' down)

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Sanitary		2,200	GPD		GPD	D	12/1/14
	Total Flow Avg =	2,200		Max =			

CONNECTION and SAMPLE POINT INFORMATION

LATERAL NO.	Lateral Type	DSMH		Treatment Area	Bissell Point
04	Sanitary Or Combined	17D4	086C	Trunk Sewer	10 - Salisbury

Description: 6" line West from Bldg 98 to Broadway

Sewer Route: South on Broadway in 27" pipe to Salisbu

SAMPLE POINT NO. 080 Combined (Ord/Cat) NPDES Outfall No.

Description: Inlet to sump (double MH) N of building #98

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Categorical	439 Sub C PSES (CN-no, NH3 exempt) (C	1,938	GPD		GPD	D	12/1/14
Storm Water		0	GPD		GPD	D	12/1/14
Laboratory Waste	439 Sub E NA (No Stds) & non-439 R&D	569	GPD		GPD	D	12/1/14
	Total Flow Avg =	2,507		Max =			

CONNECTION and SAMPLE POINT INFORMATION

LATERAL NO.	Lateral Type	DSMH		Treatment Area	Bissell Point
05	Sanitary Or Combined	17D4	071C	Trunk Sewer	10 - Salisbury

Description: 8" pipe South from Bldg 96 to Salisbury

Sewer Route: East on Salisbury across Hall St. in 5' bricl

SAMPLE POINT NO. 005 Ordinance NPDES Outfall No.

Description: MH 5' S of building #96, 30' E of SP 003 (Center pipe, 8" dia., 3' down)

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Non Contact Coolir		690	GPD		GPD	D	12/1/14
Laboratory Waste	439 Sub E NA (No Stds) & non-439 R&D	17,646	GPD		GPD	D	12/1/14
	Total Flow Avg =	18,336		Max =			

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL DATA SHEET - FACILITY INFORMATION

INDUSTRY NAME **MALLINCKRODT LLC**
PRIMARY MSD ACCOUNT NO. **1011728100**

Premise Address 3600 N 2nd St
St. Louis MO. 63147

CONNECTION and SAMPLE POINT INFORMATION

LATERAL NO.	Lateral Type	DSMH		Treatment Area	Bissell Point
06	Sanitary Or Combined	17D4	066C	Trunk Sewer	10 - Salisbury

Description 15" line from pump station overflow cham

Sewer Route East on Salisbury across Hall St. in 5' bricl

SAMPLE POINT NO. 008 Ordinance NPDES Outfall No.

Description Overflow chamber on N side of pump station on W side of storage pad T

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Emergency Bypass	Pump station bypass to Salisbury trunk	0	GPD	1,440,000	GPD	D	12/1/14
Storm Water		0	GPD		GPD	D	12/1/14
	Total Flow Avg =	0		Max =	1,440,000		

CONNECTION and SAMPLE POINT INFORMATION

LATERAL NO.	Lateral Type	DSMH		Treatment Area	Bissell Point
10	Sanitary Or Combined	17D4	436C	Trunk Sewer	04 - Interceptor Tunnel

Description 18" line North from neutralization system

Sewer Route E to Interceptor Tunnel, N to treatment pl:

SAMPLE POINT NO. 010 Ordinance NPDES Outfall No.

Description MH w/square lid 50' N of neutralization control building at Hall & Salisbury

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Regeneration/Rejec		130,000	GPD		GPD	D	12/1/14
Boiler Blowdown		17,500	GPD		GPD	D	12/1/14
Categorical	905,912,915,920,927,930,933,936,937,93:	302,699	GPD		GPD	R	12/1/14
Non Contact Coolir	Includes CT blowdown	90,540	GPD		GPD	D	12/1/14
Plant & Equipment	General	30,180	GPD		GPD	D	12/1/14
	General	1,706	GPD		GPD	D	12/1/14
	General	455	GPD		GPD	D	12/1/14
	General	51,172	GPD		GPD	D	12/1/14
Process Waste	Garage	170	GPD		GPD	D	12/1/14
Sanitary		75,000	GPD		GPD	D	12/1/14
Storm Water		0	GPD		GPD	D	12/1/14
Laboratory Waste	Both QC and R+D	38,680	GPD		GPD	D	12/1/14
Kitchen Waste		1,421	GPD		GPD	D	12/1/14
	Total Flow Avg =	739,523		Max =			

SAMPLE POINT NO. 905 Categorical NPDES Outfall No.

Description MH inside building X, 12' W, 5' S of W door (Total flow out)

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Categorical	414 Sub G & H PSES (App A-no)	60,676	GPD		GPD	R	12/1/14
	Total Flow Avg =	60,676		Max =			

SAMPLE POINT NO. 912 Ordinance NPDES Outfall No.

Description Valve on discharge line from outdoor Tank #450 on SE corner of Building 504

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Non-Categorical Pr	ASI process waste from bldgs 504/505	114,067	GPD		GPD	D	12/1/14
	Total Flow Avg =	114,067		Max =			

SAMPLE POINT NO. 915 Categorical NPDES Outfall No.

Description Valve on E side of T-315 at inside NE corner of bldg 6

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Categorical	439 Sub C PSES (CN-no, NH3 exempt)	4,746	GPD		GPD	R	12/1/14
	Total Flow Avg =	4,746		Max =			

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL DATA SHEET - FACILITY INFORMATION

INDUSTRY NAME **MALLINCKRODT LLC**
PRIMARY MSD ACCOUNT NO. **1011728100**

Premise Address 3600 N 2nd St
St. Louis MO. 63147

SAMPLE POINT NO. 920 Categorical NPDES Outfall No.

Description: Valve on discharge line, outside SW corner of diked area E of bldg 512

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Categorical	439 Sub C PSES (NH3 exempt) - with SPS	38,021	GPD		GPD	R	12/1/14
	Total Flow Avg =	38,021		Max =			

SAMPLE POINT NO. 927 Categorical NPDES Outfall No.

Description: Tank 308 (acid press tank) in bldg 6

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Categorical	439 Sub B PSES	4,746	GPD		GPD	D	12/1/14
	Total Flow Avg =	4,746		Max =			

SAMPLE POINT NO. 930 Categorical NPDES Outfall No.

Description: Valve on 4" PVC line inside NW corner of Bldg. 222S, only when sump is discharging from tanks 300 and 355

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Categorical	439 Sub B PSES	550	GPD		GPD	R	12/1/14
	Total Flow Avg =	550		Max =			

SAMPLE POINT NO. 933 Categorical NPDES Outfall No.

Description: Valve on Tank #1 10' NW of SE corner of Bldg. 200W - only when disch. 439 waste

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Categorical	439 Sub B PSES	77	GPD		GPD	R	12/1/14
	Total Flow Avg =	77		Max =			

SAMPLE POINT NO. 936 Categorical NPDES Outfall No.

Description: Valve on 1/2" line 1' from hydrogenerator bldg 8' from S wall in SE corner of bldg 260

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Categorical	439 Sub C PSES (CN-no, NH3 exempt)	13,957	GPD		GPD	R	12/1/14
	Total Flow Avg =	13,957		Max =			

SAMPLE POINT NO. 937 Categorical NPDES Outfall No.

Description: Valve on 2nd level on W side near pipe bridge N of bldg 501

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Categorical	439 Sub C PSES (NH3 exempt) - with SPS	65,820	GPD		GPD	R	12/1/14
	Total Flow Avg =	65,820		Max =			

SAMPLE POINT NO. 938 Categorical NPDES Outfall No.

Description: 6" floor drain in far SW corner of room in Building 5, Room 406

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Categorical	439 Sub D PSNS	40	GPD		GPD	R	12/1/14
	Total Flow Avg =	40		Max =			

CONNECTION and SAMPLE POINT INFORMATION

LATERAL NO.	Lateral Type	DSMH	Treatment Area	Bissell Point
12	Sanitary Or Combined	17D3 016C	Trunk Sewer	10 - Salisbury

Description: Line flowing NE under bldg 223 to pump

Sewer Route: NE, parallel to Destrehan Street under bldg

SAMPLE POINT NO. 011 Ordinance NPDES Outfall No.

Description: MH with square lid 18' S from NW corner of bldg 223 under iron ladder

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Emergency Bypass	Overflow from Plant 5	0	GPD	14,000	GPD	D	12/1/14
Storm Water		0	GPD		GPD	D	12/1/14
	Total Flow Avg =	0		Max =	14,000		

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL DATA SHEET - FACILITY INFORMATION

INDUSTRY NAME **MALLINCKRODT LLC**
PRIMARY MSD ACCOUNT NO. **1011728100**

Premise Address 3600 N 2nd St
St. Louis MO. 63147

CONNECTION and SAMPLE POINT INFORMATION

LATERAL NO.	Lateral Type	DSMH	Treatment Area	Bissell Point
99	Sanitary Or Combined	17D4 080C	Trunk Sewer	10 - Salisbury

Description Multiple lines from buildings located Wes

Sewer Route East on Salisbury across Hall St. in 5' bricl

SAMPLE POINT NO. 003 Ordinance NPDES Outfall No.

Description MH in alley at Salisbury, 12' W, 3' S of NW corner of building 91

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Non-Categorical Pr	Machine shop, painting, parts washing	2,504	GPD		GPD	D	12/1/14
Sanitary		5,000	GPD		GPD	D	12/1/14
Storm Water		0	GPD		GPD	D	12/1/14
Laboratory Waste	439 Sub E NA (No Stds)	5,123	GPD		GPD	D	12/1/14
Flow From Offsite	From SP 009	7,700	GPD		GPD	D	12/1/14
	Total Flow Avg =	20,327		Max =			

SAMPLE POINT NO. 009 Ordinance NPDES Outfall No.

Description MH in Mallinckrodt St 27' E of Broadway, 4' from S curb

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Storm Water		0	GPD		GPD	D	12/1/14
Flow From Offsite	Offsite W of Broadway	7,700	GPD		GPD	D	12/1/14
	Total Flow Avg =	7,700		Max =			

SAMPLE POINT NO. 099 Dummy Point NPDES Outfall No.

Description No sample point available (Represents WW contributions between upstream SP 009 & downstream SP 003)

Discharge Components	Process Description	Avg Flow	Unit	Max Flow	Unit	RUD	Effective Date
Non-Categorical Pr		2,504	GPD		GPD	D	12/1/14
Sanitary		5,000	GPD		GPD	D	12/1/14
Storm Water		0	GPD		GPD	D	12/1/14
Laboratory Waste	439 Sub E NA (No Stds) & non-439 R&D	5,123	GPD		GPD	D	12/1/14
	Total Flow Avg =	12,627		Max =			

PRETREATMENT TYPES

SP	EFF DATE	TYPE	DESCRIPTION
003	01/26/2016	DC35	Oil/Water Interceptor
005	11/05/1998	DC37	pH Adjustment/Neutralization
010	12/01/2014	DC42	Steam Stripping
010	11/05/1998	DC28	Grease Trap
010	11/21/2008	DC35	Oil/Water Interceptor
010	12/01/2014	DC34	Microscreening
010	11/05/1998	DC37	pH Adjustment/Neutralization
080	11/05/1998	DC37	pH Adjustment/Neutralization
809	10/16/1998	DC7	Chemical Precipitation
809	10/16/1998	DC43	Ultrafiltration
809	10/16/1998	DC5	Carbon Absorption
809	10/16/1998	DC9	Clarification/Settling
905	12/18/2013	DC24	Filter Press
905	12/18/2013	DC7	Chemical Precipitation
905	12/18/2013	DC37	pH Adjustment/Neutralization
912	12/01/2009	DC37	pH Adjustment/Neutralization
920	02/28/2002	DC42	Steam Stripping
927	12/18/2013	DC38	Pressure Filters
930	12/01/2009	DC37	pH Adjustment/Neutralization
933	12/01/2009	DC37	pH Adjustment/Neutralization
937	06/26/2007	DC42	Steam Stripping

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL DATA SHEET - FACILITY INFORMATION

INDUSTRY NAME **MALLINCKRODT LLC**
PRIMARY MSD ACCOUNT NO. **1011728100**

Premise Address 3600 N 2nd St
St. Louis MO. 63147

PRIORITY POLLUTANTS

Pollutant Description	Status	Pollutant Description	Status	Pollutant Description	Status
Cyanide (Total)	KP	Asbestos (Fibrous)	KP	Antimony (Total)	SP
Silver (Total)	SP	Copper (Total)	KP	Cadmium (Total)	KP
Zinc (Total)	KP	Nickel (Total)	KP	Mercury (Total)	KP
Lead (Total)	KP	Chromium (Total)	KP	Arsenic (Total)	SP
Phenol	KP	Dimethyl Phthalate	KP	4-Nitrophenol	SP
2,4-Dinitrophenol	SP	2-Chlorophenol	SP	Nitrobenzene	SP
Hexachlorocyclopentadiene	SP	Benzo (A) Pyrene	SP	Benzidine	SP
Acrolein	SP	Toluene	KP	Methylene Chloride	KP
Chloromethane	KP	Chlorobenzene	KP	1,3-Dichlorobenzene	SP
1,1,1-Trichloroethane	KP	Vinyl Chloride	KP	Tetrachloroethene	KP
Chloroform	KP	Carbon Tetrachloride	KP	Bromomethane	SP
Benzene	KP	1,2-Dichloroethane	SP	1,1,2-Trichloroethane	KP
2,4-Dimethylphenol	SP	2,4-Dinitrotoluene	SP	2-Nitrophenol	SP
Phenanthrene	SP	N-Nitrosodimethylamine	SP	Hexachloroethane	SP
Hexachlorobutadiene	SP	Diethyl Phthalate	SP	Dieldrin	SP
Bis (2-EthylHexyl) Phthalate	KP	Dibromochloromethane	SP	Bromodichloromethane	SP
1,2-Dichlorobenzene	SP	Trichloroethene	KP	Ethylbenzene	KP
Acrylonitrile	SP	1,4-Dichlorobenzene	SP	1,1,2,2-Tetrachloroethane	KP

EXTRA STRENGTH SURCHARGE INFORMATION

09/25/2015	BOD	495
09/25/2015	COD	1,006
09/25/2015	TSS	157

PIMS FACILITY CONTACTS

For Account Number Selected **1011728100** **MALLINCKRODT LLC**
Located at 3600 N 2nd St
St. Louis MO 63147

Address Type Contact Type	Contact Name	Contact Title	Email	Signatory	Phone Type	Number	Ext.
Billing Address							
Billing Contact	Brett Shank	EHS Manager	Brett.Shank@mallinckrodt.com	Y	CELL	(314)724-4157	
Billing Contact	Brett Shank	EHS Manager	Brett.Shank@mallinckrodt.com	Y	OFF	(314)654-0002	
Office Mailing Address							
Office Contact - Primary	Brett Shank	EHS Manager	Brett.Shank@mallinckrodt.com	Y	CELL	(314)724-4157	
Office Contact - Primary	Brett Shank	EHS Manager	Brett.Shank@mallinckrodt.com	Y	OFF	(314)654-7695	
Office Contact 1st Alt	Jonathan Eckles	Principal EHS Engineer	Jonathan.Eckles@mallinckrodt.com	N	CELL	(314)267-1812	
Office Contact 1st Alt	Jonathan Eckles	Principal EHS Engineer	Jonathan.Eckles@mallinckrodt.com	N	OFF	(314)654-0138	
Premise Address							
Field Contact - Primary	Jonathan Eckles	Principal EHS Engineer	Jonathan.Eckles@mallinckrodt.com	Y	CELL	(314)267-1812	
Field Contact - Primary	Jonathan Eckles	Principal EHS Engineer	Jonathan.Eckles@mallinckrodt.com	Y	OFF	(314)654-0138	
Field Contact - Primary	Jonathan Eckles	Principal EHS Engineer	Jonathan.Eckles@mallinckrodt.com	Y	SWR	(314)654-2000	
Field Contact 1st Alt	Jeff Blaies	Principal Enviromental Engineer	Jeff.Blaies@mallinckrodt.com	Y	CELL	(314)239-2736	
Field Contact 1st Alt	Jeff Blaies	Principal Enviromental Engineer	Jeff.Blaies@mallinckrodt.com	Y	OFF	(314)654-2149	
Field Contact 2nd Alt	Brett Shank	EHS Manager	Brett.Shank@mallinckrodt.com	Y	CELL	(314)724-4157	
Field Contact 2nd Alt	Brett Shank	EHS Manager	Brett.Shank@mallinckrodt.com	Y	OFF	(314)654-7695	

MSD 014456

PIMS
REPORT OF FIELD SAMPLING REQUIREMENTS
MALLINCKRODT LLC

Account No Entered **1011728100**

SPN	PREMISE ADDRESS	CITY	ST	ZIP
	3600 N 2nd St	St. Louis	MO	63147

001 Project Code: IM= IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T208000	Biochemical Oxygen Demand (5 Day)	Once/3 mo	Grab (Auth in lieu of composite)	03/31/2016
	T213000	Chemical Oxygen Demand	Once/3 mo	Grab (Auth in lieu of composite)	03/31/2016
	T237000	pH	Once/3 mo	Grab	03/31/2016
	T247000	Temperature	Once/3 mo	Grab	03/31/2016
	T256000	Total Suspended Solids	Once/3 mo	Grab (Auth in lieu of composite)	03/31/2016

002 Project Code: IM= IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T208000	Biochemical Oxygen Demand (5 Day)	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T213000	Chemical Oxygen Demand	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T225000	Iron (Total)	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T237000	pH	Once/3 mo	Grab	03/31/2016
	T247000	Temperature	Once/3 mo	Grab	03/31/2016
	T256000	Total Suspended Solids	Once/3 mo	Comp-Time 04 Hrs	03/31/2016

003 Project Code: IM= IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T208000	Biochemical Oxygen Demand (5 Day)	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T213000	Chemical Oxygen Demand	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T234000	Oil and Grease (Total)	Once/3 mo	Grab	03/31/2016
	T237000	pH	Once/3 mo	Grab	03/31/2016
	T247000	Temperature	Once/3 mo	Grab	03/31/2016
	T256000	Total Suspended Solids	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T299000	Acrolein	Once/year	Grab	06/30/2016
	T300000	Acrylonitrile	Once/year	Grab	06/30/2016
Pesticide Organics	T993000	Pesticide Organics (except Dazomet)	Once/year	Comp-Time 04 Hrs	06/30/2016
Semi-Volatile Organics - Ba	T994000	Semi-Volatile Organics - Base/Neutrals	Once/year	Comp-Time 04 Hrs	06/30/2016
Semi-Volatile Organics - Ac	T995000	Semi-Volatile Organics - Acids	Once/year	Comp-Time 04 Hrs	06/30/2016
Volatile Organics	T996000	Volatile Orgs-not incl Acro/Acryl & 2-	Once/year	Grab	06/30/2016

005 Project Code: IM= IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T208000	Biochemical Oxygen Demand (5 Day)	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T213000	Chemical Oxygen Demand	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T237000	pH	Once/3 mo	Grab	03/31/2016
	T247000	Temperature	Once/3 mo	Grab	03/31/2016
	T256000	Total Suspended Solids	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T340000	Cyanide Amenable to Chlorination	Once/3 mo	Grab	03/31/2016
	T299000	Acrolein	Once/year	Grab	06/30/2016
	T300000	Acrylonitrile	Once/year	Grab	06/30/2016
Pesticide Organics	T993000	Pesticide Organics (except Dazomet)	Once/year	Comp-Time 04 Hrs	06/30/2016
Semi-Volatile Organics - Ba	T994000	Semi-Volatile Organics - Base/Neutrals	Once/year	Comp-Time 04 Hrs	06/30/2016
Semi-Volatile Organics - Ac	T995000	Semi-Volatile Organics - Acids	Once/year	Comp-Time 04 Hrs	06/30/2016
Volatile Organics	T996000	Volatile Orgs-not incl Acro/Acryl & 2-	Once/year	Grab	06/30/2016

008 Project Code: IM= IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T208000	Biochemical Oxygen Demand (5 Day)	Once/3 mo	Comp-Time 04 Hrs	03/31/2016

Account No Entered **1011728100**

SPN	PREMISE ADDRESS		CITY	ST	ZIP

	T213000	Chemical Oxygen Demand	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T234000	Oil and Grease (Total)	Once/3 mo	Grab	03/31/2016
	T237000	pH	Once/3 mo	Grab	03/31/2016
	T247000	Temperature	Once/3 mo	Grab	03/31/2016
	T256000	Total Suspended Solids	Once/3 mo	Comp-Time 04 Hrs	03/31/2016

009 Project Code: IM= IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T208000	Biochemical Oxygen Demand (5 Day)	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T213000	Chemical Oxygen Demand	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T234000	Oil and Grease (Total)	Once/3 mo	Grab	03/31/2016
	T237000	pH	Once/3 mo	Grab	03/31/2016
	T247000	Temperature	Once/3 mo	Grab	03/31/2016
	T256000	Total Suspended Solids	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T299000	Acrolein	Once/year	Grab	06/30/2016
	T300000	Acrylonitrile	Once/year	Grab	06/30/2016
Pesticide Organics	T993000	Pesticide Organics (except Dazomet)	Once/year	Comp-Time 04 Hrs	06/30/2016
Semi-Volatile Organics - Ba	T994000	Semi-Volatile Organics - Base/Neutrals	Once/year	Comp-Time 04 Hrs	06/30/2016
Semi-Volatile Organics - Ac	T995000	Semi-Volatile Organics - Acids	Once/year	Comp-Time 04 Hrs	06/30/2016
Volatile Organics	T996000	Volatile Orgs-not incl Acro/Acryl & 2-	Once/year	Grab	06/30/2016

010 Project Code: IM= IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T208000	Biochemical Oxygen Demand (5 Day)	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T213000	Chemical Oxygen Demand	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T234000	Oil and Grease (Total)	Once/3 mo	Grab	03/31/2016
	T237000	pH	Once/3 mo	Grab	03/31/2016
	T247000	Temperature	Once/3 mo	Grab	03/31/2016
	T256000	Total Suspended Solids	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T299000	Acrolein	Once/year	Grab	06/30/2016
	T300000	Acrylonitrile	Once/year	Grab	06/30/2016
	T335000	Chromium (Total)	Once/year	Comp-Time 04 Hrs	06/30/2016
	T339000	Copper (Total)	Once/year	Comp-Time 04 Hrs	06/30/2016
	T377000	Nickel (Total)	Once/year	Comp-Time 04 Hrs	06/30/2016
	T403000	Zinc (Total)	Once/year	Comp-Time 04 Hrs	06/30/2016
Pesticide Organics	T993000	Pesticide Organics (except Dazomet)	Once/year	Comp-Time 04 Hrs	06/30/2016
Semi-Volatile Organics - Ba	T994000	Semi-Volatile Organics - Base/Neutrals	Once/year	Comp-Time 04 Hrs	06/30/2016
Semi-Volatile Organics - Ac	T995000	Semi-Volatile Organics - Acids	Once/year	Comp-Time 04 Hrs	06/30/2016
Volatile Organics	T996000	Volatile Orgs-not incl Acro/Acryl & 2-	Once/year	Grab	06/30/2016

011 Project Code: IM= IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T208000	Biochemical Oxygen Demand (5 Day)	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T213000	Chemical Oxygen Demand	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T234000	Oil and Grease (Total)	Once/3 mo	Grab	03/31/2016
	T237000	pH	Once/3 mo	Grab	03/31/2016
	T247000	Temperature	Once/3 mo	Grab	03/31/2016
	T256000	Total Suspended Solids	Once/3 mo	Comp-Time 04 Hrs	03/31/2016

080 Project Code: IM= IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T208000	Biochemical Oxygen Demand (5 Day)	Once/3 mo	Comp-Time 04 Hrs	03/31/2016

Account No Entered **1011728100**

SPN	PREMISE ADDRESS		CITY	ST	ZIP
	T213000	Chemical Oxygen Demand	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T234000	Oil and Grease (Total)	Once/3 mo	Grab	03/31/2016
	T237000	pH	Once/3 mo	Grab	03/31/2016
	T247000	Temperature	Once/3 mo	Grab	03/31/2016
	T256000	Total Suspended Solids	Once/3 mo	Comp-Time 04 Hrs	03/31/2016
	T269000	1,2-Dichlorobenzene	Once/year	Grab	06/30/2016
	T270000	1,2-Dichloroethane	Once/year	Grab	06/30/2016
	T299000	Acrolein	Once/year	Grab	06/30/2016
	T300000	Acrylonitrile	Once/year	Grab	06/30/2016
	T309000	Benzene	Once/year	Grab	06/30/2016
	T330000	Chlorobenzene	Once/year	Grab	06/30/2016
	T332000	Chloroform	Once/year	Grab	06/30/2016
	T340000	Cyanide Amenable to Chlorination	Once/year	Grab	06/30/2016
	T341000	Cyanide (Total)	Once/year	Grab	06/30/2016
	T371000	Methylene Chloride	Once/year	Grab	06/30/2016
	T397000	Toluene	Once/year	Grab	06/30/2016
	T430000	Acetone	Once/year	Grab	06/30/2016
	T435000	Xylene	Once/year	Grab	06/30/2016
	T437000	4-Methyl-2-Pentanone	Once/year	Grab	06/30/2016
	T438000	Isobutyraldehyde	Once/year	Grab	06/30/2016
	T439000	n-Amyl Acetate	Once/year	Grab	06/30/2016
	T440000	n-Butyl Acetate	Once/year	Grab	06/30/2016
	T441000	Ethyl Acetate	Once/year	Grab	06/30/2016
	T442000	Isopropyl Acetate	Once/year	Grab	06/30/2016
	T443000	Methyl Formate	Once/year	Grab	06/30/2016
	T445000	Isopropyl Ether	Once/year	Grab	06/30/2016
	T446000	Tetrahydrofuran	Once/year	Grab	06/30/2016
	T447000	n-Hexane	Once/year	Grab	06/30/2016
	T448000	n-Heptane	Once/year	Grab	06/30/2016
	T449000	Diethylamine	Once/year	Grab	06/30/2016
	T550000	Triethylamine	Once/year	Grab	06/30/2016
Pesticide Organics	T993000	Pesticide Organics (except Dazomet)	Once/year	Comp-Time 04 Hrs	06/30/2016
Semi-Volatile Organics - Ba	T994000	Semi-Volatile Organics - Base/Neutrals	Once/year	Comp-Time 04 Hrs	06/30/2016
Semi-Volatile Organics - Ac	T995000	Semi-Volatile Organics - Acids	Once/year	Comp-Time 04 Hrs	06/30/2016
Volatile Organics	T996000	Volatile Orgs-not incl Acro/Acryl & 2-	Once/year	Grab	06/30/2016

905 Project Code: IM = IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T247000	Temperature	Once/year	Grab	06/30/2016
	T263000	(cis & trans) 1,3-Dichloropropene	Once/year	Grab	06/30/2016
	T264000	1,1-Dichloroethane	Once/year	Grab	06/30/2016
	T265000	1,1-Dichloroethene	Once/year	Grab	06/30/2016
	T266000	1,1,1-Trichloroethane	Once/year	Grab	06/30/2016
	T267000	1,1,2-Trichloroethane	Once/year	Grab	06/30/2016
	T269000	1,2-Dichlorobenzene	Once/year	Grab	06/30/2016
	T270000	1,2-Dichloroethane	Once/year	Grab	06/30/2016
	T271000	1,2-Dichloropropane	Once/year	Grab	06/30/2016
	T273000	1,2,4-Trichlorobenzene	Once/year	Grab	06/30/2016
	T274000	1,3-Dichlorobenzene	Once/year	Grab	06/30/2016
	T275000	1,4-Dichlorobenzene	Once/year	Grab	06/30/2016
	T276000	2-Nitrophenol	Once/year	Grab	06/30/2016
	T288000	4-Nitrophenol	Once/year	Grab	06/30/2016
	T295000	4,6-Dinitro-2-Methylphenol	Once/year	Grab	06/30/2016
	T297000	Acenaphthene	Once/year	Grab	06/30/2016
	T302000	Anthracene	Once/year	Grab	06/30/2016
	T309000	Benzene	Once/year	Grab	06/30/2016

Account No Entered **1011728100**

SPN	PREMISE ADDRESS	CITY	ST	ZIP

	T310000	Benzidine	Once/year	Grab	06/30/2016
	T321000	Bis (2-EthylHexyl) Phthalate	Once/year	Grab	06/30/2016
	T328000	Carbon Tetrachloride	Once/year	Grab	06/30/2016
	T330000	Chlorobenzene	Once/year	Grab	06/30/2016
	T331000	Chloroethane	Once/year	Grab	06/30/2016
	T332000	Chloroform	Once/year	Grab	06/30/2016
	T333000	Chloromethane	Once/year	Grab	06/30/2016
	T343000	Di-n-butyl Phthalate	Once/year	Grab	06/30/2016
	T348000	Diethyl Phthalate	Once/year	Grab	06/30/2016
	T349000	Dimethyl Phthalate	Once/year	Grab	06/30/2016
	T355000	Ethylbenzene	Once/year	Grab	06/30/2016
	T356000	Fluoranthene	Once/year	Grab	06/30/2016
	T357000	Fluorene	Once/year	Grab	06/30/2016
	T361000	Hexachlorobenzene	Once/year	Grab	06/30/2016
	T362000	Hexachlorobutadiene	Once/year	Grab	06/30/2016
	T364000	Hexachloroethane	Once/year	Grab	06/30/2016
	T371000	Methylene Chloride	Once/year	Grab	06/30/2016
	T375000	Naphthalene	Once/year	Grab	06/30/2016
	T378000	Nitrobenzene	Once/year	Grab	06/30/2016
	T387000	Phenanthrene	Once/year	Grab	06/30/2016
	T389000	Pyrene	Once/year	Grab	06/30/2016
	T394000	Tetrachloroethene	Once/year	Grab	06/30/2016
	T397000	Toluene	Once/year	Grab	06/30/2016
	T399000	Trans-1,2-Dichloroethene	Once/year	Grab	06/30/2016
	T400000	Trichloroethene	Once/year	Grab	06/30/2016
	T401000	Vinyl Chloride	Once/year	Grab	06/30/2016

912 Project Code: IM= IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T247000	Temperature	Once/year	Grab	06/30/2016
	T553000	N,N-Dimethyl Acetamide	Once/year	Grab	06/30/2016

915 Project Code: IM= IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T247000	Temperature	Once/year	Grab	06/30/2016
	T269000	1,2-Dichlorobenzene	Once/year	Grab	06/30/2016
	T270000	1,2-Dichloroethane	Once/year	Grab	06/30/2016
	T309000	Benzene	Once/year	Grab	06/30/2016
	T330000	Chlorobenzene	Once/year	Grab	06/30/2016
	T332000	Chloroform	Once/year	Grab	06/30/2016
	T371000	Methylene Chloride	Once/year	Grab	06/30/2016
	T397000	Toluene	Once/year	Grab	06/30/2016
	T430000	Acetone	Once/year	Grab	06/30/2016
	T435000	Xylene	Once/year	Grab	06/30/2016
	T437000	4-Methyl-2-Pentanone	Once/year	Grab	06/30/2016
	T438000	Isobutyraldehyde	Once/year	Grab	06/30/2016
	T439000	n-Amyl Acetate	Once/year	Grab	06/30/2016
	T440000	n-Butyl Acetate	Once/year	Grab	06/30/2016
	T441000	Ethyl Acetate	Once/year	Grab	06/30/2016
	T442000	Isopropyl Acetate	Once/year	Grab	06/30/2016
	T443000	Methyl Formate	Once/year	Grab	06/30/2016
	T445000	Isopropyl Ether	Once/year	Grab	06/30/2016
	T446000	Tetrahydrofuran	Once/year	Grab	06/30/2016
	T447000	n-Hexane	Once/year	Grab	06/30/2016
	T448000	n-Heptane	Once/year	Grab	06/30/2016
	T449000	Diethylamine	Once/year	Grab	06/30/2016

Account No Entered **1011728100**

SPN	PREMISE ADDRESS	CITY	ST	ZIP

	T550000	Triethylamine	Once/year	Grab	06/30/2016

920 Project Code: IM = IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T247000	Temperature	Once/year	Grab	06/30/2016
	T269000	1,2-Dichlorobenzene	Once/year	Grab	06/30/2016
	T270000	1,2-Dichloroethane	Once/year	Grab	06/30/2016
	T309000	Benzene	Once/year	Grab	06/30/2016
	T330000	Chlorobenzene	Once/year	Grab	06/30/2016
	T332000	Chloroform	Once/year	Grab	06/30/2016
	T371000	Methylene Chloride	Once/year	Grab	06/30/2016
	T397000	Toluene	Once/year	Grab	06/30/2016
	T430000	Acetone	Once/year	Grab	06/30/2016
	T435000	Xylene	Once/year	Grab	06/30/2016
	T437000	4-Methyl-2-Pentanone	Once/year	Grab	06/30/2016
	T438000	Isobutyraldehyde	Once/year	Grab	06/30/2016
	T439000	n-Amyl Acetate	Once/year	Grab	06/30/2016
	T440000	n-Butyl Acetate	Once/year	Grab	06/30/2016
	T441000	Ethyl Acetate	Once/year	Grab	06/30/2016
	T442000	Isopropyl Acetate	Once/year	Grab	06/30/2016
	T443000	Methyl Formate	Once/year	Grab	06/30/2016
	T445000	Isopropyl Ether	Once/year	Grab	06/30/2016
	T446000	Tetrahydrofuran	Once/year	Grab	06/30/2016
	T447000	n-Hexane	Once/year	Grab	06/30/2016
	T448000	n-Heptane	Once/year	Grab	06/30/2016
	T449000	Diethylamine	Once/year	Grab	06/30/2016
	T550000	Triethylamine	Once/year	Grab	06/30/2016

927 Project Code: IM = IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T247000	Temperature	Once/year	Grab	06/30/2016
	T371000	Methylene Chloride	Once/year	Grab	06/30/2016
	T430000	Acetone	Once/year	Grab	06/30/2016
	T439000	n-Amyl Acetate	Once/year	Grab	06/30/2016
	T441000	Ethyl Acetate	Once/year	Grab	06/30/2016
	T442000	Isopropyl Acetate	Once/year	Grab	06/30/2016

930 Project Code: IM = IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T247000	Temperature	Once/year	Grab	06/30/2016
	T371000	Methylene Chloride	Once/year	Grab	06/30/2016
	T430000	Acetone	Once/year	Grab	06/30/2016
	T439000	n-Amyl Acetate	Once/year	Grab	06/30/2016
	T441000	Ethyl Acetate	Once/year	Grab	06/30/2016
	T442000	Isopropyl Acetate	Once/year	Grab	06/30/2016

933 Project Code: IM = IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T247000	Temperature	Once/year	Grab	06/30/2016
	T371000	Methylene Chloride	Once/year	Grab	06/30/2016
	T430000	Acetone	Once/year	Grab	06/30/2016
	T439000	n-Amyl Acetate	Once/year	Grab	06/30/2016
	T441000	Ethyl Acetate	Once/year	Grab	06/30/2016
	T442000	Isopropyl Acetate	Once/year	Grab	06/30/2016

Account No Entered **1011728100**

SPN	PREMISE ADDRESS	CITY	ST	ZIP

935 Project Code: IM= IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T247000	Temperature	Once/year	Grab	06/30/2016
	T269000	1,2-Dichlorobenzene	Once/year	Grab	06/30/2016
	T270000	1,2-Dichloroethane	Once/year	Grab	06/30/2016
	T309000	Benzene	Once/year	Grab	06/30/2016
	T330000	Chlorobenzene	Once/year	Grab	06/30/2016
	T332000	Chloroform	Once/year	Grab	06/30/2016
	T371000	Methylene Chloride	Once/year	Grab	06/30/2016
	T397000	Toluene	Once/year	Grab	06/30/2016
	T430000	Acetone	Once/year	Grab	06/30/2016
	T435000	Xylene	Once/year	Grab	06/30/2016
	T437000	4-Methyl-2-Pentanone	Once/year	Grab	06/30/2016
	T438000	Isobutyraldehyde	Once/year	Grab	06/30/2016
	T439000	n-Amyl Acetate	Once/year	Grab	06/30/2016
	T440000	n-Butyl Acetate	Once/year	Grab	06/30/2016
	T441000	Ethyl Acetate	Once/year	Grab	06/30/2016
	T442000	Isopropyl Acetate	Once/year	Grab	06/30/2016
	T443000	Methyl Formate	Once/year	Grab	06/30/2016
	T445000	Isopropyl Ether	Once/year	Grab	06/30/2016
	T446000	Tetrahydrofuran	Once/year	Grab	06/30/2016
	T447000	n-Hexane	Once/year	Grab	06/30/2016
	T448000	n-Heptane	Once/year	Grab	06/30/2016
	T449000	Diethylamine	Once/year	Grab	06/30/2016
	T550000	Triethylamine	Once/year	Grab	06/30/2016

936 Project Code: IM= IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T247000	Temperature	Once/year	Grab	06/30/2016
	T269000	1,2-Dichlorobenzene	Once/year	Grab	06/30/2016
	T270000	1,2-Dichloroethane	Once/year	Grab	06/30/2016
	T309000	Benzene	Once/year	Grab	06/30/2016
	T330000	Chlorobenzene	Once/year	Grab	06/30/2016
	T332000	Chloroform	Once/year	Grab	06/30/2016
	T371000	Methylene Chloride	Once/year	Grab	06/30/2016
	T397000	Toluene	Once/year	Grab	06/30/2016
	T430000	Acetone	Once/year	Grab	06/30/2016
	T435000	Xylene	Once/year	Grab	06/30/2016
	T437000	4-Methyl-2-Pentanone	Once/year	Grab	06/30/2016
	T438000	Isobutyraldehyde	Once/year	Grab	06/30/2016
	T439000	n-Amyl Acetate	Once/year	Grab	06/30/2016
	T440000	n-Butyl Acetate	Once/year	Grab	06/30/2016
	T441000	Ethyl Acetate	Once/year	Grab	06/30/2016
	T442000	Isopropyl Acetate	Once/year	Grab	06/30/2016
	T443000	Methyl Formate	Once/year	Grab	06/30/2016
	T445000	Isopropyl Ether	Once/year	Grab	06/30/2016
	T446000	Tetrahydrofuran	Once/year	Grab	06/30/2016
	T447000	n-Hexane	Once/year	Grab	06/30/2016
	T448000	n-Heptane	Once/year	Grab	06/30/2016
	T449000	Diethylamine	Once/year	Grab	06/30/2016
	T550000	Triethylamine	Once/year	Grab	06/30/2016

937 Project Code: IM= IPD - Company - MSD

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date

Account No Entered **1011728100**

SPN	PREMISE ADDRESS		CITY	ST	ZIP	
	T247000	Temperature	Once/year	Grab		06/30/2016
	T269000	1,2-Dichlorobenzene	Once/year	Grab		06/30/2016
	T270000	1,2-Dichloroethane	Once/year	Grab		06/30/2016
	T309000	Benzene	Once/year	Grab		06/30/2016
	T330000	Chlorobenzene	Once/year	Grab		06/30/2016
	T332000	Chloroform	Once/year	Grab		06/30/2016
	T341000	Cyanide (Total)	Once/year	Grab		06/30/2016
	T371000	Methylene Chloride	Once/year	Grab		06/30/2016
	T397000	Toluene	Once/year	Grab		06/30/2016
	T430000	Acetone	Once/year	Grab		06/30/2016
	T435000	Xylene	Once/year	Grab		06/30/2016
	T437000	4-Methyl-2-Pentanone	Once/year	Grab		06/30/2016
	T438000	Isobutyraldehyde	Once/year	Grab		06/30/2016
	T439000	n-Amyl Acetate	Once/year	Grab		06/30/2016
	T440000	n-Butyl Acetate	Once/year	Grab		06/30/2016
	T441000	Ethyl Acetate	Once/year	Grab		06/30/2016
	T442000	Isopropyl Acetate	Once/year	Grab		06/30/2016
	T443000	Methyl Formate	Once/year	Grab		06/30/2016
	T445000	Isopropyl Ether	Once/year	Grab		06/30/2016
	T446000	Tetrahydrofuran	Once/year	Grab		06/30/2016
	T447000	n-Hexane	Once/year	Grab		06/30/2016
	T448000	n-Heptane	Once/year	Grab		06/30/2016
	T449000	Diethylamine	Once/year	Grab		06/30/2016
	T550000	Triethylamine	Once/year	Grab		06/30/2016

938 **Project Code: IM = IPD - Company - MSD**

Pollutant Group	Poll Code	Pollutant Description	Frequency	Sample Type	End Date
	T247000	Temperature	Once/year	Grab	06/30/2016
	T371000	Methylene Chloride	Once/year	Grab	06/30/2016
	T430000	Acetone	Once/year	Grab	06/30/2016
	T439000	n-Amyl Acetate	Once/year	Grab	06/30/2016
	T441000	Ethyl Acetate	Once/year	Grab	06/30/2016
	T442000	Isopropyl Acetate	Once/year	Grab	06/30/2016

Mallinckrodt Pharmaceuticals

1011-7281-00

Via FedEx: 8075 9899 5379

SR 1-28-16

January 22nd, 2016

Mr. Doug Mendoza
Metropolitan St. Louis Sewer District
Department of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147

Re: 2015 4th Quarter Self-Monitoring Report for Permit No. 1011728100-2

Dear Mr. Mendoza,

Please find enclosed the 2015 4th Quarter Self-Monitoring report for Mallinckrodt Inc.

The following sample points received no pharmaceutical process water flow during the fourth quarter: SP080, SP927, and SP930. The detection limit for ethyl acetate at SP933 was 10 mg/L, due to lab interference, and the permit limit is 8.2 mg/L. Mallinckrodt does not believe ethyl acetate was present above the permit limit, but will resample first quarter 2016 to confirm. Additionally, the lab encountered interference with the Cyanide Amenable to Chlorination method for SP010 and provided a total Cyanide result of <0.007 mg/L, which is well below the permit limit of 1.2 mg/L.

As discussed in the October 26, 2015 5-day follow up letter. Mallinckrodt identified an exceedance for Oil & Grease in the October 11th sample for SP008. The second sample collected October 12, 2015, showed Oil and Grease to be 10 mg/L.

As discussed in our January 4th, 2016, 5-day follow up correspondence; Mallinckrodt experienced a mechanical failure in the SP008 lift station and discharged from SP008 for approximately 3-days in late December. During that time Mallinckrodt monitored the pH every 30 minutes as required by the permit and noted three samples with elevated pH. The detailed pH monitoring logs for this event are included in this Quarterly report.

If you have any questions or require more detailed information, please contact me at 314-654-0138 or via email at jonathan.eckles@mallinckrodt.com.

Sincerely,

Jonathan Eckles
Principal EHS Engineer

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ENCLOSURES

MALLINCKRODT
3600 NORTH SECOND STREET
ST. LOUIS, MO 63147

TELEPHONE: 314-654-2000
FAX: 314-654-1251

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **MALLINCKRODT LLC**

Permit No: **1011728100-2** Effective Date: June 01, 2015 Expiration Date: May 31, 2020

Premise Address: 3600 North Second Street, 63147

Monitoring Period: ☐(JAN-MAR) ☐(APR-JUNE) ☐(JULY-SEPT) ☒(OCT-DEC)

Samples Collected By: _____

Analyses Performed By: _____

PART II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS ⇨								
DATES ON WHICH SAMPLES WERE COLLECTED ⇨								
TIMES AT WHICH SAMPLES WERE COLLECTED ⇨								
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G, C, M OR E) AND RESULTS BELOW (G=grab, C=composite, M=measured flow, E=estimated flow)						UNITS
FLOW								
SEE ATTACHED DATA SHEETS AND DETAILED REPORTING								

You must complete and sign the certification statements on the second page.

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PART III: SPECIAL CERTIFICATION STATEMENTS

Based on the special conditions contained in your discharge permit you may be required to certify the following. Please review your permit and **PLACE YOUR INITIALS ON THE LINES NEXT TO THE CERTIFICATIONS**.

A	NO CHANGE IN WASTEWATER DISCHARGE AT SAMPLE POINTS WITH NO MONITORING REQUIRED
	For permit special conditions that waive monitoring at any sample point(s) specified in your permit, you are required to make the following certification for each report in which monitoring is waived: _____ I certify, since the last discharge monitoring report, there has been no change in the character of the wastes discharged at sample points **001 and 002 and 930**. DMF ___NA___ I certify, since the last discharge monitoring report, there has been no discharge from sample points **008 and 011**.
B	NO CHANGE IN WASTEWATER DISCHARGE AT ACTIVE CONNECTIONS WITHOUT SAMPLE POINTS
	For permit special conditions that waive monitoring at active connection points which are not specified as sample points in your permit, you are required to make the following certification: DMF _____ I certify, since the last discharge monitoring report, there has been no change in the character of wastes discharged at those active connection points which are not specified in my permit.
E	NO DISCHARGE OF CATEGORICAL WASTE
	For permit special conditions that prohibit discharge of wastes which are subject to certain categorical pretreatment standards, you are required to make the following certification: DMF _____ I certify, since the last discharge monitoring report, there has been no discharge of wastes which are subject to pretreatment standards in 40 CFR 414 (except for those wastes conveyed by Sample Point **905**).
F	CYANIDE NOT USED OR GENERATED IN 40 CFR 439 OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from limitations and monitoring for Total Cyanide at the Pharmaceutical sample points **080, 915, and 936,** subject to the following certification: DMF _____ I certify, since the last discharge monitoring report, cyanide has not been used or generated in any pharmaceutical manufacturing process subject to Categorical Standards in 40 CFR 439.
H	CATEGORICAL POLLUTANTS NOT USED OR GENERATED IN CATEGORICAL OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from monitoring for certain 40 CFR 439-regulated pollutants at the Pharmaceutical sample points **915 and 936,** subject to the following certification: DMF _____ I certify, since the last discharge monitoring report, the 40 CFR 439-regulated pollutants, as determined in permittee's report dated March 17, 2015, have not been used or generated in any pharmaceutical manufacturing process subject to Categorical Standards in 40 CFR 439. In addition, the above-referenced report remains valid.
I	SURROGATE MONITORING ALLOWED FOR 40 CFR 439 OPERATIONS
	Discharges subject to Pharmaceutical Categorical Standards (40 CFR 439) can be exempted from monitoring for certain 40 CFR 439-regulated pollutants, and replaced by monitoring for surrogate pollutant(s), at the Pharmaceutical sample points **920 and 937** subject to the following certification: DMF _____ I certify, since the last discharge monitoring report, the 40 CFR 439-regulated pollutants, as determined in permittee's report dated March 17, 2015, continue to receive the same degree of treatment as the surrogate pollutant(s). In addition, the above-referenced report remains valid.

PART IV: GENERAL CERTIFICATION STATEMENTS

B	DISCHARGE MONITORING REPORT CERTIFICATION
	All permittees must sign and complete the information below: I certify under penalty of Law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Print or type name of signing official: Dexter Evans Title: Senior Site Director Telephone: 314-654-7695 Signature: Dexter M. Evans Date: 1-22-16

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METROPOLITAN ST LOUIS SEWER DISTRICT
INDUSTRIAL USER RADIOACTIVE MATERIALS DISCHARGE REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **MALLINCKRODT LLC**

Permit No: 1011728100-2

Premise Address: 3600 North Second Street, St. Louis, MO 63147

Reporting Period: ☐ JAN-MAR ☐ APR-JUN ☐ JUL-SEP ☒ OCT-DEC

PART II: RECORD OF DISPOSAL OF RADIOACTIVE MATERIALS TO THE SEWER SYSTEM

RADIONUCLIDE	ACTIVITY DISCHARGED (millicuries)
TOTAL ACTIVITY DISCHARGED:	**No activity recorded this period.**

PART III: CERTIFICATION STATEMENTS

Place your initials in the box under item A.

Everyone must complete the information under items A & B and sign this report.

A. CERTIFICATION OF COMPLIANCE WITH STATE AND FEDERAL REGULATIONS

☐ DNE I certify that to the best of my knowledge & belief, all requirements of 10 CFR Part 20.2003 and 19 CSR Part 20-10.090 governing disposal by release into sanitary sewage for material regulated by the Nuclear Regulatory Commission and the Missouri Department of Health, respectively, have been met for the period covered by this report.

B. RADIOACTIVE MATERIALS DISCHARGE REPORT CERTIFICATION

I certify under penalty of Law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

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Print/type name of signing official: Dexter Evans

Title: Senior Site Director

Telephone: 314-654-7695

JAN 25 2016

Signature:

Date: 1-22-16

DIVISION OF ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) _X_(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: Teklab

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**001**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	1,000					gal/day
NO MONITORING REQUIRED (Sanitary Only)								
There have been no change in the character of the wastes discharged since the last report.								

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ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) __(APR-JUNE) ___(JULY-SEPT) _X___(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: Teklab

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**002**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		NA					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		NA					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		E	2,200					gal/day
NO MONITORING REQUIRED (Sanitary Only)								
There have been no change in the character of the wastes discharged since the last report.								

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**003**		**009**		**099**	
DATES ON WHICH SAMPLES WERE COLLECTED	----->		12/1/2015		12/2/2015		Calculated	
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 10:36; Comp Start: 14:08; End:10:20		Grab: 10:25, 10:30; Comp Start: 11:15; Stop: 10:30		N/A	
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	20,327	E	7,700	E	12,627	gal/day
Oil & Grease	200	G	8	G	12	E	6	mg/l
Biochemical Oxygen Demand[1]	****	C	46	C	37	E	51	mg/l
Chemical Oxygen Demand	****	C	120	C	228	E	54	mg/l
Total Suspended Solids	****	C	17	C	40	E	3	mg/l
Temperature	****	G	26.6	G	16.7	E	21.7	deg C
pH	****	G	7.1	G	7.2	E	7.2	S.U.
**** No limits for SP003 or SP009;								
monitoring requirement only for calculation at SP099								
Shaded values represent detection limits								
Lab Dilution Factor			1		1		N/A	

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) ___(APR-JUNE) __(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**005**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		12/1/2015					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 10:25; Comp Start: 2:20; End: 10:20					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	18,336					gal/day
Oil & Grease	200	G	6					mg/l
Biochemical Oxygen Demand[1]	****	C	46					mg/l
Chemical Oxygen Demand	****	C	120					mg/l
Total Suspended Solids	****	C	17					mg/l
Temperature	60	G	22.2					deg C
pH	5.5 - 11.5	G	7.7					S.U.
**** No limits for SP005								
Not enough flow for composite sample								
[1] BOD composite was taken on 12/1/15 at 14:20 to 12/2/15 at 10:20								
Lab Dilution Factor			1					

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING ✓

MSD SAMPLE POINT REFERENCE NUMBERS ----->			008		008		008	
DATES ON WHICH SAMPLES WERE COLLECTED ----->			10/11/2015		10/12/2015		11/8/2015	
TIMES AT WHICH SAMPLES WERE COLLECTED ----->			1:50 PM		2:20 PM		10:30 AM	
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	7,000	E	14,000	E	7,000	gal/day
Oil & Grease	200	G	1,010 *	G	10	G	6	mg/l
Biochemical Oxygen Demand[1]	****	G	406	G	25	G	5	mg/l
Chemical Oxygen Demand	****	G	852	G	74	G	50	mg/l
Temperature	60	G	27.1	G	23.4	G	*	deg C
Total Suspended Solids	****	G	867	G	156	G	6	mg/L
pH	5.5 - 11.5	G	*	G	*	G	*	S.U.
Shaded values represent detection limits								
			* Reported on					
			10-20-15					
*See attached pH monitoring log								
			Received					
1 BAD			Corrective					
4 GOOD			Action					
			Report on					
20%			10-26-15.					
			SR					
Lab Dilution Factor			1,1,1,33.3		1,1,1,2.17		1	

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		008		008		008	
DATES ON WHICH SAMPLES WERE COLLECTED	----->		12/17/2015		12/26/2015		12/28/2015	
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		5:05 AM		4:40 PM		8:20 AM	
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	14,000		14,000		14,000	gal/day
Oil & Grease	200	G	<5		16			mg/l
Biochemical Oxygen Demand[1]	****	G	23				<5	mg/l
Chemical Oxygen Demand	****	G	91		1000			mg/l
Temperature	60	G	*		*		*	deg C
Total Suspended Solids	****	G	19				6	mg/L
pH	5.5 - 11.5	G	*		*		*	S.U.
Shaded values represent detection limits								
*See attached pH monitoring log								
Lab Dilution Factor			1		1,2		1	

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Overflow pH Monitoring

Starting Date: 10/11/2015 **Ending Date: 10/12/2015**

Sample Point	Date	Time	pH	Sample Point	Date	Time	pH
SP008	10/11/2015	8:40	NF	SP011	10/11/2015	8:30	8.72
SP008	10/11/2015	9:10	NF	SP011	10/11/2015	9:00	8.68
SP008	10/11/2015	9:40	NF	SP011	10/11/2015	9:30	8.14
SP008	10/11/2015	10:10	NF	SP011	10/11/2015	10:00	8.65
SP008	10/11/2015	10:40	NF	SP011	10/11/2015	10:30	9.18
SP008	10/11/2015	11:10	6.91	SP011	10/11/2015	11:00	9.23
SP008	10/11/2015	11:40	NF	SP011	10/11/2015	11:30	9.26
SP008	10/11/2015	12:10	NF	SP011	10/11/2015	12:00	9.24
SP008	10/11/2015	12:40	NF	SP011	10/11/2015	12:30	9.23
SP008	10/11/2015	13:10	NF	SP011	10/11/2015	13:00	9.21
SP008	10/11/2015	13:40	NF	SP011	10/11/2015	13:30	9.18
SP008	10/11/2016	13:50	7.31	SP011	10/11/2015	14:00	9.15
SP008	10/11/2015	14:10	7.34	SP011	10/11/2015	14:30	9.16
SP008	10/11/2015	14:40	7.42	SP011	10/11/2015	15:00	9.15
SP008	10/11/2015	15:10	7.47	SP011	10/11/2015	15:30	9.13
SP008	10/11/2015	15:40	7.49	SP011	10/11/2015	16:00	9.14
SP008	10/11/2015	16:10	7.53	SP011	10/11/2015	16:30	8.86
SP008	10/11/2015	16:40	7.56	SP011	10/11/2015	17:00	8.94
SP008	10/11/2015	17:10	7.6	SP011	10/11/2015	17:30	8.74
SP008	10/11/2015	17:40	7.58	SP011	10/11/2015	18:00	8.68
SP008	10/11/2015	18:10	7.56	SP011	10/11/2015	18:30	8.55
SP008	10/11/2015	18:40	7.53	SP011	10/11/2015	19:00	8.19
SP008	10/11/2015	19:10	7.47	SP011	10/11/2015	19:30	8.13
SP008	10/11/2015	19:40	7.5	SP011	10/11/2015	20:00	8.2
SP008	10/11/2015	20:10	7.48	SP011	10/11/2015	20:30	8.39
SP008	10/11/2015	20:40	7.43	SP011	10/11/2015	21:00	6.86
SP008	10/11/2015	21:10	7.44	SP011	10/11/2015	21:30	6.62
SP008	10/11/2015	21:40	7.43	SP011	10/11/2015	22:00	6.69
SP008	10/11/2015	22:10	7.43	SP011	10/11/2015	22:30	7.13
SP008	10/11/2015	22:40	7.41	SP011	10/11/2015	23:00	7.46
SP008	10/11/2015	23:10	7.43	SP011	10/11/2015	23:30	8.01
SP008	10/11/2015	23:40	7.45	SP011	10/12/2015	0:00	8.13
SP008	10/12/2015	0:10	7.43	SP011	10/12/2015	0:30	8.32
SP008	10/12/2015	0:40	7.54	SP011	10/12/2015	1:00	8.16
SP008	10/12/2015	1:10	7.9	SP011	10/12/2015	1:30	8.38
SP008	10/12/2015	1:40	8.11	SP011	10/12/2015	2:00	8.42
SP008	10/12/2015	2:10	8.11	SP011	10/12/2015	2:30	8.58
SP008	10/12/2015	2:40	8.13	SP011	10/12/2015	3:00	8.59
SP008	10/12/2015	3:10	8.02	SP011	10/12/2015	3:30	8.62
SP008	10/12/2015	3:40	7.85	SP011	10/12/2015	4:00	8.62
SP008	10/12/2015	4:10	7.76	SP011	10/12/2015	4:30	8.65

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SP008	10/12/2015	4:40	7.63
SP008	10/12/2015	5:10	7.57
SP008	10/12/2015	5:40	7.51
SP008	10/12/2015	6:10	7.48
SP008	10/12/2015	6:40	7.48
SP008	10/12/2015	7:10	7.37
SP008	10/12/2015	7:40	7.37
SP008	10/12/2015	8:10	7.5
SP008	10/12/2015	8:40	6.91
SP008	10/12/2015	9:10	6.63
SP008	10/12/2015	9:40	6.57
SP008	10/12/2015	10:10	6.46
SP008	10/12/2015	10:15	No Flow

SP011	10/12/2015	5:00	8.68
SP011	10/12/2015	5:30	8.71
SP011	10/12/2015	6:00	8.74
SP011	10/12/2015	6:30	8.73
SP011	10/12/2015	7:00	8.65
SP011	10/12/2015	7:30	8.24
SP011	10/12/2015	8:00	8.4
SP011	10/12/2015	8:30	9.69
SP011	10/12/2015	9:00	9.7
SP011	10/12/2015	9:30	8.75
SP011	10/12/2015	10:00	8.42
SP011	10/12/2015	10:10	No Flow

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JAN 25 2016

DIVISION OF
ENVIRONMENTAL COMPLIANCE

Overflow pH Monitoring

Starting Date: 10/12/2015 **Ending Date: 10/12/2015**

Sample Point	Date	Time	pH	Sample Point	Date	Time	pH
SP008	10/12/2015	14:50	8.4	SP011	10/12/2015	15:10	8.07
SP008	10/12/2015	15:20	8.72	SP011	10/12/2015	15:40	8.58
SP008	10/12/2015	15:50	8.94	SP011	10/12/2015	16:10	8.24
SP008	10/12/2015	16:20	9.02	SP011	10/12/2015	16:40	7.88
SP008	10/12/2015	16:50	9.11	SP011	10/12/2015	17:10	7.92
SP008	10/12/2015	17:20	9.17	SP011	10/12/2015	17:40	7.99
SP008	10/12/2015	17:50	9.28	SP011	10/12/2015	18:10	8.09
SP008	10/12/2015	18:20	9.3	SP011	10/12/2015	18:40	8.19
SP008	10/12/2015	18:50	9.29	SP011	10/12/2015	19:10	8.2
SP008	10/12/2015	19:20	9.29	SP011	10/12/2015	19:40	8.42
SP008	10/12/2015	19:50	9.31	SP011	10/12/2015	20:10	8.1
SP008	10/12/2015	20:20	No Flow	SP011	10/12/2015	20:40	No Flow

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Overflow pH Monitoring

Starting Date: 10/13/2015

Sample Point	Date	Time	pH
SP008	10/13/2015	6:00	8.14
SP008	10/13/2015	6:30	8.2
SP008	10/13/2015	7:00	8.16
SP008	10/13/2015	7:30	8.09
SP008	10/13/2015	8:00	8.11
SP008	10/13/2015	8:30	8.14
SP008	10/13/2015	9:00	8.11
SP008	10/13/2015	9:30	8.14
SP008	10/13/2015	10:00	8.13
SP008	10/13/2015	10:30	8.02
SP008	10/13/2015	11:00	8.11
SP008	10/13/2015	11:30	8.63
SP008	10/13/2015	12:00	8.6
SP008	10/13/2015	12:30	8.56
SP008	10/13/2015	13:00	8.5
SP008	10/13/2015	13:30	8.08
SP008	10/13/2015	14:00	8.01
SP008	10/13/2015	14:30	8.3
SP008	10/13/2015	15:00	8.19
SP008	10/13/2015	15:30	7.87
SP008	10/13/2015	16:00	7.39
SP008	10/13/2015	16:30	7.16
SP008	10/13/2015	17:00	7.19

Ending Date: 10/13/2015

Sample Point	Date	Time	pH
SP011	10/13/2015	6:00	8.69
SP011	10/13/2015	6:30	8.66
SP011	10/13/2015	7:00	8.69
SP011	10/13/2015	7:30	8.63
SP011	10/13/2015	8:00	8.74
SP011	10/13/2015	8:30	8.77
SP011	10/13/2015	9:00	8.75
SP011	10/13/2015	9:30	8.64
SP011	10/13/2015	10:00	8.7
SP011	10/13/2015	10:30	8.56
SP011	10/13/2015	11:00	9.36
SP011	10/13/2015	11:30	8.66
SP011	10/13/2015	12:00	8.51
SP011	10/13/2015	12:30	8.36
SP011	10/13/2015	13:00	8.4
SP011	10/13/2015	13:30	8.56
SP011	10/13/2015	14:00	8.88
SP011	10/13/2015	14:30	8.87
SP011	10/13/2015	15:00	8.8
SP011	10/13/2015	15:30	8.85
SP011	10/13/2015	16:00	8.8
SP011	10/13/2015	16:30	8.82
SP011	10/13/2015	17:00	8.77

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Overflow pH Monitoring

Starting Date: 11/06/2015 **Ending Date: 11/09/2015**

Sample Point	Date	Time	pH	Sample Point	Date	Time	pH
SP008	11/6/2015	17:30	NF	SP011	11/6/2015	17:05	9.44
SP008	11/6/2015	18:00	NF	SP011	11/6/2015	17:35	9.43
SP008	11/6/2015	18:30	NF	SP011	11/6/2015	18:05	9.5
SP008	11/6/2015	19:00	NF	SP011	11/6/2015	18:35	9.39
SP008	11/6/2015	19:30	NF	SP011	11/6/2015	19:05	9.52
SP008	11/6/2015	20:00	NF	SP011	11/6/2015	19:35	9.6
SP008	11/6/2015	20:30	NF	SP011	11/6/2015	20:05	9.62
SP008	11/6/2015	21:00	NF	SP011	11/6/2015	20:35	9.78
SP008	11/6/2015	21:30	NF	SP011	11/6/2015	21:05	10.05
SP008	11/6/2015	22:00	NF	SP011	11/6/2015	21:35	10.06
SP008	11/6/2015	22:30	NF	SP011	11/6/2015	22:05	10.07
SP008	11/6/2015	23:00	NF	SP011	11/6/2015	22:35	10.07
SP008	11/6/2015	23:30	NF	SP011	11/6/2015	23:05	10.08
SP008	11/7/2015	0:00	NF	SP011	11/6/2015	23:35	10.07
SP008	11/7/2015	0:30	8.7	SP011	11/7/2015	0:05	10.07
SP008	11/7/2015	1:00	8.97	SP011	11/7/2015	0:35	10.08
SP008	11/7/2015	1:30	9.03	SP011	11/7/2015	1:05	10.09
SP008	11/7/2015	2:00	8.78	SP011	11/7/2015	1:35	10.08
SP008	11/7/2015	2:30	8.21	SP011	11/7/2015	2:05	10.08
SP008	11/7/2015	3:00	7.67	SP011	11/7/2015	2:35	10.06
SP008	11/7/2015	3:30	7.65	SP011	11/7/2015	3:05	10.1
SP008	11/7/2015	4:00	7.61	SP011	11/7/2015	3:35	10.07
SP008	11/7/2015	4:30	7.55	SP011	11/7/2015	4:05	10.09
SP008	11/7/2015	5:00	7.44	SP011	11/7/2015	4:35	10.08
SP008	11/7/2015	5:30	7.43	SP011	11/7/2015	5:05	10.11
SP008	11/7/2015	6:00	7.43	SP011	11/7/2015	5:35	10.1
SP008	11/7/2015	6:30	7.43	SP011	11/7/2015	6:05	10.1
SP008	11/7/2015	7:00	7.4	SP011	11/7/2015	6:35	10.1
SP008	11/7/2015	7:30	7.38	SP011	11/7/2015	7:05	10.09
SP008	11/7/2015	8:00	7.41	SP011	11/7/2015	7:35	10.09
SP008	11/7/2015	8:30	7.4	SP011	11/7/2015	8:05	10.08
SP008	11/7/2015	9:00	7.43	SP011	11/7/2015	8:35	10.08
SP008	11/7/2015	9:30	7.51	SP011	11/7/2015	9:05	10.07
SP008	11/7/2015	10:00	7.52	SP011	11/7/2015	9:35	10.06
SP008	11/7/2015	10:30	7.61	SP011	11/7/2015	10:05	9.16
SP008	11/7/2015	11:00	8.39	SP011	11/7/2015	10:35	9.14
SP008	11/7/2015	11:30	7.9	SP011	11/7/2015	11:05	9.14
SP008	11/7/2015	12:00	7.94	SP011	11/7/2015	11:35	9.14
SP008	11/7/2015	12:30	8.27	SP011	11/7/2015	12:05	9.13
SP008	11/7/2015	13:00	8.61	SP011	11/7/2015	12:35	9.13
SP008	11/7/2015	13:30	7.76	SP011	11/7/2015	13:05	9.13

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SP008	11/7/2015	14:00	7.66
SP008	11/7/2015	14:30	7.79
SP008	11/7/2015	15:00	8.59
SP008	11/7/2015	15:30	8.22
SP008	11/7/2015	16:00	8.09
SP008	11/7/2015	16:30	8.38
SP008	11/7/2015	17:00	7.87
SP008	11/7/2015	17:30	7.6
SP008	11/7/2015	18:00	7.53
SP008	11/7/2015	18:30	7.77
SP008	11/7/2015	19:00	7.94
SP008	11/7/2015	19:30	7.71
SP008	11/7/2015	20:00	7.66
SP008	11/7/2015	20:30	7.72
SP008	11/7/2015	21:00	7.6
SP008	11/7/2015	21:30	7.57
SP008	11/7/2015	22:00	7.57
SP008	11/7/2015	22:30	7.55
SP008	11/7/2015	23:00	7.54
SP008	11/7/2015	23:30	7.56
SP008	11/8/2015	0:00	7.59
SP008	11/8/2015	0:30	7.62
SP008	11/8/2015	1:00	7.67
SP008	11/8/2015	1:30	7.72
SP008	11/8/2015	2:00	7.78
SP008	11/8/2015	2:30	7.8
SP008	11/8/2015	3:00	7.92
SP008	11/8/2015	3:30	7.96
SP008	11/8/2015	4:00	7.98
SP008	11/8/2015	4:30	8.01
SP008	11/8/2015	5:00	8.02
SP008	11/8/2015	5:30	8.04
SP008	11/8/2015	6:00	8.06
SP008	11/8/2015	6:30	8.08
SP008	11/8/2015	7:00	7.97
SP008	11/8/2015	7:30	7.86
SP008	11/8/2015	8:00	7.88
SP008	11/8/2015	8:30	7.74
SP008	11/8/2015	9:00	7.69
SP008	11/8/2015	9:30	8.02
SP008	11/8/2015	10:00	8.09
SP008	11/8/2015	10:30	8.12
SP008	11/8/2015	11:00	8.2
SP008	11/8/2015	11:30	8.19
SP008	11/8/2015	12:00	8.18
SP008	11/8/2015	12:30	7.82
SP008	11/8/2015	13:00	8.92

SP011	11/7/2015	13:35	9.09
SP011	11/7/2015	14:05	9.1
SP011	11/7/2015	14:35	9.09
SP011	11/7/2015	15:05	9.1
SP011	11/7/2015	15:35	9.1
SP011	11/7/2015	16:05	9.09
SP011	11/7/2015	16:35	9.08
SP011	11/7/2015	17:05	9.07
SP011	11/7/2015	17:35	9.07
SP011	11/7/2015	18:05	9.07
SP011	11/7/2015	18:35	9.11
SP011	11/7/2015	19:05	9.08
SP011	11/7/2015	19:35	9.06
SP011	11/7/2015	20:05	9.17
SP011	11/7/2015	20:35	9.11
SP011	11/7/2015	21:05	9.22
SP011	11/7/2015	21:35	9.29
SP011	11/7/2015	22:05	9.33
SP011	11/7/2015	22:35	9.34
SP011	11/7/2015	23:05	9.36
SP011	11/7/2015	23:35	9.36
SP011	11/8/2015	0:05	9.45
SP011	11/8/2015	0:35	9.52
SP011	11/8/2015	1:05	9.59
SP011	11/8/2015	1:35	9.67
SP011	11/8/2015	2:05	9.78
SP011	11/8/2015	2:35	9.81
SP011	11/8/2015	3:05	9.93
SP011	11/8/2015	3:35	10.03
SP011	11/8/2015	4:05	10.06
SP011	11/8/2015	4:35	10.06
SP011	11/8/2015	5:05	10.1
SP011	11/8/2015	5:35	10.1
SP011	11/8/2015	6:05	10.1
SP011	11/8/2015	6:35	10.11
SP011	11/8/2015	7:05	10.12
SP011	11/8/2015	7:35	10.12
SP011	11/8/2015	8:05	10.13
SP011	11/8/2015	8:35	10.13
SP011	11/8/2015	9:05	10.12
SP011	11/8/2015	9:35	10.1
SP011	11/8/2015	10:05	10.11
SP011	11/8/2015	10:35	10.11
SP011	11/8/2015	11:05	10.11
SP011	11/8/2015	11:35	10.08
SP011	11/8/2015	12:05	10.07
SP011	11/8/2015	12:35	10.08

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SP008	11/8/2015	13:30	9.57	SP011	11/8/2015	13:05	10.06
SP008	11/8/2015	14:00	8.96	SP011	11/8/2015	13:35	10.06
SP008	11/8/2015	14:30	8.76	SP011	11/8/2015	14:05	10.04
SP008	11/8/2015	15:00	8.68	SP011	11/8/2015	14:35	10.06
SP008	11/8/2015	15:30	8.62	SP011	11/8/2015	15:05	10.07
SP008	11/8/2015	16:00	8.32	SP011	11/8/2015	15:35	10.06
SP008	11/8/2015	16:30	8.14	SP011	11/8/2015	16:05	10.05
SP008	11/8/2015	17:00	8.1	SP011	11/8/2015	16:35	10.02
SP008	11/8/2015	17:30	7.7	SP011	11/8/2015	17:05	10.04
SP008	11/8/2015	18:00	7.58	SP011	11/8/2015	17:35	10.04
SP008	11/8/2015	18:30	7.42	SP011	11/8/2015	18:05	10.05
SP008	11/8/2015	19:00	7.45	SP011	11/8/2015	18:35	10.04
SP008	11/8/2015	19:30	7.78	SP011	11/8/2015	19:05	10.07
SP008	11/8/2015	20:00	8.89	SP011	11/8/2015	19:35	10.18
SP008	11/8/2015	20:30	8.79	SP011	11/8/2015	20:05	10.12
SP008	11/8/2015	21:00	8.24	SP011	11/8/2015	20:35	10.11
SP008	11/8/2015	21:30	8.35	SP011	11/8/2015	21:05	10.12
SP008	11/8/2015	22:00	8.36	SP011	11/8/2015	21:35	10.12
SP008	11/8/2015	22:30	8.38	SP011	11/8/2015	22:05	10.11
SP008	11/8/2015	23:00	8.16	SP011	11/8/2015	22:35	10.11
SP008	11/8/2015	23:30	8.52	SP011	11/8/2015	23:05	10.07
SP008	11/9/2015	0:00	8.6	SP011	11/8/2015	23:35	10.09
SP008	11/9/2015	0:30	8.26	SP011	11/9/2015	0:05	10.1
SP008	11/9/2015	1:00	8.66	SP011	11/9/2015	0:35	10.05
SP008	11/9/2015	1:30	8.69	SP011	11/9/2015	1:05	10.12
SP008	11/9/2015	2:00	8.63	SP011	11/9/2015	1:35	10.1
SP008	11/9/2015	2:30	8.65	SP011	11/9/2015	2:05	10.1
SP008	11/9/2015	3:00	8.55	SP011	11/9/2015	2:35	10.1
SP008	11/9/2015	3:30	8.34	SP011	11/9/2015	3:05	10.12
SP008	11/9/2015	4:00	8.59	SP011	11/9/2015	3:35	10.14
SP008	11/9/2015	4:30	8.28	SP011	11/9/2015	4:05	10.12
SP008	11/9/2015	5:00	8.03	SP011	11/9/2015	4:35	10.12
SP008	11/9/2015	5:30	8.01	SP011	11/9/2015	5:05	10.12
SP008	11/9/2015	6:00	7.88	SP011	11/9/2015	5:35	10.12
SP008	11/9/2015	6:30	7.86	SP011	11/9/2015	6:05	10.09
SP008	11/9/2015	7:00	7.84	SP011	11/9/2015	6:35	10.09
SP008	11/9/2015	7:30	7.75	SP011	11/9/2015	7:05	10.09
SP008	11/9/2015	8:00	7.61	SP011	11/9/2015	7:35	10.1
SP008	11/9/2015	8:30	7.49	SP011	11/9/2015	8:05	10.11
SP008	11/9/2015	9:00	7.43	SP011	11/9/2015	8:35	10.12
SP008	11/9/2015	9:30	7.41	SP011	11/9/2015	9:05	10.07
SP008	11/9/2015	10:00	7.4	SP011	11/9/2015	9:35	10.08
SP008	11/9/2015	10:30	7.42	SP011	11/9/2015	10:05	10.09
SP008	11/9/2015	11:00	7.47	SP011	11/9/2015	10:35	9.99
SP008	11/9/2015	11:30	7.51	SP011	11/9/2015	11:05	10.08
SP008	11/9/2015	12:00	7.56	SP011	11/9/2015	11:35	10.07
SP008	11/9/2015	12:30	7.58	SP011	11/9/2015	12:05	10.07

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SP008	11/9/2015	13:00	7.63	SP011	11/9/2015	12:35	10.08
SP008	11/9/2015	13:30	7.71	SP011	11/9/2015	13:05	10.09
SP008	11/9/2015	14:00	7.75	SP011	11/9/2015	13:35	10.08
SP008	11/9/2015	14:30	7.89	SP011	11/9/2015	14:05	10.08
SP008	11/9/2015	15:00	8.13	SP011	11/9/2015	14:35	10.07
				SP011	11/9/2015	15:05	10.09

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Overflow pH Monitoring

Starting Date: 12/17/2015 **Ending Date: 12/17/2015**

Sample Point	Date	Time	pH	Sample Point	Date	Time	pH
SP008	12/17/2015	5:05	7.6	SP011	12/17/2015	5:15	7.9
SP008	12/17/2015	5:35	7.9	SP011	12/17/2015	5:45	8

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Overflow pH Monitoring

Starting: 12/26/2015 **End: 12/29/2015**

Sample Point	Date	Time	pH
SP008	12/26/2015	16:45	9.2
SP008	12/26/2015	17:15	7.43
SP008	12/26/2015	17:45	6.82
SP008	12/26/2015	18:15	6.79
SP008	12/26/2015	18:45	6.7
SP008	12/26/2015	19:15	6.9
SP008	12/26/2015	19:45	6.6
SP008	12/26/2015	20:15	9.5
SP008	12/26/2015	20:45	9.6
SP008	12/26/2015	21:15	9.1
SP008	12/26/2015	21:45	10.5
SP008	12/26/2015	22:15	9.6
SP008	12/26/2015	22:45	9.8
SP008	12/26/2015	23:15	9.8
SP008	12/26/2015	23:45	8.8
SP008	12/27/2015	0:15	9
SP008	12/27/2015	0:45	8.3
SP008	12/27/2015	1:15	9
SP008	12/27/2015	1:45	8.7
SP008	12/27/2015	2:15	9.2
SP008	12/27/2015	2:45	10
SP008	12/27/2015	3:15	8.9
SP008	12/27/2015	3:45	8.6
SP008	12/27/2015	4:15	9.2
SP008	12/27/2015	4:45	9.4
SP008	12/27/2015	5:15	8.1
SP008	12/27/2015	5:45	8.1
SP008	12/27/2015	6:15	8.8
SP008	12/27/2015	6:45	7.92
SP008	12/27/2015	7:15	8.14
SP008	12/27/2015	7:45	8.4
SP008	12/27/2015	8:15	8.68
SP008	12/27/2015	8:45	8.86
SP008	12/27/2015	9:15	8.92
SP008	12/27/2015	9:45	8.95
SP008	12/27/2015	10:15	9.26
SP008	12/27/2015	10:45	7.89
SP008	12/27/2015	11:15	7.87
SP008	12/27/2015	11:45	7.9
SP008	12/27/2015	12:15	7.96
SP008	12/27/2015	12:45	7.52

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SP008	12/27/2015	13:15	7.37
SP008	12/27/2015	13:45	7.38
SP008	12/27/2015	14:15	7.42
SP008	12/27/2015	14:45	11.5
SP008	12/27/2015	15:15	11.7
SP008	12/27/2015	15:45	11.15
SP008	12/27/2015	16:15	9.83
SP008	12/27/2015	16:45	7.83
SP008	12/27/2015	17:15	7.56
SP008	12/27/2015	17:45	7.58
SP008	12/27/2015	18:15	7.61
SP008	12/27/2015	18:45	9.7
SP008	12/27/2015	19:15	8.8
SP008	12/27/2015	19:45	9
SP008	12/27/2015	20:15	7.6
SP008	12/27/2015	20:45	7
SP008	12/27/2015	21:15	7.3
SP008	12/27/2015	21:45	7
SP008	12/27/2015	22:15	8.1
SP008	12/27/2015	22:45	8.3
SP008	12/27/2015	23:15	7
SP008	12/27/2015	23:45	7.4
SP008	12/28/2015	0:15	7.2
SP008	12/28/2015	0:45	7
SP008	12/28/2015	1:15	7
SP008	12/28/2015	1:45	6.4
SP008	12/28/2015	2:15	6.6
SP008	12/28/2015	2:45	9.6
SP008	12/28/2015	3:15	8.6
SP008	12/28/2015	3:45	8.9
SP008	12/28/2015	4:15	9.6
SP008	12/28/2015	4:45	7.1
SP008	12/28/2015	5:15	8.2
SP008	12/28/2015	5:45	7.2
SP008	12/28/2015	6:15	7.6
SP008	12/28/2015	6:45	10.1
SP008	12/28/2015	7:15	10.1
SP008	12/28/2015	7:45	8.9
SP008	12/28/2015	8:15	7.9
SP008	12/28/2015	8:45	7.8
SP008	12/28/2015	9:15	7.7
SP008	12/28/2015	9:45	7
SP008	12/28/2015	10:15	6.9
SP008	12/28/2015	10:45	6.9
SP008	12/28/2015	11:15	7.3
SP008	12/28/2015	11:45	7
SP008	12/28/2015	12:15	7.6

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SP008	12/28/2015	12:45	10
SP008	12/28/2015	13:15	9.3
SP008	12/28/2015	13:45	10.9
SP008	12/28/2015	14:15	11.1
SP008	12/28/2015	14:45	10
SP008	12/28/2015	15:15	9.8
SP008	12/28/2015	15:45	9.5
SP008	12/28/2015	16:15	9.4
SP008	12/28/2015	16:45	9.4
SP008	12/28/2015	17:15	8.4
SP008	12/28/2015	17:45	7.6
SP008	12/28/2015	18:15	7.1
SP008	12/28/2015	18:45	7.4
SP008	12/28/2015	19:15	7.4
SP008	12/28/2015	19:45	7.9
SP008	12/28/2015	20:15	7.8
SP008	12/28/2015	20:45	8.5
SP008	12/28/2015	21:15	7.9
SP008	12/28/2015	21:45	7.8
SP008	12/28/2015	22:15	7.3
SP008	12/28/2015	22:45	6.9
SP008	12/28/2015	23:15	7.1
SP008	12/28/2015	23:45	7
SP008	12/29/2015	0:15	6.9
SP008	12/29/2015	0:45	7.1
SP008	12/29/2015	1:15	7.4
SP008	12/29/2015	1:45	8
SP008	12/29/2015	2:15	8.4
SP008	12/29/2015	2:45	8.4
SP008	12/29/2015	3:15	6.8
SP008	12/29/2015	3:45	6.8
SP008	12/29/2015	4:15	6.8
SP008	12/29/2015	4:45	7.2
SP008	12/29/2015	5:15	6.7
SP008	12/29/2015	5:45	6.9
SP008	12/29/2015	6:15	6.8
SP008	12/29/2015	6:45	6.8
SP008	12/29/2015	7:15	6.9
SP008	12/29/2015	7:45	6.9
SP008	12/29/2015	8:15	7
SP008	12/29/2015	8:45	6.9
SP008	12/29/2015	9:15	6.9
SP008	12/29/2015	9:45	6.8
SP008	12/29/2015	10:15	6.8
SP008	12/29/2015	10:45	7.2
SP008	12/29/2015	11:15	6.9
SP008	12/29/2015	11:45	6.9

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SP008	12/29/2015	12:15	7	
SP008	12/29/2015	12:45	7	
SP008	12/29/2015	13:15	11.8	NOV sent on 1-4-16 by TCB
SP008	12/29/2015	13:45	11.6	
SP008	12/29/2015	14:15	11	
SP008	12/29/2015	14:45	10	
SP008	12/29/2015	15:15	10.3	
SP008	12/29/2015	15:45	8.1	

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) __JULY-SEPT) _X___(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**010**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		12/1/2015					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		Grab: 11:35; Comp Start: 2:45; End: 11:35					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		M	1,202,715					gal/day
Oil & Grease	200	G	6					mg/l
Biochemical Oxygen Demand[1]	****	C	640					mg/l
Chemical Oxygen Demand	****	C	1280					mg/l
Total Suspended Solids	****	C	35					mg/l
Temperature	60	G	26.6					deg C
pH	5.5 - 11.5	G	6.8					S.U.
Chromium	5.0	C	<0.0050					mg/l
Copper	2.7	C	0.0078					mg/l
Nickel	2.3	C	0.0090					mg/l
Zinc	3.0	C	0.0149					mg/l
Cyanide **	1.2	C	<0.007					mg/l
[1] BOD composite was taken on 12/1/15 at 14:45 to 12/2/15 at 11:35								
Shaded values represent detection limits								
** Total Cyanide result. Interference prevented analysis of Cyanide Amenable to Chlorination								
Lab Dilution Factor			1,5,5,1,1,1,1,1,1					

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Manual pH Monitoring

Starting Date: 10/13/2015

Sample Point	Date	Time	pH
SP010	10/13/2015	6:00	8.2
SP010	10/13/2015	6:30	8.26
SP010	10/13/2015	7:00	8.3
SP010	10/13/2015	7:30	8.21
SP010	10/13/2015	8:00	8.9
SP010	10/13/2015	8:30	8.82
SP010	10/13/2015	9:00	8.79
SP010	10/13/2015	9:30	10.42
SP010	10/13/2015	10:00	10.2
SP010	10/13/2015	10:30	10.55
SP010	10/13/2015	11:00	11.33
SP010	10/13/2015	11:30	11.32
SP010	10/13/2015	12:00	11.32
SP010	10/13/2015	12:30	11.3
SP010	10/13/2015	13:00	11.2
SP010	10/13/2015	13:30	11
SP010	10/13/2015	14:00	10.8
SP010	10/13/2015	14:30	9.41
SP010	10/13/2015	15:00	9.17
SP010	10/13/2015	15:30	8.9
SP010	10/13/2015	16:00	8.79
SP010	10/13/2015	16:30	8.61
SP010	10/13/2015	17:00	8.38

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METROPOLITAN ST. LOUIS SEWER DISTRICT
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Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) X (OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->	011		011		011		
DATES ON WHICH SAMPLES WERE COLLECTED	----->		10/11/2015		10/12/2015		11/8/2015	
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		8:30 AM		2:40 PM		10:40 AM	
PARAMETER	LIMIT	RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	7,000	E	14,000	E	7,000	gal/day
Oil & Grease	200	G	<6	G	<5	G	<5	mg/l
Biochemical Oxygen Demand	****	G	<5	G	8	G	<5	mg/l
Chemical Oxygen Demand	****	G	<50	G	<50	G	<50	mg/l
Total Suspended Solids	****	G	161	G	<6	G	<6	mg/l
Temperature	60	G	23.3	G	22.2	G	*	deg C
pH	5.5 - 11.5	G	*	G	*	G	*	S.U.
Shaded values represent detection limits								
*See attached pH monitoring log								
Lab Dilution Factor			1		1		1	

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

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Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

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ENVIRONMENTAL COMPLIANCE

Monitoring Period: ___(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) _X_(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**011**					
DATES ON WHICH SAMPLES WERE COLLECTED	----->		12/17/2015					
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		5:15 AM					
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow						UNITS
FLOW		E	14,000					gal/day
Oil & Grease	200	G	<5					mg/l
Biochemical Oxygen Demand	****	G	15					mg/l
Chemical Oxygen Demand	****	G	<50					mg/l
Total Suspended Solids	****	G	48					mg/l
Temperature	60	G	*					deg C
pH	5.5 - 11.5	G	*					S.U.
Shaded values represent detection limits								
*See attached pH monitoring log								
Lab Dilution Factor			1					

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

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Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147
Monitoring Period: ____(JAN-MAR) __(APR-JUNE) ___(JULY-SEPT) _X___(OCT-DEC)
Samples Collected By: Mallinckrodt Inc
Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS			---->		**080**						
DATES ON WHICH SAMPLES WERE COLLECTED			---->		NA						
TIMES AT WHICH SAMPLES WERE COLLECTED			---->		NA						
PARAMETER	EPA METHOD	DAILY MAX	AVG MONTHLY	**RECORD SAMPLE TYPES (G, C, M OR E) & RESULTS** G=Grab, C-composite, M=measured flow, E=estimated							UNITS
FLOW				E	*						gal/day
Acetone	524.2	20.70	8.20	G	*						mg/L
n-Amyl Acetate	1666	20.70	8.20	G	*						mg/L
Benzene	524.2	3.00	0.70	G	*						mg/L
n-Butyl acetate	1666	20.70	8.20	G	*						mg/L
Chlorobenzene	524.2	3.00	0.70	G	*						mg/L
Chloroform*	524.2	0.10	0.03	G	*						mg/L
1,2-Dichlorobenzene	524.2	20.70	8.20	G	*						mg/L
1,2-Dichloroethane	524.2	20.70	8.20	G	*						mg/L
Diethyl amine	1671	255.00	100.00	G	*						mg/L
Ethyl Acetate	1666	20.70	8.20	G	*						mg/L
n-Heptane	1666	3.00	0.70	G	*						mg/L
n-Hexane	1666	3.00	0.70	G	*						mg/L
Isobutyraldehyde	1666	20.70	8.20	G	*						mg/L
Isopropyl acetate	1666	20.70	8.20	G	*						mg/L
Isopropyl ether	1666	20.70	8.20	G	*						mg/L
Methylene chloride	524.2	3.00	0.70	G	*						mg/L
Methyl formate	1666	20.70	8.20	G	*						mg/L
4-Methyl-2-pentanone	1666	20.70	8.20	G	*						mg/L
Tetrahydrofuran	1666	9.20	3.40	G	*						mg/L
Toluene	524.2	0.30	0.20	G	*						mg/L
Triethyl amine	1671	255.00	100.00	G	*						mg/L
Xylenes	1666	3.00	0.70	G	*						mg/L
Oil & Grease	1664	200		G	*						mg/L
Biochemical Oxygen Demand		****		C	*						mg/L
Chemical Oxygen Demand		****		C	*						mg/L
Total Suspended Solids		****		C	*						mg/L
Temperature		60		G	*						deg C
pH		5.5 - 11.5		G	*						S.U.
***(No) flow from SP080 in 4rd QTR 2015**											
Dilution by lab					NA						

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147 _____

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) ___(JULY-SEPT) __X_(OCT-DEC)

Samples Collected By: Mallinckrodt

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS		----->		**905**			
DATES ON WHICH SAMPLES WERE COLLECTED		----->		11/17/2015			
TIMES AT WHICH SAMPLES WERE COLLECTED		----->		2:25 PM			
	MONTHLY LIMIT (ave)	DAILY MAX LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flow				
PARAMETER	(gm/day)	(gm/day)		Results mg/L	Results gm/day		UNITS
FLOW			M	28664	28664		gal/day
1,2,4-Trichlorobenzene	45	182	G	0.250	27.124		gm/day
1,2-Dichlorobenzene	45	182	G	0.005	0.542		gm/day
1,3-Dichlorobenzene	33	87	G	0.005	0.542		gm/day
1,4-Dichlorobenzene	33	87	G	0.005	0.542		gm/day
2-Nitrophenol	15	53	G	0.125	13.562		gm/day
2-Methyl-4,6-dinitrophenol	18	64	G	0.125	13.562		gm/day
4-Nitrophenol	37	132	G	0.250	27.124		gm/day
Acenapthene	4	11	G	0.025	2.712		gm/day
Anthracene	4	11	G	0.025	2.712		gm/day
Bis(2-ethylhexyl)phthalate	22	59	G	0.150	16.274		gm/day
Diethyl phthalate	11	26	G	0.025	2.712		gm/day
Dimethyl phthalate	4	11	G	0.025	2.712		gm/day
Di-n-butyl phthalate	5	10	G	0.025	2.712		gm/day
Fluoranthene	5	12	G	0.025	2.712		gm/day
Fluorene	4	11	G	0.025	2.712		gm/day
Hexachlorobenzene	45	182	G	0.250	27.124		gm/day
Hexachlorobutadiene	33	87	G	0.250	27.124		gm/day
Hexachloroethane	45	182	G	0.250	27.124		gm/day
Naphthalene	4	11	G	0.025	2.712		gm/day
Phenanthrene	4	11	G	0.025	2.712		gm/day
Pyrene	5	11	G	0.025	2.712		gm/day
1,1,1-Trichloroethane	5	14	G	0.005	0.542		gm/day
1,1,2-Trichloroethane	7	29	G	0.005	0.542		gm/day
1,1-Dichloroethane	5	14	G	0.005	0.542		gm/day
1,1-Dichloroethene	5	14	G	0.005	0.542		gm/day
1,2-Dichloroethane	41	132	G	0.005	0.542		gm/day
1,2-Dichloropropane	45	182	G	0.005	0.542		gm/day
Benzene	13	31	G	0.002	0.217		gm/day
Carbon Tetrachloride	33	87	G	0.005	0.542		gm/day
Chlorobenzene	33	87	G	0.005	0.542		gm/day
Chloroethane	25	68	G	0.010	1.085		gm/day
Chloroform	25	75	G	0.005	0.542		gm/day
Chloromethane	25	68	G	0.010	1.085		gm/day
cis-1,3-Dichloropropene	45	182	G	0.005	0.542		gm/day
Ethylbenzene	33	87	G	0.005	0.542		gm/day
Methylene Chloride	8	39	G	0.005	0.542		gm/day
Nitrobenzene	514	1470	G	0.250	27.124		gm/day
Tetrachloroethene	12	38	G	0.005	0.542		gm/day
Toluene	6	17	G	0.005	0.542		gm/day
trans-1,2-Dichloroethene	6	16	G	0.005	0.542		gm/day
trans-1,3-Dichloropropene	45	182	G	0.005	0.542		gm/day
Trichloroethene	6	16	G	0.005	0.542		gm/day
Vinyl Chloride	22	44	G	0.002	0.217		gm/day
Shaded values represent detection limits							
Lab Dilution Factor: VOA 1; SVOA 25					1, 25		

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ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PART I: IDENTIFYING INFORMATION

Company Name: **Mallinckrodt Inc.**

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ____(JAN-MAR) ____(APR-JUNE) ____(JULY-SEPT) __X__(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS	----->		**912**		**912**		**912**	
DATES ON WHICH SAMPLES WERE COLLECTED	----->		10/20/2015		11/24/2015		12/9/2015	
TIMES AT WHICH SAMPLES WERE COLLECTED	----->		10:58 AM		11:20 AM		10:20 AM	
PARAMETER	LIMIT	**RECORD SAMPLE TYPES (G,C,M OR E) & RESULTS BELOW** G=grab,C=composite,M=measured flow,E=estimated flo						UNITS
FLOW		M	49413	M	55227	M	57852	gal/day
DMAC (daily max)	7091	G	504	G	1032	G	1081	lb/day
DMAC (monthly average)	5459	G	504	G	1032	G	1081	lb/day
			1225		2244		2255	ppm
504 lb day 1 kg 1e6 mg 1 GAL								
day 49,413 gal 2.2 lb 1 kg L 3.785								
=1225 mg/L								
Lab Dilution Factor			1		2		2	

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ENVIRONMENTAL COMPLIANCE

MSD 014493

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

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Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020
Premise Address: 3600 North Second St., St. Louis, MO 63147
Monitoring Period: ___(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) __X__(OCT-DEC)
Samples Collected By: Mallinckrodt Inc
Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS			---->		**915**						
DATES ON WHICH SAMPLES WERE COLLECTED			---->		12/9/2015						
TIMES AT WHICH SAMPLES WERE COLLECTED			---->		09:40						
PARAMETER	EPA METHOD	DAILY MAX	AVG MONTHLY	**RECORD SAMPLE TYPES (G, C, M OR E) & RESULTS BELOW** G=Grab, C-composite, M=measured flow, E=estimated flow							UNITS
FLOW				E	2,700						gal/day
Acetone	524.2	20.70	8.20	G	<1.00						mg/L
n-Amyl acetate	1666	20.70	8.20	G	<0.100						mg/L
Benzene	524.2	3.00	0.70	G	<0.100						mg/L
n-Butyl acetate	1666	20.70	8.20	G	<0.100						mg/L
Chlorobenzene	524.2	3.00	0.70	G	<0.100						mg/L
Chloroform	524.2	0.10	0.03	G	<0.0200						mg/L
1,2-Dichlorobenzene	524.2	20.70	8.20	G	<0.100						mg/L
1,2-Dichloroethane	524.2	20.70	8.20	G	<0.100						mg/L
Diethyl amine*	1671	255.00	100.00	G	*						mg/L
Ethyl Acetate	1666	20.70	8.20	G	<0.200						mg/L
n-Heptane	1666	3.00	0.70	G	<0.200						mg/L
n-Hexane	1666	3.00	0.70	G	<0.200						mg/L
Isobutyraldehyde	1666	20.70	8.20	G	<0.200						mg/L
Isopropyl acetate	1666	20.70	8.20	G	<0.100						mg/L
Isopropyl ether	1666	20.70	8.20	G	<0.100						mg/L
Methylene chloride	524.2	3.00	0.70	G	<0.100						mg/L
Methyl formate	1666	20.70	8.20	G	<1.00						mg/L
4-Methyl-2-pentanone	1666	20.70	8.20	G	<0.682						mg/L
Tetrahydrofuran	1666	9.20	3.40	G	<0.400						mg/L
Toluene	524.2	0.30	0.20	G	<0.100						mg/L
Triethyl amine*	1671	255.00	100.00	G	*						mg/L
Xylenes	1666	3.00	0.70	G	<0.160						mg/L
** Diethyl Amine & Triethyl Amine are sampled at least once per year*											
Shaded values represent detection limits.											
Dilution by lab					20						

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

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Monitoring Period: ____(JAN-MAR) ___(APR-JUNE) ____(JULY-SEPT) _X_(OCT-DEC)
Samples Collected By: Mallinckrodt Inc
Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS			---->		920						
DATES ON WHICH SAMPLES WERE COLLECTED			---->		11/5/2015						
TIMES AT WHICH SAMPLES WERE COLLECTED			---->		09:00						
PARAMETER	EPA METHOD	DAILY MAX	AVG MONTHLY	RECORD SAMPLE TYPES (G, C, M OR E) & RESULTS BELOW G=Grab, C-composite, M=measured flow, E=estimated flow							UNITS
FLOW				E	13,000						gal/day
Tetrahydrofuran	1666	9.20	3.40	G	<0.400						mg/L
Toluene	524.2	0.30	0.20	G	<0.100						mg/L
Cyanide (total)	335.4	33.50	9.40	G	<0.007						mg/L
Shaded values represent detection limits.											
Dilution by lab					1, 10, 20						

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METROPOLITAN ST. LOUIS SEWER DISTRICT
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Premise Address: 3600 North Second St., St. Louis, MO 63147
Monitoring Period: ___(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) X (OCT-DEC)
Samples Collected By: Mallinckrodt Inc
Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS			---->		927						
DATES ON WHICH SAMPLES WERE COLLECTED			---->								
TIMES AT WHICH SAMPLES WERE COLLECTED			---->								
PARAMETER	EPA METHOD	DAILY MAX	AVG MONTHLY	RECORD SAMPLE TYPES (G, C, M OR E) & RESULTS BELOW G=Grab, C-composite, M=measured flow, E=estimated flow							UNITS
FLOW				E							gal/day
Acetone	524.2	20.70	8.20	G	*						mg/L
n-Amyl acetate	1666	20.70	8.20	G	*						mg/L
Ethyl Acetate	1666	20.70	8.20	G	*						mg/L
Isopropyl acetate	1666	20.70	8.20	G	*						mg/L
Methylene chloride	524.2	3.00	0.70	G	*						mg/L
*No Flow from SP927 4th Quarter 2015											
Dilution by lab					20						

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JAN 25 2016
DIVISION OF
ENVIRONMENTAL COMPLIANCE

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PLEASE READ THE INSTRUCTIONS BEFORE COMPLETING THIS REPORT

PART I: IDENTIFYING INFORMATION

Company Name: Mallinckrodt Inc.

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) _X_(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TekLab

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS			---->		933						
DATES ON WHICH SAMPLES WERE COLLECTED			---->		10/19/2015						
TIMES AT WHICH SAMPLES WERE COLLECTED			---->		13:13						
PARAMETER	EPA METHOD	DAILY MAX	AVG MONTHLY	G=Grab, C-composite, M=measured flow, E=estimated flow							UNITS
FLOW				E	100						gal/day
Acetone	524.2	20.70	8.20	G	1.290						mg/L
n-Amyl acetate	1666	20.70	8.20	G	<5.0						mg/L
Ethyl Acetate	1666	20.70	8.20	G	<10.0						mg/L
Isopropyl acetate	1666	20.70	8.20	G	<5.0						mg/L
Methylene chloride	524.2	3.00	0.70	G	<0.10						mg/L
Dilution by lab					1000						

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

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PART I: IDENTIFYING INFORMATION

Company Name: Mallinckrodt Inc.

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020

Premise Address: 3600 North Second St., St. Louis, MO 63147

Monitoring Period: ___(JAN-MAR) ___(APR-JUNE) ___(JULY-SEPT) _X_(OCT-DEC)

Samples Collected By: Mallinckrodt Inc

Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS					**936**							
DATES ON WHICH SAMPLES WERE COLLECTED					12/9/2015							
TIMES AT WHICH SAMPLES WERE COLLECTED					09:40							
PARAMETER	EPA METHOD	DAILY MAX	AVG MONTHLY	**RECORD SAMPLE TYPES (G, C, M OR E) & RESULTS BELOW** G=Grab, C-composite, M=measured flow, E=estimated flow								UNITS
FLOW				E	16,500							gal/day
Acetone	524.2	20.70	8.20	G	<1.0							mg/L
n-Amyl acetate	1666	20.70	8.20	G	<0.100							mg/L
Benzene	524.2	3.00	0.70	G	<0.100							mg/L
n-Butyl acetate	1666	20.70	8.20	G	<0.100							mg/L
Chlorobenzene	524.2	3.00	0.70	G	<0.100							mg/L
Chloroform*	524.2	0.10	0.03	G	<0.0200							mg/L
1,2-Dichlorobenzene	524.2	20.70	8.20	G	<0.100							mg/L
1,2-Dichloroethane	524.2	20.70	8.20	G	<0.100							mg/L
Diethyl amine**	1671	255.00	100.00	G	*							mg/L
Ethyl Acetate	1666	20.70	8.20	G	<0.200							mg/L
n-Heptane	1666	3.00	0.70	G	<0.200							mg/L
n-Hexane	1666	3.00	0.70	G	<0.200							mg/L
Isobutyraldehyde	1666	20.70	8.20	G	<0.200							mg/L
Isopropyl acetate	1666	20.70	8.20	G	<0.100							mg/L
Isopropyl ether	1666	20.70	8.20	G	<0.100							mg/L
Methylene chloride	524.2	3.00	0.70	G	<0.100							mg/L
Methyl formate	1666	20.70	8.20	G	<1.00							mg/L
4-Methyl-2-pentanone	1666	20.70	8.20	G	<0.200							mg/L
Tetrahydrofuran	1666	9.20	3.40	G	<0.400							mg/L
Toluene	524.2	0.30	0.20	G	<0.100							mg/L
Triethyl amine**	1671	255.00	100.00	G	*							mg/L
Xylenes	1666	3.00	0.70	G	<0.160							mg/L
*** Chloroform Results**	**Raw Water**	**SP936**	**SP936- Raw Water**									
	0.0200	**0.0200**	**<0.0200**									
Results above reported as the difference between SP936 and Raw Water												
*** Diethyl Amine & Triethyl Amine are sampled at least once per year*												
Shaded values represent detection limits.												
Dilution by lab					20							

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ENVIRONMENTAL COMPLIANCE

2015 4Q SP9XX PEG.xlsx

METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PLEASE READ THE INSTRUCTIONS BEFORE COMPLETING THIS REPORT

PART I: IDENTIFYING INFORMATION

Company Name: Mallinckrodt Inc.
Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020
Premise Address: 3600 North Second St., St. Louis, MO 63147
Monitoring Period: ___(JAN-MAR) ___(APR-JUNE) ____(JULY-SEPT) _X_(OCT-DEC)
Samples Collected By: Mallinckrodt Inc
Analysis Performed By: TEKLAB

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS			---->		937						
DATES ON WHICH SAMPLES WERE COLLECTED			---->		11/5/2015						
TIMES AT WHICH SAMPLES WERE COLLECTED			---->		09:00						
PARAMETER	EPA METHOD	DAILY MAX	AVG MONTHLY	**RECORD SAMPLE TYPES (G, C, M OR E) & RESULTS BELOW** G=Grab, C-composite, M=measured flow, E=estimated flow							UNITS
FLOW				E	23,000						gal/day
Tetrahydrofuran	524.2	9.20	3.40	G	<0.400						mg/L
Toluene	524.2	0.30	0.20	G	<0.100						mg/L
Cyanide (total)	335.4	33.50	9.40	G	<0.007						mg/L
Shaded values represent detection limits.											
Dilution by lab					20.10						

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METROPOLITAN ST. LOUIS SEWER DISTRICT
INDUSTRIAL USER SELF MONITORING REPORT

PLEASE READ THE INSTRUCTIONS BEFORE COMPLETING THIS REPORT

PART I: IDENTIFYING INFORMATION

Company Name: Mallinckrodt LLC

Permit No.: 1011728100-2 Effective Date: 06-01-2015 Expiration Date: 05-31-2020
Premise Address: 3600 North Second St., St. Louis, MO 63147
Monitoring Period: ___(JAN-MAR) ___(APR-JUNE) ____(JULY-SEPT) _X_(OCT-DEC)
Samples Collected By: Mallinckrodt Inc
Analysis Performed By: TekLab

Part II: ANALYTICAL RESULTS OF SELF MONITORING

MSD SAMPLE POINT REFERENCE NUMBERS			---->		**938**						
DATES ON WHICH SAMPLES WERE COLLECTED			---->		12/11/2015						
TIMES AT WHICH SAMPLES WERE COLLECTED			---->		09:15						
PARAMETER	EPA METHOD	DAILY MAX	AVG MONTHLY	**RECORD SAMPLE TYPES (G, C, M OR E) & RESULTS BELOW** G=Grab, C-composite, M=measured flow, E=estimated flow							UNITS
FLOW				E	71						gal/day
Acetone	524.2	20.70	8.20	G	<1.00						mg/L
n-Amyl acetate	1666	20.70	8.20	G	<0.100						mg/L
Ethyl Acetate	1666	20.70	8.20	G	<0.200						mg/L
Isopropyl acetate	1666	20.70	8.20	G	<0.100						mg/L
Methylene chloride	524.2	3.00	0.70	G	<0.100						mg/L
Shaded values represent detection limits.											
Dilution by lab					20						

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JAN 25 2016

DIVISION OF
ENVIRONMENTAL COMPLIANCE

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

January 20, 2016

Jonathan Eckles
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Re: Wastewater User Charge Billing for Special Discharge

Dear Mr. Eckles:

This is to advise you of the wastewater user charges applicable to an on-site special discharge approved in our letter to you dated January 5, 2016. That charge was determined using the ethylene glycol concentration in your application for special discharge. The discharge dates and quantities are from information submitted by you in an email dated January 15, 2016.

Our Finance Department will bill you by invoice for the charges described below. These charges are based on the rates in MSD Wastewater User Charge Ordinance 13758. For your convenience, using the volume and strength of the waste discharged, the ordinance rates have been converted to a per-gallon basis.

PARTY TO BILL: Addressee

BILLING IS FOR: On-Site Special Discharge

DISCHARGE PERIOD: January 14, 2016

SOURCE OF WASTE: 17% ethylene glycol solution from the chiller system associated with Building 235 of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri.

Discharge Period	Billing Item	Quantity	Units	Rate	Charge
1/14/16	Extra-Strength Surcharge	3,262	Gal	$0.22	$728.78
Total:	------	**3,262**	Gal	----	**$728.78**

Please do not pay until you receive our invoice. Payments made without invoice could potentially be misapplied.

If you have any questions, please contact me at (314) 436-8755.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace

Steve Grace
Environmental Assistant Engineer

bv

ec: Doug Mendoza
Brian Gibson

File: IU, MALLINCKRODT LLC [1011728100], 3600 N. 2nd Street, St. Louis

Steve Grace

From: Eckles, Jonathan <Jonathan.Eckles@mallinckrodt.com>
Sent: Friday, January 15, 2016 8:06 AM
To: Steve Grace
Cc: Blaies, Jeff T
Subject: Special Discharge Permit

Hello Steve,

We discharged approximately 3,262 gallons of 17% ethylene glycol solution to the sewer on January 14th, between 08:42 and 15:05.

Please let me know if you need any additional information.

Thanks,
Jonathan

Jonathan Eckles, CHMM
Principal EHS Engineer
Mallinckrodt Pharmaceuticals
3600 North Second Street I St. Louis, MO, 63147
T: 314.654.0138 I C: 314.267.1812 | F: 314.654.1251
www.mallinckrodt.com

TGB —
SR
Mallinckrodt LLC
1011728100

Tom Boehm

To: Eckles, Jonathan
Subject: RE: Mallinckrodt Overflow @ SP008

Thanks Jonathan.

Please call or write with any questions or comments.

Tom Boehm | Metropolitan St. Louis Sewer District | Engineering/Environmental Compliance | p. 314.436.8719 | f. 314.436.8753

From: Eckles, Jonathan [mailto:Jonathan.Eckles@mallinckrodt.com]
Sent: Wednesday, December 30, 2015 8:21 AM
To: Tom Boehm
Subject: RE: Mallinckrodt Overflow @ SP008

Good Morning Tom,

Repairs were completed yesterday afternoon and the Yard 9 lift station was put back in service shortly after 16:00 on 12/29/15.

We ceased overflowing to SP008 at approximately 16:15 and the plant is waste water systems are operating normally.

Thanks, and have a great holiday!

Jonathan

Jonathan Eckles, CHMM
Principal EHS Engineer
Mallinckrodt Pharmaceuticals
3600 North Second Street I St. Louis, MO, 63147
T: 314.654.0138 I C: 314.267.1812 | F: 314.654.1251
www.mallinckrodt.com

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

January 5, 2016

Jeff Blaies
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Dear Mr. Blaies:

We have reviewed your application dated December 30, 2015 requesting approval to discharge 4,200 gallons of wastewater to the Metropolitan St. Louis Sewer District for treatment. This wastewater is 17% ethylene glycol solution from the chiller system associated with Building 235 of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri. We understand that the wastewater will be discharged through sampling point 010.

Based on the information you provided, this wastewater meets MSD Ordinance 12559 standards and is approved for discharge into a sanitary or combined sewer on site. **Due to the assumed elevated chemical oxygen demand (COD) concentration based on the percentage of glycol in the wastewater, the discharge is limited to 1,020 gallons per hour. This approval is valid for 30 days from the date of this letter.**

You must be certain the waste is discharged into a combined sewer inlet only. This letter does not authorize any discharge to a separate storm sewer, or to any watercourse, as any such discharge would be in violation of state and federal laws. **Please notify me at the number below when the discharge is to commence, and please ensure the onsite personnel discharging the wastewater in question are provided with a copy of this letter.**

For billing purposes associated with this high COD wastewater, you must confirm the volume of this wastewater discharged to us, in writing, at the completion of the discharge. This report is due no later than 28 days after this approval expires. Please refer to this letter and include the date of the discharge when providing that figure. Under the provisions of MSD Ordinance 13758, you will be billed by invoice at the billing rate in effect at the time of discharge. The current rate contained in MSD Ordinance 13758 is $316.19 per ton for COD over 600 mg/L. Using the assumed COD concentration based on the percent of ethylene glycol contained in the wastewater in question, and the proposed discharge volume provided in your application, it is estimated that you will be discharging approximately three tons of COD over 600 mg/L. (Our quantitative estimate is 2.99 tons COD times $316.19). Please do not pay this amount until you receive our invoice.

This discharge has been approved based upon the information and sample analysis you provided, and is subject to the conditions stated above. This approval may be revoked by the District at any time if any of the information is found to be incorrect, or if the conditions of this approval are violated. Also, if the discharge causes any operational or maintenance problem within the District's collection or treatment system, or results in violations of any conditions of the District's NPDES permit, Mallinckrodt will be considered responsible for damages. If you have any questions, please call me at (314) 436-8755.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Steven M. Grace

Steve Grace
Environmental Assistant Engineer

bv

ec: Brian Gibson
Doug Mendoza

File: IU, MALLINCKRODT INC [1011728100]

C1A

SD EVALUATION CHECKLIST - ON SITE

APPLICATION INFORMATION

Source Name: Mallinckrodt LLC Evaluated by: SMG

Premise Address: 3600 N. 2nd St. Date: 1/5/16

Send approval letter to applicant

Application Dated: 12/30/15 Received: 1/4/16 All Requested Info. Received: 1/5/16

SOURCE FILING/DESCRIPTION

1 - Source in PIMS? (Y) / N |
2 - If No, on IU Cross-Ref list? * Y / N |
3 - If No, MSD Account # from E-CIS? Y / N |
4 - If none, on "Source" list (pre-IMS)? ** Y / N |
5 - If No, assigned SOUR# from PIMS. |

SOURCE TYPE (circle): (IU) / Dead IU / SD

INDUSTRY ID: 1011728100

* o:\costrecovery\cross reference xls file

** o:\costrecovery\sourlist xls file

Sample Point: No. Assigned: 8 12 Description: 17% ethylene glycol soln. from the chiller system assoc. w/ Bldg 235

Normal WW flow from premise? N/A _____ ccf/month, 1,118,137 GPD, _____ GPH. @ SP010

REGULATORY STATUS

Is waste a Hazardous Waste? (N) / Y _____

Categorical standards apply? (N) / Y _____

Contain PCB/ asbestos/ radioactive/ dioxin/ used oil? (N) / Y _____

Regulatory Agency Oversight? (N) / Y _____

DISCHARGE CONSIDERATIONS At MSD's connection:

Ordinance Limits (12559, p. 32) exceeded? (N) / Y _____

Ordinance other limits exceeded (dye, flash pt <140° F, temp >140° F, obstruction, nuisance foaming/odor, corrosion causing): (N) / Y _____

Water Quality Standard exceeded? (N) / Y _____

Fumes in sewer exceed PEL/TLV limits? (N) / Y _____

Vapors in sewer exceed 10% of LEL? (N) / Y _____

RECOMMENDATION: (APPROVE) / DENY (cc WWTP Mgr for timed discharge)

APPROVAL CONDITIONS:

Timed Discharge (COD/BOD/WQ/foam): N / (Y) Limit = 1,020 gal/hour

Require Treatment before Discharge? (N) / Y _____

Laboratory analysis fee due? (N) / Y $_____

SMR required? (N) / Y Frequency/analysis: _____

SMR log: (N/A) / Remediation.xls / Nonremediation.xls

Volume Billing applies (water unmetered or credited)? (N) / Y

Bill High Strength? N / (Y) Yes, If use >60,000 gal/month water ✓ and, > norm WW strgth

Surcharge calculation attached: N/A / N / (Y)

Expiration log updated: (N/A) / N / Y

O:\CostRecovery\Special Discharge\C1a.Checklist.doc

On-Site Special Discharge High Strength Flow Rate and Surcharge Calculator

1 GENERAL INFORMATION:

Date: 01/05/16
Calculated by: Steve Grace
Source name: MALLINCKRODT LLC [1011728100]
Waste material: used ethylene glycol coolant solution from building 235 chiller system
Discharge volume: 4,200 gallons

2 STRENGTH INFORMATION:

Sample BOD =	0	mg/l =	0	lbs BOD to be discharged
Sample COD =	170,000	mg/l =	5955	lbs COD to be discharged
Sample TSS =		mg/l =	for surcharge calculation only	

3 PLANT DATA: 2007

Treatment area: Bissell

	Flow (MGD)	BOD (mg/L)	COD (mg/L)	BOD (lb/hr)	COD (lb/hr)	Max Loading = 10% BOD (lb/hr)	COD (lb/hr)
Bissell	**140**	**146**	**292**	**7,113**	**14,227**	**711**	**1,423**
Coldwater	23	226	452	1,768	3,535	177	354
Fenton	5	307	614	482	964	48	96
Grand Glaize	16	152	399	830	2,183	83	218
Lemay	122	81	228	3,438	9,610	344	961
Lower Meramec	10	124	364	452	1,326	45	133
Missouri River	28	281	561	2,732	5,465	273	546

4 MINIMUM REQUIRED FLOW RATE:

	BOD (hours)	BOD (gpm)	COD (hours)	COD (gpm)
Bissell	**0.00**	**0**	**4.19**	**17**
Coldwater	0.00	0	16.84	4
Fenton	0.00	0	61.74	1
Grand Glaize	0.00	0	27.27	3
Lemay	0.00	0	6.20	11
Lower Meramec	0.00	0	44.90	2
Missouri River	0.00	0	10.90	6

5 SURCHARGE AND VOLUME BILLING

Is volume subject to billing? no (yes/no)
Ratio of BOD/COD = 0.00

(Sample BOD) - 300 = 0 mg/l subject to surcharge
(sample COD) - 600 = 169400 mg/l subject to surcharge
(sample TSS) - 300 = 0 mg/l subject to surcharge

If BOD/COD ratio <= 0.35, the following calculations use the COD value. Otherwise they use the BOD value

Current rates under Ordinance: 13758

Volume =	$	3.21	/CcF
BOD =	$	632.38	/ton
COD =	$	316.19	/ton
TSS =	$	251.88	/ton

Flow charge =	$	-	based on volume =	5.6	CcF
BOD surcharge =	$	-			
COD surcharge =	$	938.35			
TSS surcharge =	$	-			
Total discharge charge =	$	938.35			
Customer charge =	**$**	**938.35**	DEC charges special discharge customers for total charges > $20.00		
Approximate charge/gallon =	$	0.22			

Comments

require volume report for billing purposes. Smg

Metropolitan St. Louis Sewer District
2350 Market Street
St. Louis, MO 63103

APPLICATION FOR SPECIAL DISCHARGE APPROVAL

I. WASTEWATER SOURCE IDENTIFICATION:

Site Name: Mallinckrodt LLC
Premise Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Owner: Mallinckrodt LLC
Contact Person: Jeff Blaies
Title: Principal EHS Engineer
Phone: 314.654.2149 Fax: 314.654.1251

II. APPLICANT (mailing information):

Applicant Name: Jeff Blaies
Title: Principal EHS Engineer
Company Name: Mallinckrodt LLC
Mailing Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Phone: 314.654.2149 Fax: 314.654.1251

III. A. MATERIAL TO BE DISCHARGED (check all applicable boxes):

1. Wastewater description/location: Ethylene Glycol and Water in B235 T-325
2. Process/activity generating wastewater: City Water valve failed to close all the way and filled glycol tank in B235.
3. Physical and chemical composition: List all constituents, and known or potentially present regulated contaminants below.
   ☐ See separate listing enclosed, and/or ☐ See analytical results enclosed, and/or ■ Material Safety Data Sheet enclosed.

DESCRIPTION	RANGE	UNIT
Diluted Ethylene Glycol	17	%
Water	83	%

DESCRIPTION *(continued)*	RANGE	UNIT

4. Is this wastewater from a process subject to EPA's categorical standards in 40 CFR Subchapter N? ☐ Yes ☑ No
   a. If yes, the applicable standards are in: 40 CFR Part _____, Subpart _____ ☐ Existing source ☐ New source
5. Does this wastewater contain polychlorinated biphenyls, asbestos or radioactive material? ☐ Yes ☑ No
   a. If yes, describe: _____
6. Representative sample: ☐ Laboratory results attached, and/or ☐ Sample provided (1/2 gallon minimum, clear container)
   a. Sample collection point/location: _____ Collection method: _____
   b. Sampler's name/Co.: _____ Sample date/time: _____
   c. Attach chain of custody as available
7. Discharge will occur over the following time period: ■ < 30 days ☐ ≥ Two years ☐ Other: _____
   a. Expected total volume of wastewater to be discharged over the time period above: _____ Gallons
   b. Proposed discharge volume: 4200 Gallons, at a frequency of: ■ One time ☐ Daily ☐ Weekly ☐ Monthly ☐ Once/three months ☐ Once/six months ☐ Other: _____
8. Pretreatment of wastewater prior to discharge: ☐ None ■ Yes, describe: pH adjustment at main plant outfall SP010
   a. If yes, attach site plan, pretreatment system schematic, and design specifications.
9. Wastewater from a remediation project under: ☐ Superfund/CERCLA ☐ RCRA ☐ Voluntary program ☐ UST ■ Not applicable
   a. If from a remediation project, briefly describe the past and present utilization of the property: _____

7

III.B. MATERIAL FROM UNDERGROUND STORAGE TANK SOURCE

☒ **Not applicable (go to Section IV)**

Please answer the following questions if you are requesting to discharge wastewater associated with an underground storage tank system.

1. a. Wastewater from: ☐ Inside UST(s) ☐ UST system pit ☐ Excavation outside UST system pit ☐ Monitoring well ☐ Groundwater remediation system

   b. UST project involves wastewater from: ☐ UST(s) closed in place ☐ UST(s) removed ☐ Remediation ☐ Upgrade ☐ Maintenance activities ☐ Well monitoring ☐ Other, explain: _____

   c. If wastewater is from a closure project, how long has UST(s) been out of service: _____ years

2. a. State assigned UST site identification number: _____ ☐ Not applicable

   b. Number of USTs affected: _____ ☐ Unknown

   c. For the UST(s) involved, their state identification number(s): _____ ☐ Not applicable

   d. Service Station Identification Number, as applicable: _____

3. Tank contents/former contents: ☐ Gasoline ☐ #2 diesel ☐ Used oil ☐ Unknown ☐ Other: _____

IV. DISCHARGE LOCATION

1. ☒ On-site. Describe proposed point of entry to sewer and the discharge rate (must be a sanitary or combined sewer): _____
Plant sewer to main outfall SP010 _____ Note: Range of discharge must not surcharge sewer line.

2. ☐ Haul to MSD Bissell Point Hauled Waste Receiving Station at 10 E. Grand, St. Louis, MO.

   a. Transporters Name: _____ and MSD Hauler ID Number: _____

   b. Hazardous Waste Certification:

   For wastewater which is hauled to MSD's Bissell Point Hauled Waste Receiving Station, I hereby certify that to the best of my knowledge and belief, the above hauled waste is not classified as a RCRA "hazardous waste" as defined by the MDNR in 10 CSR 25 or USEPA in 40 CFR Part 261.

   Applicant Name (print): _____

   Signature: _____ **Date:** _____

ADDITIONAL INFORMATION:

_____

V. APPLICANT SIGNATURE AND CERTIFICATION

This application must be signed by the applicant: either the source contact, or a contractor or agent directly responsible for site activities.

I hereby certify that I am directly responsible for activities at the site regarding the wastewater to be discharged, and to the best of my knowledge and belief, based on appropriate inquiry, the information in this application is true, complete, and accurate. The samples or analyses submitted are representative of the materials to be discharged. If granted approval to discharge, I agree to abide by the MSD Ordinances, and all applicable federal, state and local regulations. I agree to pay the costs of any pre-approval analyses performed by MSD and to pay any applicable disposal charges for the volume and strength of the wastes discharged.

Applicant Name (print): Jeff Blaies

Signature: Jeff Blaies **Date:** 12/30/2015

FOR MSD USE ONLY:

File Name: ID No. Sample Point No.

Metropolitan St. Louis Sewer District

Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

January 5, 2016

Jonathan Eckles
MALLINCKRODT LLC
3600 North Second St.
St. Louis, MO 63147

Dear Mr. Eckles:

We have reviewed your application dated December 29, 2015 requesting approval to discharge 1,000 gallons of wastewater to the Metropolitan St. Louis Sewer District for treatment. This wastewater is 1.5% ethylene glycol solution from the chiller system associated with Building 260 of the Mallinckrodt facility located at 3600 North Second Street, St. Louis, Missouri. We understand that the wastewater will be discharged through sampling point 010.

Based on the information you provided, this wastewater meets MSD Ordinance 12559 standards and is approved for discharge into a sanitary or combined sewer on site. **This approval is valid for 30 days from the date of this letter.**

You must be certain the waste is discharged into a combined sewer inlet only. This letter does not authorize any discharge to a separate storm sewer, or to any watercourse, as any such discharge would be in violation of state and federal laws. **Please notify me at the number below when the discharge is to commence, and please ensure the onsite personnel discharging the wastewater in question are provided with a copy of this letter.**

This discharge has been approved based upon the information and sample analysis you provided, and is subject to the conditions stated above. This approval may be revoked by the District at any time if any of the information is found to be incorrect, or if the conditions of this approval are violated. Also, if the discharge causes any operational or maintenance problem within the District's collection or treatment system, or results in violations of any conditions of the District's NPDES permit, Mallinckrodt will be considered responsible for damages. If you have any questions, please call me at (314) 436-8755.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT
Steven M. Grace

Steve Grace
Environmental Assistant Engineer

bv

ec: Brian Gibson
Doug Mendoza

File: IU, MALLINCKRODT INC [1011728100]

C1A

SD EVALUATION CHECKLIST - ON SITE

APPLICATION INFORMATION

Source Name: Mallinckrodt, LLC Evaluated by: SMG

Premise Address: 3600 N. 2nd St. Date: 1/5/16

Send approval letter to applicant

Application Dated: 12/29/15 Received: 1/4/16 All Requested Info. Received: 1/5/16

SOURCE FILING/DESCRIPTION

1 - Source in PIMS? (Y) / N |
2 - If No, on IU Cross-Ref list? * Y / N |
3 - If No, MSD Account # from E-CIS? Y / N |
4 - If none, on "Source" list (pre-IMS)? ** Y / N |
5 - If No, assigned SOUR# from PIMS. |

SOURCE TYPE (circle): (IU) / Dead IU / SD

INDUSTRY ID: 101172B1-00

* o:\costrecovery\cross reference xls file

** o:\costrecovery\sourlist xls file

Sample Point: No. Assigned: 8 15 Description: 1.5% ethylene glycol soln. from the chiller system assoc. w/ Bldg. 260

Normal WW flow from premise? (N/A) _____ ccf/month, _____ GPD, _____ GPH.

REGULATORY STATUS

Is waste a Hazardous Waste? (N) / Y _____

Categorical standards apply? (N) / Y _____

Contain PCB/ asbestos/ radioactive/ dioxin/ used oil? (N) / Y _____

Regulatory Agency Oversight? (N) / Y _____

DISCHARGE CONSIDERATIONS At MSD's connection:

Ordinance Limits (12559, p. 32) exceeded? (N) / Y _____

Ordinance other limits exceeded (dye, flash pt <140° F, temp >140° F, obstruction, nuisance foaming/odor, corrosion causing): (N) / Y _____

Water Quality Standard exceeded? (N) / Y _____

Fumes in sewer exceed PEL/TLV limits? (N) / Y _____

Vapors in sewer exceed 10% of LEL? (N) / Y _____

RECOMMENDATION: (APPROVE) / DENY (cc WWTP Mgr for timed discharge)

APPROVAL CONDITIONS:

Timed Discharge (COD/BOD/WQ/foam): (N) / Y Limit = _____ gal/hour

Require Treatment before Discharge? (N) / Y _____

Laboratory analysis fee due? (N) / Y $_____

SMR required? (N) / Y Frequency/analysis: _____

SMR log: (N/A) / Remediation.xls / Nonremediation.xls

Volume Billing applies (water unmetered or credited)? (N) / Y

Bill High Strength? (N) / Y Yes, If use >60,000 gal/month water ___ and, > norm WW strgth

Surcharge calculation attached: N/A / (N) / Y

Expiration log updated: (N/A) / N / Y

O:\CostRecovery\Special Discharge\C1a.Checklist.doc

Metropolitan St. Louis Sewer District
2350 Market Street
St. Louis, MO 63103

APPLICATION FOR SPECIAL DISCHARGE APPROVAL

I. WASTEWATER SOURCE IDENTIFICATION:

Site Name: Mallinckrodt LLC
Premise Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Owner: Mallinckrodt LLC
Contact Person: Jonathan Eckles
Title: Principal EHS Engineer
Phone: 314.654.0449 Fax: 314.654.1251

II. APPLICANT (mailing information):

Applicant Name: Jonathan Eckles
Title: Principal EHS Engineer
Company Name: Mallinckrodt LLC
Mailing Address: 3600 North 2nd Street
City: St. Louis State: MO Zip: 63147
Phone: 314.654.0449 Fax: 314.654.1251

III. A. MATERIAL TO BE DISCHARGED (check all applicable boxes):

1. Wastewater description/location: Ethylene Glycol and Water
2. Process/activity generating wastewater: Off spec glycol/water mixture from Building 260
3. Physical and chemical composition: List all constituents, and known or potentially present regulated contaminants below.
   ☐ See separate listing enclosed, and/or ☐ See analytical results enclosed, and/or ■ Material Safety Data Sheet enclosed.

DESCRIPTION	RANGE	UNIT
Ethylene Glycol	1.5	%
Water	98.5	%

DESCRIPTION *(continued)*	RANGE	UNIT

4. Is this wastewater from a process subject to EPA's categorical standards in 40 CFR Subchapter N? ☐ Yes ☑ No
   a. If yes, the applicable standards are in: 40 CFR Part _____, Subpart _____ ☐ Existing source ☐ New source
5. Does this wastewater contain polychlorinated biphenyls, asbestos or radioactive material? ☐ Yes ☑ No
   a. If yes, describe: _____
6. Representative sample: ☐ Laboratory results attached, and/or ☐ Sample provided (1/2 gallon minimum, clear container)
   a. Sample collection point/location: _____ Collection method: _____
   b. Sampler's name/Co.: _____ Sample date/time: _____
   c. Attach chain of custody as available
7. Discharge will occur over the following time period: ■ < 30 days ☐ ≥ Two years ☐ Other: _____
   a. Expected total volume of wastewater to be discharged over the time period above: _____ Gallons
   b. Proposed discharge volume: 1000 Gallons, at a frequency of: ■ One time ☐ Daily ☐ Weekly ☐ Monthly ☐ Once/three months ☐ Once/six months ☐ Other: _____
8. Pretreatment of wastewater prior to discharge: ☐ None ■ Yes, describe: pH adjustment at main plant outfall SP010
   a. If yes, attach site plan, pretreatment system schematic, and design specifications.
9. Wastewater from a remediation project under: ☐ Superfund/CERCLA ☐ RCRA ☐ Voluntary program ☐ UST ■ Not applicable
   a. If from a remediation project, briefly describe the past and present utilization of the property: _____

III.B. MATERIAL FROM UNDERGROUND STORAGE TANK SOURCE

☒ **Not applicable (go to Section IV)**

Please answer the following questions if you are requesting to discharge wastewater associated with an underground storage tank system.

1. a. Wastewater from: ☐ Inside UST(s) ☐ UST system pit ☐ Excavation outside UST system pit ☐ Monitoring well ☐ Groundwater remediation system

   b. UST project involves wastewater from: ☐ UST(s) closed in place ☐ UST(s) removed ☐ Remediation ☐ Upgrade ☐ Maintenance activities ☐ Well monitoring ☐ Other, explain: _____

   c. If wastewater is from a closure project, how long has UST(s) been out of service: _____ years

2. a. State assigned UST site identification number: _____ ☐ Not applicable

   b. Number of USTs affected: _____ ☐ Unknown

   c. For the UST(s) involved, their state identification number(s): _____ ☐ Not applicable

   d. Service Station Identification Number, as applicable: _____

3. Tank contents/former contents: ☐ Gasoline ☐ #2 diesel ☐ Used oil ☐ Unknown ☐ Other: _____

IV. DISCHARGE LOCATION

1. ☒ On-site. Describe proposed point of entry to sewer and the discharge rate (must be a sanitary or combined sewer): _____
Plant sewer to main outfall SP010 _____ Note: Range of discharge must not surcharge sewer line.

2. ☐ Haul to MSD Bissell Point Hauled Waste Receiving Station at 10 E. Grand, St. Louis, MO.

   a. Transporters Name: _____ and MSD Hauler ID Number: _____

   b. Hazardous Waste Certification:

   For wastewater which is hauled to MSD's Bissell Point Hauled Waste Receiving Station, I hereby certify that to the best of my knowledge and belief, the above hauled waste is not classified as a RCRA "hazardous waste" as defined by the MDNR in 10 CSR 25 or USEPA in 40 CFR Part 261.

   Applicant Name (print): _____

   Signature: _____ **Date:** _____

ADDITIONAL INFORMATION:

_____

_____

_____

_____

_____

_____

V. APPLICANT SIGNATURE AND CERTIFICATION

This application must be signed by the applicant: either the source contact, or a contractor or agent directly responsible for site activities.

I hereby certify that I am directly responsible for activities at the site regarding the wastewater to be discharged, and to the best of my knowledge and belief, based on appropriate inquiry, the information in this application is true, complete, and accurate. The samples or analyses submitted are representative of the materials to be discharged. If granted approval to discharge, I agree to abide by the MSD Ordinances, and all applicable federal, state and local regulations. I agree to pay the costs of any pre-approval analyses performed by MSD and to pay any applicable disposal charges for the volume and strength of the wastes discharged.

Applicant Name (print): Jonathan Eckles

Signature: _____ **Date:** 12/29/2015

FOR MSD USE ONLY:

File Name: _____ ID No. _____ Sample Point No. _____

Tom Boehm

Mallinckrodt LLC
1011 728100

NOV written 1/4/16

From: Eckles, Jonathan <Jonathan.Eckles@mallinckrodt.com>
Sent: Monday, January 04, 2016 9:01 AM
To: Tom Boehm
Subject: Mallinckrodt pH Monitoring

Hello Tom,

I am reviewing the pH monitoring logs for the overflow event for SP008. The overflow began approximately 16:40 on 12/26/15 and ceased around 16:00 on 12/29/15.

During that period, we monitored pH every 30 minutes and noted three samples with an elevated pH as summarized below:

12/26/15 @ 23:45 pH=11.7

12/29/15 @ 13:15 pH=11.8
12/29/15 @ 13:45 pH=11.6

I wasn't sure if the <90 minute duration of the two observations had any bearing on whether or not you needed me to submit a 5-day follow up letter.

I plan to provide a summary of the monitoring results in the Quarterly report due this month. Would you like me to provide any other documentation?

Thank you and Happy New Year!
Jonathan

Jonathan Eckles, CHMM
Principal EHS Engineer
Mallinckrodt Pharmaceuticals
3600 North Second Street I St. Louis, MO, 63147
T: 314.654.0138 I C: 314.267.1812 | F: 314.654.1251
www.mallinckrodt.com

Metropolitan St. Louis Sewer District
Division of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
Phone: 314.768.6200 www.stlmsd.com

January 4, 2016

Brett Shank, EHS Manager
MALLINCKRODT LLC
3600 N. 2nd St.
St. Louis, MO 63147

RE: NOTICE OF VIOLATIONS – WASTEWATER DISCHARGE PERMIT NO. 1011728100-2
For premise at: 3600 N. 2nd St., 63147

Dear Mr. Shank:

We have reviewed the self-monitoring data Jonathan Eckles recently submitted to MSD. Unfortunately, we identified the following exceedances of discharge limitations:

VIOLATIONS OF DISCHARGE LIMITATIONS:

DATE	TIME	SAMPLE POINT	SAMPLE TYPE	POLLUTANT	DISCHARGE LIMIT	LIMIT TYPE	VALUE FOUND
12/26/15	2345	008	Grab	pH	5.5-11.5 SU	IN	11.7 SU
12/29/15	1315	008	Grab	pH	5.5-11.5 SU	IN	11.8 SU *
12/29/15	1345	008	Grab	pH	5.5-11.5 SU	IN	11.6 SU *

008 = Overflow chamber on N side of pump station on W side of storage pad T
(T) = Total Substance
IN = Instantaneous
SU = Standard pH Units

REQUIRED ACTION/RESPONSE:

1. We realize you have taken corrective action to reduce the likelihood of another pipe/pump failure at this overflow chamber. As we understand, the entire set of data collected during the overflow event will be submitted with your 4th Quarter Self-Monitoring Report where it will show multiple data points for pH that are within our limits.

2. Refer to the enclosure for additional information on:
   a. Potential enforcement actions should noncompliance continue
   b. Percentages applicable to Significant Noncompliance (SNC) when planning for additional sampling

3. No written response is necessary for this Notice of Violation if corrective action is as detailed in your 5 Day Follow-Up submission.

Thank you for helping us to comply with state and federal regulations. If you have any questions or comments, please contact me at 314.436.8719.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Tom Boehm
Environmental Engineering Associate
tcboeh@stlmsd.com

Enclosures: SNC enclosure, SP maps

TCB
SR

Facility ID: 1011728100 | Name: MALLINCKRODT LLC [1011728100]

General Info

General | **Contacts** | Hours | Waste | Ext Ref | Class | Materials/Products

Address: Premise Address - 3600 N 2nd St, St. Louis, MO 63147

Contacts

Contact Type: Field Contact - Primary | Job Title: EHS Manager
Title: Mr. | First: Brett | Last: Shank | Suffix:
Email: Brett.Shank@Mallinckrodt.com | Authorized Signatory: ☑

Contact Type: Field Contact 1st Alt | Job Title: Principal EHS Engineer
Title: Mr. | First: Jonathan | Last: Eckles | Suffix:
Email: Jonathan.Eckles@mallinckrodt.com | Authorized Signatory: ☑

Sample Points

Number of Sample Points: **109** | Sample Point: 001 | MH (Gatewell) at foot of Destrahan 100"E of RR

Definition | Pretreatment | Discharge | Limits | All Limits | Meters

Sample Point: 001 | MH (Gatewell) at foot of Destrahan 100' E of RR
Sample Point Type: Ordinance | Activated: 01/01/1994 | Deactivated:
Dry Justify: ☐ | Outlet ID: 01 | NPDES Outfall Num:
Comments:
Autosampler Ready: ☑

Results

Start Date: 12/01/2015 | End Date: | Apply

Events | Inspections | Sampling | Limit Comp | Violations | SMDE | Gen Rpts | **Notifications** | Surcharge | Surcharge Export

Notification Type	Date
Problem Discharge - Immediate Notice	12/28/2015
Problem Discharge - 5 Day Written Follow Up	01/04/2016

Text

Jonathan Eckles submitted the 5 Day Follow Up for the pipe failure and pretreatment bypass occuring between 12/26-12/29/15. The failure occured at a stressed flange in a fiberglass overhead pipe that directs wastewater to pretreatment. Because of this, they shut down the pump and allowed the water to overflow the sump into SP008 with 'manual' neturalization. Corrective action includes putting the piping system on additional preventative maintenance programs to reduce the likelihood of reoccurance. tcb

Tom Boehm

1011728100

Mallinckrodt LLC

- 5-day follow up to overflow @ SP008 from 12/26 -> 12/29/15 -

From:	Eckles, Jonathan <Jonathan.Eckles@mallinckrodt.com>
Sent:	Monday, January 04, 2016 3:48 PM
To:	Tom Boehm
Cc:	Shank, Brett
Subject:	5-day Follow-up for Mallinckrodt

Hello Tom,

This email is a brief summary of the pipe failure on our Yard 9 lift station, and our corrective action plan to prevent future failures.

Event Summary

On Saturday 12/26/15, the discharge pipe on the Yard 9 lift station failed and began leaking from overhead, near a flanged connection. The pipe is constructed of fiber-reinforced plastic (i.e., fiberglass) and appeared to crack at the flanged connection. The lift pumps were shut down and we began overflowing to MSD SP008 outfall. Mallinckrodt collected the required samples and monitored the pH every 30 minutes per the permit. pH control was lost for anything discharging through Yard 9 (MSD sample point SP008) because the neutralization system is located downstream of the lift station.

Due to the loss of pH control, Mallinckrodt's utilities department refrained from routine regeneration of the Deionized (DI) water systems. Regenerating DI systems requires alternating washes of acid and caustic, which could be outside of the industrial discharge pH limits of 5.5 and 11.5, respectively, if not neutralized. DI water is critical to manufacturing operations, and threatened to shut down manufacturing if the DI systems were not regenerated before noon on Monday, December 28th.

On Monday morning, December 28th, Mallinckrodt discussed the issue with MSD and proposed manually controlling pH during regeneration. The manual pH control process successfully minimized the drastic pH swings from regenerating the DI water systems.

pH Monitoring Results

The loss of the Yard 9 lift station resulted in an overflow to MSD outfall SP008. The overflow began at approximately 16:40 on 12/26/15 and ceased around 16:00 on 12/29/15. During that period, Mallinckrodt monitored pH every 30 minutes (in accordance with the permit) and noted three samples with an elevated pH as summarized below:

12/26/15 @ 23:45 pH=11.7

12/29/15 @ 13:15 pH=11.8
12/29/15 @ 13:45 pH=11.6

Corrective Actions

The primary cause of the pH excursions was the loss of neutralization when the lift station pipe failed. The immediate corrective action was to repair the broken pipe. A contractor experienced in fiberglass repairs was contacted immediately and arrived on site to begin repairs on Monday morning,

December 28th. The repairs were completed Tuesday afternoon, December 29th, and the lift station was placed back in service shortly after the repairs were completed.

The primary cause of the pipe failure is still being investigated, but the contractor completed an inspection of the remainder of the piping for any other signs of damage prior to departing the site on Tuesday. Additionally, the entire wastewater piping system is being evaluated for additional preventive actions, with emphasis being placed on all flanged connections that may be under stress. If necessary, the piping will be taken out of service for a planned outage later this spring to complete additional preventive maintenance on the flanged connections, expansion joints, and other areas subjected to wear. The details of the preventive maintenance plan are still in development.

Please feel free to contact me if you have any additional questions.

Thank You,
Jonathan

Jonathan Eckles, CHMM
Principal EHS Engineer
Mallinckrodt
Pharmaceuticals
3600 North Second Street I St. Louis, MO, 63147
T: 314.654.0138 I C: 314.267.1812 | F: 314.654.1251
www.mallinckrodt.com

TCB

Tom Boehm

To: Eckles, Jonathan
Subject: RE: Mallinckrodt Overflow @ SP008

Mallinkrodt
1011 728100

From: Eckles, Jonathan [mailto:Jonathan.Eckles@mallinckrodt.com]
Sent: Tuesday, December 29, 2015 12:40 PM
To: Tom Boehm
Subject: RE: Mallinckrodt Overflow @ SP008

Hello Tom,

The repair took longer than expected and is still in progress today.

We continue to overflow through SP008, monitoring pH every 30 minutes.

We have successfully regenerated the deionized water system several times without any pH excursions.

We really appreciate your assistance. Please do not hesitate to call me if you have any questions.

Thank you,
Jonathan

Jonathan Eckles, CHMM
Principal EHS Engineer
Mallinckrodt Pharmaceuticals
3600 North Second Street I St. Louis, MO, 63147
T: 314.654.0138 I C: 314.267.1812 | F: 314.654.1251
www.mallinckrodt.com

Facility ID: 1011728100 | Name: MALLINCKRODT LLC [1011728100] | SIU ☑ | Class: Significant

General Info

General | **Contacts** | Hours | Waste | Ext Ref | Class | Materials/Products | Outlets/Discharges

Address: Office Mailing Address - 3600 N. 2nd Street, St. Louis, MO 63147

Contacts

Contact Type: Office Contact - Primary
Job Title: EHS Manager
Title: Mr. First: Brett Last: Shank
Suffix:
Email: Brett.Shank@mallinckrodt.com
Authorized Signatory: ☑

Contact Type: Office Contact 1st Alt
Job Title: Principal EHS Engineer
Title: Mr. First: Jonathan Last: Eckles
Suffix:
Email: Jonathan.Eckles@mallinckrodt.com
Authorized Signatory: ☐

Contact Type: Corporate Contact - Primary
Job Title: Senior Site Director
Title: Mr. First: Dexter Last: Evans
Suffix:
Email:
Authorized Signatory: ☑

TCB
SF

Sample Points

Number of Sample Points: 109 Sample Point: 008 Overflow chamber on N side of pump station on W side of building T

Definition | Pretreatment | **Discharge** | Limits | All Limits | Meters

Discharge Component	Process Description	Discharge Is	Stream Is	Avg Flow	Unit	Max Flow	Unit	Effective	End Date
Emergency Bypass	Pump station bypass to Salisbury trunk	Batch	Dilution	0	GPD	1,440,000	GPD	12/01/2014	
Storm Water		Batch	Dilution	0	GPD		GPD	12/01/2014	
Emergency Bypass	Pump station bypass to Salisbury trunk	Batch	Dilution	0	GPD	1,440,000	GPD	12/01/2009	11/30/2014
Storm Water		Batch	Dilution	0	GPD		GPD	12/01/2009	11/30/2014
Storm Water		Batch	Dilution	0	GPD		GPD	11/21/2008	12/01/2009
Emergency Bypass	Pump station bypass to Salisbury trunk	Batch	Dilution	0	GPD	1,440,000	GPD	06/17/2008	12/01/2009
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Results

Start Date: 12/01/2015 End Date: Apply

Events | Inspections | Sampling | Limit Comp | Violations | SMDE | Gen Rpts | **Notifications** | Surcharge | Surcharge Export

Notification Type	Date
Problem Discharge - Immediate Notice	12/28/2015

Text

Jonathan Eckles called to report that SP008 was overflowing and gravity discharging because of the pipe that directs wastewater back to their neutralization broke over the weekend. They have taken a sample but he wanted to discuss their options for discharge of their DI backflush that occurs once per day for each of their three DI systems. Each has a 1 hr flush of acid, followed by a 1 hr flush of caustic. Since they were unable to direct this wastewater back to the neutralization, he proposed that they meter caustic and acid into the stream to neutralize based upon calculation until the pipe/pump is fixed. We agreed to this and asked that they periodically meter the overflow at 008 to make sure the manual neutralization was effective. tcb

Tom Boehm

Mallinckrodt (3600 N. 2nd) 1011728100 - overflow at SP008 on 12/28/15

TCB - SR

From: Eckles, Jonathan <Jonathan.Eckles@mallinckrodt.com>
Sent: Monday, December 28, 2015 1:21 PM
To: Tom Boehm
Subject: Mallinckrodt Overflow @ SP008

Hello Tom,

Thank you for taking the time to speak with me and discuss our situation. This email is a brief summary of our discussion and Mallinckrodt's plan of action during this unusual situation.

On Saturday 12/26/15, the discharge pipe on the Yard 9 lift station failed and began leaking from overhead. The pumps were shut down and we began overflowing to MSD SP008 outfall. Mallinckrodt collected the required samples and is monitoring the pH every 30 minutes per our permit. Since the lift pumps are down, we have lost pH control for anything discharging through Yard 9 (MSD sample point SP008).

Due to the loss of pH control, our utilities department refrained from routine regeneration of our Deionized (DI) water systems. Regenerating DI systems requires alternating washes of acid and caustic, which could be outside of the industrial discharge pH limits of 5.5 and 11.5 respectively. However, Mallinckrodt will not be able to continue manufacturing beyond today if the supply of DI water is not replenished. At present rates, DI water will be depleted by 3PM today.

The contractor is on site and preparing to make the required repairs to the discharge pipe for the lift station. After repairs are complete, the fiberglass will need approximately 10 hours to cure. We estimate the pipe will be back in service tomorrow morning.

Mallinckrodt has some manual pH control capability, but it is crude compared to the automated system we normally use. Therefore we wanted to discuss the issue with MSD prior to attempting a regeneration, in the event we had a pH excursion.

After our discussion this morning, MSD agreed with Mallinckrodt's proposal to manually control pH during the regeneration. Mallinckrodt will continue to monitor pH at SP008 every 30 minutes. MSD also requested notification if the regeneration continues into tomorrow (12/29/15). Based on current usage rates, and the cure time for the fiberglass, it is very likely the regeneration will continue through tomorrow morning. I will call you at the beginning of my shift to let you know for sure.

I will also prepare a 5-day follow up letter for MSD summarizing the incident and our corrective measures. Due to the holiday, I propose submitting the 5-day letter on January 4th, 2016.

Please let me know if you have any questions.

Thank You,
Jonathan

Jonathan Eckles, CHMM
Principal EHS Engineer