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December 22, 1995
VIA FED EX

Mr. Lance R. Richman, P.G.
Emergency & Remedial Response Division
U.S. Environmental Protection Agency
290 Broadway, 19th Floor
New York, NY 10007-1866

RE: Second Request for Information
Diamond Alkali Superfund Site
Operable Unit 2

Dear Mr. Richman:

This letter refers to the second Request for Information that was sent to Alliance Chemical, Inc. ("Alliance") dated November 14, 1995 with respect to the Diamond Alkali Superfund Site, Operable Unit 2. Alliance has received an extension of time until December 29, 1995 to submit a partial response to the second Request for Information, with the remainder due January 5, 1996.

Enclosed are the responses of Alliance. Alliance reserves the right to submit additional information, including documentation, on or before January 5, 1996 in accordance with the extension granted by Amelia Wagner, Esq. Documents are still being compiled and all documents referred to in the enclosed response will be submitted on or before January 5, 1996.

Inquiries and correspondence for attorneys should be directed to this firm.

Very truly yours,

Fredi L. Pearlmutter

FLP:mme
cc: Mr. Richard E. Braun
Amelia Wagner, Esq.

840890001

CERTIFICATION OF ANSWERS TO REQUEST FOR INFORMATION

State of New Jersey

County of Bergen:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document (response to EPA Request for Information) and all documents submitted herewith, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete, and that all documents submitted herewith are complete and authentic unless otherwise indicated. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I am also aware that my company is under a continuing obligation to supplement its response to EPA's Request for Information if any additional information relevant to the matters addressed in EPA's Request for Information or the company's response thereto should become known or available to the company.

Richard E. Braun
NAME (print or type)

Vice President Operations
TITLE (print or type)

Richard E Braun
SIGNATURE

Sworn to before me this 22nd day of December, 1995

Geraldine Stempinski
Geraldine Stempinski
Notary Public

My Commission Expires
January 22, 2000

840890002

RESPONSE OF ALLIANCE CHEMICAL, INC.
TO
REQUEST FOR INFORMATION

Re: EPA Second Request for Information Dated November 14. 1995 Under 42 U.S.C. Section 9801 et seq. Diamond Alkali Superfund Site, Operable Unit 2

General Objections

Alliance Chemical, Inc. ("Alliance") is a wholly-owned subsidiary of Pfister Chemical, Inc. ("Pfister"). In 1965, Pfister acquired the stock of Alliance Chemical Co., Alliance Color & Chemical Co. and Plum Point Realty Corp., which owned and/or operated the site located at 309-327 Avenue P in Newark, NJ (the "Acquisition"). In June 1968, Alliance Chemical Co. and Plum Point Realty were merged into Alliance Color & Chemical and the name changed to Alliance Chemical, Inc.

Alliance can and will respond to the questionnaire relating to the site located at 309 - 327 Avenue P in Newark, NJ for the time period subsequent to the Acquisition in 1965. Although Alliance will provide answers to the questionnaire with respect to information in its possession prior to that time period, Alliance cannot answer and is not answering on behalf of any of the predecessor corporations.

The numbers in the Response correspond to the numbers in the Request for Information.

Questions 1, 2 and 3

Alliance objects to these questions as overly broad and unduly burdensome and seeking information which is not relevant to the extent they request information with respect to chemicals used after Alliance began discharging directly to PVSC.

Subject to these objections and the General Objection:

The time period in the response to Question 1, 2 and 3 is 1965 - 1970 unless otherwise noted.

1) **ACETIC ACID**

1a. Used in mfg. of 1-Diazo-3-methyl-4- pyrrolidinobenzene to aid crystallization.
1b. 1-Diazo-3-methyl-4- pyrrolidinobenzene.
1c. 1968 1 batch; 1969 3 batches; 1970 19 batches.
1d. Zinc Chloride.

1e. Approximately 75%.

2. Zinc chloride 1.8 lbs./lb. Product is generated during the reduction of nitro pyrrolidinotoluene to the amine. All process liquors were combined in the plant sewers. Carbon clarification cake is produced during purification at ~ 0.1 lb/lb product. See Attachment 1.

3. Process liquors flowed to a neutralization tank where pH was adjusted to >5.0 and <10.5 . These liquors were continuously discharged to the equalization pond.

2) **ACETONE**

1a. Used only in the laboratory as a solvent. Not used in a manufacturing process.
1b. None
1c. N/A
1d. N/A
1e. N/A

2. N/A

3. N/A

3) **Acetylene**

1a. Used in maintenance dept for cutting and welding. Not used in a manufacturing process.
1b. None
1c. N/A
1d. N/A
1e. N/A

2. N/A

3. N/A

4) **Ammonium Hydroxide**

1a. Used to neutralize acidic waste water from approx. 1980 until approx. 1989. Not used in a manufacturing process.
1b. None.
1c. N/A
1d. N/A
1e. N/A

2. N/A

3. N/A

5) **N-Butyl Bromide**

1a. Etherification.
1b. 1,4 Dibutoxybenzene.
1c. 45 batches/yr. (approximately)
1d. Sodium Bromide, sodium hydroxide.
1e. 95+%.

2. During reaction sodium bromide is formed and is dissolved in the process filtrate along with a small amount of sodium hydroxide.

3. Mixed with other process effluents, neutralized and discharged to equalization pond.

6) **2-Ethoxyethanol**

1a. i. As a solvent in various textile solutions.
ii. As a solvent in several chemical reactions.
1b i. Various textile solutions.
ii. Dibutoxy benzene.
iii. Nitro pyrrolidinotoluene.
1c. i. Approx. 60 batches/yr.
ii. 45 batches/yr. (approx.)
iii. 1968 1 batch 1969; 3 batches 1970; 19 batches.
1d. i. None. Everything shipped as product.
ii. Sodium bromide, 2-ethoxyethanol.
iii. Sodium chloride, 2-ethoxyethanol.
1e. i. 100%.
ii. 95+%.
iii. 95%.

2. i. N/A
ii. During reaction. Combined with all other process effluents.
iii. During reaction. Combined with all other process effluents.

3. ii,iii.Mixed with other process effluents, neutralized and discharged to equalization pond.

7) **N,N-dimethylformamide**

1a. As a solvent in various textile solutions.
1b. Various textile solutions.
1c. Did not use 1965 - 1970. Started in 1973.
1d. None. Everything shipped as product.
1e. 100%.

2. N/A
3. N/A

8) **1-diazo-4-N,N-dimethylaminobenzene**

1a. Is a product first produced in 1978. Any process effluent associated with its production went to the POTW.

9) **1-diazo-2,5-dibutoxy-4-morpholino benzene, Zinc salt; Sulfate salt; Borofluoride salt**

1a. These are final products, being various salts of the same base.
1b. These products are known as Diazo 54 Zinc, Diazo 54 Sulfate, and Diazo 55 respectively.
1c. D-54 Zn 15-20 batches/yr. (approx.)
D-54 Sulfate 35-50 batches/yr. (approx.)
D-55 First made in 1980.
1d Spent activated carbon cake is produced during the purification.
Hydrochloric acid or sulfuric acid.
1e. D-54 Zn 76.9%
D 54 Sulfate 82.3%
D 55 87.5%

2. The activated carbon cake is produced during the purification process. See Attachment 1.
The volume of activated carbon cake is approximately 10% on a dry basis of the finished product.

3. Process filtrates were mixed with other process effluents, neutralized and discharged to equalization pond.

10) **1-Diazo-N,N-diethylaminobenzene borofluoride**

1a. First made in 1987.
1b. Diazo 69.
1c. N/A
1d. N/A
1e. N/A

2. N/A

3. N/A

11) **1-Diazo-3-methylpyrrolidinobenzene**

1a. This is a finished product of a diazotization reaction.
1b. Diazo 88.
1c. 1968 1 batch; 1969 3 batches; 1970 19 batches.
1d. Zinc chloride, hydrochloric acid, Spent activated carbon. See attachment 1.
1e. 75%.

2. Approximately 700 lbs. of zinc chloride was produced and discharged with the process liquors along with hydrochloric acid. Carbon clarification presscake. 1.84 lbs zinc chloride was produced per pound of product.

3. All process liquors were combined in the plant sewers. Carbon cake is produced during purification at ~ 0.1 lb/lb product. See attachment 1.

12) **1-Diazo-4-ethyl-(2-hydroxyethyl)amino benzene**

1a. This is a finished product of a diazotization reaction.
1b. Diazo 10.
1c. Only produced from 1986 to 1990.
1d. N/A
1e. N/A

2. N/A

3. N/A

13) **2,4-dinitrochlorobenzene**

1a. Production of Scarlet R base. (Methoxylation and Reduction)
1b. Scarlet R Base. (5-nitro-2-methoxy aniline)
1c. Approx. 80-100 batches/yr.
1d. Sodium Thiosulfate, sulfur, methanol, sodium hydroxide, sodium chloride.
1e. Approx. 80%.

2. During the methoxylation and reduction the by-products listed in 1d. above are produced and are all present in the process filtrate from this product.

3. Process filtrates were mixed with other process effluents, neutralized and discharged to equalization pond.

14) **Dichlorodifluoromethane**

1a. Used as refrigerant only in ice makers. Not used in a manufacturing process.
1b. N/A
1c. N/A
1d. N/A
1e. N/A

2. N/A

3. N/A

15) **Hydrochloroic Acid**

1a. Used in Diazotizations and Base Purifications.
1b. Diazo salts and Base salts.
1c. Daily.
1d. Dilute aqueous process filtrates containing hydrochloric acid and some product. Carbon clarification presscake.
1e. 75-90%.

2. Dilute aqueous process filtrates and carbon cake. The aqueous process filtrate was generally 2-5% acid concentration with some batches having a higher strength. The carbon cake was produced during a purification step. See Attachment 1.

3. Process filtrates were mixed with other process effluents, neutralized and discharged to equalization pond. Carbon clarification presscakes stored in drums and disposed in landfill on-site prior to 1970, and off-site thereafter. See also response to Request for Information submitted January 28, 1994 and Attachment 1.

16) **Magnesium Sulfate**

1a. Drying and blending of fast color salts.
1b. Fast color salts. (Stabilized diazo compounds)
1c. No current production. During 1965 - 1970 as often as 120 to 130 times per year.
1d. None. Magnesium Sulfate is part of product.
1e. 100%.

2. N/A

3. N/A

17) **Sodium Hydroxide**

1a. i. As a component in textile solutions.
ii. As a reactant in alkoxylations.
iii. As a neutralizing agent for plant acidic wastes.
1b. i. Textile solutions.
ii. Diethoxybenzene, dibutoxybenzene, 5- nitro-2-methoxy aniline. (Scarlet R Base)
iii. N/A
1c. i. 30-50 batches/yr. (approximately)
ii. Approx. 100 batches/yr.
iii. Continuously. (automatic)
1d. i. None. Sodium hydroxide is part of and shipped with product.
ii. Sodium Bromide, sodium hydroxide, sodium sulfate.
iii. Sodium Chloride, sodium sulfate, zinc hydroxide.

1e. i. Essentially 100%.
ii. 95+%.
iii. N/A

2. i. N/A
ii. During reaction sodium sulfate and/or sodium bromide were formed and were dissolved in the process filtrates along with a small excess of sodium hydroxide.
iii. N/A

3. i. N/A
ii. Mixed with other process effluents, neutralized and discharged to equalization pond.
iii. POTW.

18) **Sodium Nitrate** Never used
Sodium Nitrite

1a. Diazotizations.
1b. Light sensitive diazos and fast color salts.
1c. Daily.
1d. Sodium nitrite was completely consumed during the reaction.
1e. 95+%.

2. Dilute aqueous process filtrates and carbon clarification presscakes. The aqueous process filtrates were generally 2-5% acid concentration (sulfuric or hydrochloric) with some batches having a higher strength. The carbon presscake was produced during a purification step. See Attachment 1.

3. Process filtrates were mixed with other process effluents, neutralized and discharged to equalization pond. Carbon clarification presscakes stored in drums and disposed of in landfill on-site prior to 1970, and off-site thereafter. See also response to Request for Information submitted January 28, 1994 and Attachment 1.

19) **Zinc**

1a. Reduction of aromatic nitro compounds to aromatic amines.
1b. Intermediate products were aromatic amines which were converted in situ to diazo compounds.
1c. Daily.
1d. Zinc Chloride, zinc sulfate, zinc oxide.
1e. 100% for reductions.

2. During reduction $Zn + ArNO_2 + H^+ \rightarrow Zn^{+2} + ArNH_2$ in aqueous solution and zinc oxide cake. See Attachment 1.

3. For zinc oxide cake, see answer to question 7. Carbon clarification presscakes stored in drums and disposed of in landfill on-site prior to 1970, and off-site thereafter. See also response to Request for Information submitted January 28, 1994 and Attachment 1.

20) **Zinc Chloride**

1a. Diazotizations.
1b. Fast color salts and other diazo compounds.
1.c 120 batches/yr. (approximately)
1d. Zinc Chloride, Hydrochloric acid, sodium chloride, small amount of product.
1e. 80-90%.

2. Dilute aqueous process filtrate containing materials in 1d. above, and carbon clarification presscake. The aqueous process filtrates were generally 2-5% acid concentration with some batches having a higher strength. The carbon presscake was produced during a purification step.

3. Process filtrates were mixed with other process effluents, neutralized and discharged to the equalization pond. Carbon clarification presscakes stored in drums and disposed in landfill on-site prior to 1970, and off-site thereafter. See Attachment 1. See also response to Request for Information submitted January 28, 1994.

ATTACHMENT 1

Carbon cake waste is a damp paste consisting of spent activated carbon, filter aid, water, color impurities and insoluble materials. It is produced during the purification step in most of our processes. During this purification, most processes use 40-50 pounds of activated carbon and 25 pounds of filter aid. The amount produced per pound of product varies widely with the batch size of the individual product. These presscakes were landfilled on-site prior to 1970. After 1970, they were disposed of off-site.

All liquid process effluent wastes consist of acidic water containing various dissolved organic and inorganic salts and some suspended solids. It is collected in the plant sewer system and neutralized before discharge. From 1965 to 1970, this waste was discharged to the equalization pond and then to a drainage ditch (Plum Creek). From 1970 to 1978, it was discharged to the equalization pond and then went to the PVSC sanitary sewer system. From 1978 on, it was discharged directly to the PVSC sewer system.

See also response to Request for Information submitted January 28, 1994.

4) *You stated in your previous CERCLA 104 (e) response (dated January 8, 1994) that an unlined lagoon existed from 1965 until 1970 and was part of the effluent system. Identify what waste was stored in this lagoon. Were the bottom sediments of this lagoon ever tested? Provide all results of any sampling done on the lagoon.*

The unlined lagoon was used as an equalization pond for Alliance's aqueous effluent. To the best of our knowledge, the bottom sediments were never tested.

5) *You stated in your previous CERCLA 104 (e) response that the unlined lagoon discharged into a drainage ditch prior to 1970. Were any bottom sediments of this ditch ever tested? Provide all results of any sampling done on this ditch.*

Subject to the General Objection, Alliance responds as follows:

To the best of our knowledge, the bottom sediments of this ditch were never tested.

6) *You stated in your previous CERCLA 104(e) response that after 1970 waste was discharged to the Passaic Valley Sewerage System ("PVSC"). Provide all results of testing of waste that was submitted to the PVSC.*

Alliance objects to this question as vague, overly broad, unduly burdensome and not relevant to the extent it requests information with respect to the effluent that was discharged directly to PVSC. Subject to these objections, Alliance responds as follows:

Process effluent waters were discharged to PVSC, not waste. Analyses of effluent previously submitted in response to Request for Information on September 28, 1994 will be submitted by January 5, 1996. The MR2 (TSS, BOD, pH) reports submitted monthly to PVSC from the time of direct discharge to PVSC, 1978, to the present and the Baseline Monitoring Report and monthly MR1 (OCPSF Categorical Pretreatment Compliance Reports) submitted to PVSC from 1988 on are not relevant.

7) *In your previous CERCLA 104 (e) response you discussed the deposition of solid waste since 1970. What was the storage mechanism for solid waste prior to 1970.*

Alliance objects to this question as vague, overly broad and to the extent it requests information with respect to off-site storage, the request is not relevant.

Subject to these objections and the General Objection, Alliance responds as follows:

The zinc oxide was recovered and sold to companies which reclaimed the zinc. It was stored either as a slurry in tanks, as presscake in drums or in a concrete holding bin. Non hazardous clarification carbon presscakes were stored in drums and landfilled on-site prior to 1970, and off-site thereafter. See also response to Request for Information submitted January 28, 1994 and Attachment 1.

8) *In your previous CERCLA 104(e) response you indicated that process effluent waters were discharged from 1965 - 1970 to Plum Creek. Subsequently the waste waters were sent to the PVSC.*

a. Please provide all documents relating to the results of any analyses of process water, waste water or other waste streams generated at the facility, including any information on the type of waste water discharged.

b. Please provide specific information on the method or neutralization or pre-treatment of the process water, waste water or other waste streams prior to discharge.

Alliance objects to this question as vague, overly broad, unduly burdensome and not relevant to the extent it requests information concerning process water, wastewaters or other waste streams discharged directly to the PVSC.

Subject to these objections and the General Objection, Alliance responds as follows:

a. See response to question 6.
b. For the time period 1965 - 1970, acidic process effluent waters were neutralized in tanks prior to being discharged to the equalization pond. Non-acidic process effluent waters were discharged directly to the equalization pond. After 1970 all process waters were discharged to the equalization pond and then neutralized with 25% caustic soda or dilute ammonia. The equalization pond was not used after 1978.

9) *Provide the name, address, telephone number, title and occupation of the person(s) answering this "Request for Information" and state whether such person(s) has personal knowledge of the responses. In addition, identify each person who assisted in any way in responding to the "Request for Information" and specify the question to which each person assisted in responding. To the extent not already listed, please identify all current or former employees and agents of your company who were contacted in the preparation of this response.*

The following persons have worked together in responding to all questions and have personal knowledge of the responses:

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