EPA Region 5 Records Ctr.
282594

SUPERFUND CHEMICAL DATA MATRIX METHODOLOGY

Prepared For EPA
January 2004

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Barium
CAS Number: 007440-39-3

TOXICITY

Parameter	Value	Unit	Source
Oral RfD:	7.0E-2	mg/kg/day	IRIS
Inhal RfD	1.4E-4	mg/kg/day	HEAST.
Oral Slope:		(mg/kg/day)^-1	
Oral Wt-of-Evid:			
Inhal Slope		(mg/kg/day)^-1	
Inhal Wt-of-Evid:			
Oral ED10:		mg/kg/day	
Oral ED10 Wgt			
Inhal ED10:		mg/kg/day	
Inhal ED10 Wgt:			
Oral LD50:	2.0E+3	mg/kg	ACGIH
Dermal LD50:		mg/kg	
Gas Inhal LC50:		ppm	
Dust Inhal LC50:		mg/L	
ACUTE			
Fresh CMC:		µg/L	
Salt CMC:		µg/L	
CHRONIC			
Fresh CCC		µg/L	
Salt CCC:		µg/L	
Fresh Ecol LC50:	3.2E+5	µg/L	ECOTOX
Salt Ecol LC50	5.0E+5	µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis		days	
Volatility:		days	
Photolysis:		days	
Biodeg		days	
Radio.		days	
RIVER - Halflives			
Hydrolysis.		days	
Volatility:		days	
Photolysis:		days	
Biodeg		days	
Radio.		days	
Log Kow:	2.3E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value	
Metal Contain:	Yes	
Organic:	No	
Gas:	No	
Particulate:	Yes	
Radionuclide:	No	
Rad. Element:	No	
Molecular Weight:	1.4E+2	
Density:	3.6E+0	g/mL @ 20.00 C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:		atm-m3/mol	
Water Solub:		mg/L	
Distrib Coef:	4.1E+1	ml/g	SSG_KD
Geo Mean Sol:	2.8E+3	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:			
Salt BCF:	7.0E+2		ECOTOX
ENVIRONMENTAL			
Fresh BCF:			
Salt BCF:	7.0E+2		ECOTOX
Log Kow:	2.3E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:	2.8E+3	mg/L	CALC

OTHER DATA

Melting Point:	7.3E+2	C
Boiling Point:	1.9E+3	C
Formula.	Ba	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Barium
CAS Number: 007440-39-3

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity	10000
Gas Mobility:	
Gas Migration:	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		10000
Water Solub:		
Distrib:		4.1E+1
Geo Mean Sol.		2.8E+3
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E-2
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E-2

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	500.0
Salt:	500.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	1
Salt Tox:	1
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	500.0
Salt:	500.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS.		µg/m3
Cancer Risk:		mg/m3
Non Cancer Risk:	5.2E-4	mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	2.0E+0	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	2.6E+0	mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	5.5E+3	mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG:	2.0E+0	mg/L
Cancer Risk:		mg/L
Non Cancer Risk	2.6E+0	mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	9.5E+1	mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:		µg/L
Salt CMC:		µg/L
CHRONIC		
Fresh CCC:		µg/L
Salt CCC:		µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Arsenic
CAS Number: 007440-38-2

TOXICITY

Parameter	Value		Unit	Source
Oral RfD:	3.0E-4		mg/kg/day	IRIS
Inhal RfD:			mg/kg/day	
Oral Slope:	1.5E+0		(mg/kg/day)^-1	IRIS
Oral Wt-of-Evid:	A			
Inhal Slope:	1.5E+1		(mg/kg/day)^-1	IRIS
Inhal Wt-of-Evid:	A			
Oral ED10:	7.0E-3		mg/kg/day	EPA_ED10
Oral ED10 Wgt:	A			
Inhal ED10:	7.0E-3		mg/kg/day	EPA_ED10
Inhal ED10 Wgt:	A			
Oral LD50:			mg/kg	
Dermal LD50:			mg/kg	
Gas Inhal LC50:			ppm	
Dust Inhal LC50:			mg/L	
ACUTE				
Fresh CMC:	3.4E+2	A, D, K	µg/L	WATCRIT
Salt CMC:	6.9E+1	A, D, bb	µg/L	WATCRIT
CHRONIC				
Fresh CCC:	1.5E+2	A, D, K	µg/L	WATCRIT
Salt CCC:	3.6E+1	A, D, bb	µg/L	WATCRIT
Fresh Ecol LC50:	1.5E+3		µg/L	ECOTOX
Salt Ecol LC50:	3.9E+2		µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg		days	
Radio:		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg		days	
Radio:		days	
Log Kow:	6.8E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value		
Metal Contain:	Yes		
Organic:	No		
Gas:	No		
Particulate:	Yes		
Radionuclide:	No		
Rad. Element:	No		
Molecular Weight:	7.5E+1		
Density:	5.8E+0	g/mL @	C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:	7.7E-1	atm-m3/mol	PHYSPROP
Water Solub:		mg/L	
Distrib Coef:	2.9E+1	ml/g	SSG_KD
Geo Mean Sol:	1.2E+5	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	4.0E+0		VER_BCF
Salt BCF:	3.5E+2		VER_BCF
ENVIRONMENTAL			
Fresh BCF:	8.7E+3		ECOTOX
Salt BCF:	3.5E+2		VER_BCF
Log Kow:	6.8E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:	1.2E+5	mg/L	CALC

OTHER DATA

Melting Point:	8.2E+2	C
Boiling Point:	6.0E+2	C
Formula:	As	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Arsenic
CAS Number: 007440-38-2

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity:	10000
Gas Mobility:	
Gas Migration:	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		10000
Water Solub.		
Distrib:		2.9E+1
Geo Mean Sol:		1.2E+5
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E-2
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E-2

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5.0
Salt:	500.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	10
Salt Tox:	100
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5000.0
Salt:	500.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		µg/m3
Cancer Risk:	5.7E-7	mg/m3
Non Cancer Risk:		mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	1.0E-2	mg/L
Cancer Risk:	5.7E-5	mg/L
Non Cancer Risk:	1.1E-2	mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:	4.3E-1	mg/kg
Non Cancer Risk:	2.3E+1	mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG:	1.0E-2	mg/L
Cancer Risk:	5.7E-5	mg/L
Non Cancer Risk:	1.1E-2	mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:	2.1E-3	mg/kg
Non Cancer Risk:	4.1E-1	mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:	3.4E+2 [A, D, K]	µg/L
Salt CMC:	6.9E+1 [A, D, bb]	µg/L
CHRONIC		
Fresh CCC:	1.5E+2 [A, D, K]	µg/L
Salt CCC:	3.6E+1 [A, D, bb]	µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Cadmium
CAS Number: 007440-43-9

TOXICITY

Parameter	Value		Unit	Source
Oral RfD:	5.0E-4		mg/kg/day	IRIS
Inhal RfD:	2.6E-4		mg/kg/day	STSC
Oral Slope:			(mg/kg/day)^-1	
Oral Wt-of-Evid:				
Inhal Slope:	6.3E+0		(mg/kg/day)^-1	IRIS
Inhal Wt-of-Evid:	B1			
Oral ED10:	1.7E-2		mg/kg/day	EPA_ED10
Oral ED10 Wgt:	B1			
Inhal ED10:	1.7E-2		mg/kg/day	EPA_ED10
Inhal ED10 Wgt:	B1			
Oral LD50:	2.3E+3		mg/kg	RTECS
Dermal LD50:			mg/kg	
Gas Inhal LC50:			ppm	
Dust Inhal LC50:	2.1E+1		mg/L	RTECS
ACUTE				
Fresh CMC:	2.0E+0	D, E, K, bb	µg/L	WATCRIT
Salt CMC:	4.0E+1	D, bb	µg/L	WATCRIT
CHRONIC				
Fresh CCC:	2.5E-1	D, E, K, bb	µg/L	WATCRIT
Salt CCC:	8.8E+0	D, bb	µg/L	WATCRIT
Fresh Ecol LC50:	4.0E-1		µg/L	ECOTOX
Salt Ecol LC50:	2.0E-1		µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
Log Kow:	-7.0E-2		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value		
Metal Contain:	Yes		
Organic:	No		
Gas:	No		
Particulate:	Yes		
Radionuclide:	No		
Rad. Element:	No		
Molecular Weight:	1.1E+2		
Density:	8.7E+0	g/mL @	C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:	3.1E-2	atm-m3/mol	PHYSPROP
Water Solub:		mg/L	
Distrib Coef:	7.5E+1	ml/g	SSG_KD
Geo Mean Sol:	1.7E+3	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	1.0E+3		ECOTOX
Salt BCF:	5.0E+4		ECOTOX
ENVIRONMENTAL			
Fresh BCF:	2.0E+5		ECOTOX
Salt BCF:	5.0E+4		ECOTOX
Log Kow:	-7.0E-2		PHYSPROP
Water Solub:			
Geo Mean Sol:	1.7E+3	mg/L	CALC

OTHER DATA

Melting Point:	3.2E+2	C
Boiling Point:	7.7E+2	C
Formula:	Cd	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Cadmium
CAS Number: 007440-43-9

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity:	10000
Gas Mobility:	
Gas Migration:	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		10000
Water Solub:		
Distrib:		7.5E+1
Geo Mean Sol:		1.7E+3
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E-2
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E-2

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5000.0
Salt:	50000.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	10000
Salt Tox:	1000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	50000.0
Salt:	50000.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		µg/m3
Cancer Risk:	1.4E-6	mg/m3
Non Cancer Risk:	9.4E-4	mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	5.0E-3	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.8E-2	mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	3.9E+1	mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG:	5.0E-3	mg/L
Cancer Risk		mg/L
Non Cancer Risk:	1.8E-2	mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	6.8E-1	mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:	2.0E+0 [D, E, K, bb]	µg/L
Salt CMC:	4.0E+1 [D, bb]	µg/L
CHRONIC		
Fresh CCC:	2.5E-1 [D, E, K, bb]	µg/L
Salt CCC:	8.8E+0 [C, bb]	µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Chromium
CAS Number: 007440-47-3

TOXICITY

Parameter	Value	Unit	Source
Oral RfD:	3.0E-3	mg/kg/day	IRIS
Inhal RfD:	2.3E-6	mg/kg/day	IRIS
Oral Slope:		(mg/kg/day)^-1	
Oral Wt-of-Evid:			
Inhal Slope:		(mg/kg/day)^-1	
Inhal Wt-of-Evid:			
Oral ED10:		mg/kg/day	
Oral ED10 Wgt:			
Inhal ED10	2.6E-3	mg/kg/day	SPHEM
Inhal ED10 Wgt:	A		
Oral LD50:		mg/kg	
Dermal LD50:		mg/kg	
Gas Inhal LC50:		ppm	
Dust Inhal LC50:		mg/L	
ACUTE			
Fresh CMC:		µg/L	
Salt CMC:		µg/L	
CHRONIC			
Fresh CCC:		µg/L	
Salt CCC:		µg/L	
Fresh Ecol LC50:	2.2E+1	µg/L	ECOTOX
Salt Ecol LC50	1.0E+3	µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
Log Kow	2.3E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value		
Metal Contain:	Yes		
Organic:	No		
Gas:	No		
Particulate:	Yes		
Radionuclide:	No		
Rad. Element:	No		
Molecular Weight:	5.2E+1		
Density:	7.2E+0	g/mL @	C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press.		Torr	
Henry's Law:		atm-m3/mol	
Water Solub:		mg/L	
Distrib Coef:	1.9E+1	ml/g	SSG_KD
Geo Mean Sol:	6.0E+5	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	1.2E+2		LIVECHEM
Salt BCF:	1.9E+2		LIVECHEM
ENVIRONMENTAL			
Fresh BCF:	1.5E+2		LIVECHEM
Salt BCF:	1.9E+2		LIVECHEM
Log Kow:	2.3E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:	6.0E+5	mg/L	CALC

OTHER DATA

Melting Point:	1.9E+3	C
Boiling Point:	2.7E+3	C
Formula:	Cr	

CLASS INFORMATION

Class	Parent Substance
Chromium:	018540-29-9

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Chromium
CAS Number: 007440-47-3

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity	10000
Gas Mobility:	
Gas Migration:	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		10000
Water Solub:		
Distrib:		1.9E+1
Geo Mean Sol:		6.0E+5
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E-2
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E-2

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	500.0
Salt:	500.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	10000
Salt Tox:	100
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	500.0
Salt:	500.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		µg/m3
Cancer Risk:		mg/m3
Non Cancer Risk:	8.3E-6	mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	1.0E-1	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.1E-1	mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	2.3E+2	mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG	1.0E-1	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.1E-1	mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	4.1E+0	mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:		µg/L
Salt CMC:		µg/L
CHRONIC		
Fresh CCC:		µg/L
Salt CCC:		µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Cobalt

CAS Number: 007440-48-4

TOXICITY

Parameter	Value	Unit	Source
Oral RfD:		mg/kg/day	
Inhal RfD:		mg/kg/day	
Oral Slope:		(mg/kg/day)^-1	
Oral Wt-of-Evid:			
Inhal Slope:		(mg/kg/day)^-1	
Inhal Wt-of-Evid:			
Oral ED10:		mg/kg/day	
Oral ED10 Wgt:			
Inhal ED10:		mg/kg/day	
Inhal ED10 Wgt:			
Oral LD50:	1.0E+2	mg/kg	ACGIH
Dermal LD50:		mg/kg	
Gas Inhal LC50:		ppm	
Dust Inhal LC50:		mg/L	
ACUTE			
Fresh CMC		µg/L	
Salt CMC:		µg/L	
CHRONIC			
Fresh CCC		µg/L	
Salt CCC:		µg/L	
Fresh Ecol LC50:		µg/L	
Salt Ecol LC50:		µg/L	

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
Log Kow:	2.3E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value		
Metal Contain:	Yes		
Organic:	No		
Gas:	No		
Particulate:	Yes		
Radionuclide:	No		
Rad. Element:	No		
Molecular Weight:	5.9E+1		
Density:	8.9E+0	g/mL @	C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:		atm-m3/mol	
Water Solub:		mg/L	
Distrib Coef:	4.5E+1	ml/g	BAES_KD
Geo Mean Sol:	1.7E+3	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:			
Salt BCF:	2.5E+3		ECOTOX
ENVIRONMENTAL			
Fresh BCF:			
Salt BCF:	2.5E+3		ECOTOX
Log Kow:	2.3E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:	1.7E+3	mg/L	CALC

OTHER DATA

Melting Point:	1.5E+3	C
Boiling Point:	2.9E+3	C
Formula:	Co	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Cobalt

CAS Number: 007440-48-4

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity:	10
Gas Mobility:	
Gas Migration:	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		10
Water Solub:		
Distrib:		4.5E+1
Geo Mean Sol:		1.7E+3
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E-2
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E-2

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	10
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	10
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5000.0
Salt:	5000.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	0
Salt Tox:	0
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5000.0
Salt:	5000.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		µg/m3
Cancer Risk:		mg/m3
Non Cancer Risk:		mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:		mg/L
Cancer Risk:		mg/L
Non Cancer Risk:		mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:		mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG:		mg/L
Cancer Risk:		mg/L
Non Cancer Risk		mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:		mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:		µg/L
Salt CMC:		µg/L
CHRONIC		
Fresh CCC:		µg/L
Salt CCC:		µg/L

to

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Copper
CAS Number: 007440-50-8

TOXICITY

Parameter	Value		Unit	Source
Oral RfD:			mg/kg/day	
Inhal RfD:			mg/kg/day	
Oral Slope:			(mg/kg/day)^-1	
Oral Wt-of-Evid:				
Inhal Slope:			(mg/kg/day)^-1	
Inhal Wt-of-Evid:				
Oral ED10			mg/kg/day	
Oral ED10 Wgt:				
Inhal ED10:			mg/kg/day	
Inhal ED10 Wgt:				
Oral LD50			mg/kg	
Dermal LD50:			mg/kg	
Gas Inhal LC50:			ppm	
Dust Inhal LC50:			mg/L	
ACUTE				
Fresh CMC:	1.3E+1	D, E, K, cc	µg/L	WATCRIT
Salt CMC:	4.8E+0	D, cc, ff	µg/L	WATCRIT
CHRONIC				
Fresh CCC:	9.0E+0	D, E, K, cc	µg/L	WATCRIT
Salt CCC:	3.1E+0	D, cc, ff	µg/L	WATCRIT
Fresh Ecol LC50:	1.5E-1		µg/L	ECOTOX
Salt Ecol LC50:	1.5E+0		µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg		days	
Radio:		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg		days	
Radio:		days	
Log Kow:	-5.7E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value		
Metal Contain:	Yes		
Organic:	No		
Gas:	No		
Particulate:	Yes		
Radionuclide:	No		
Rad. Element:	No		
Molecular Weight:	6.4E+1		
Density:	9.0E-0	g/mL @	C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:	2.5E-2	atm-m3/mol	PHYSPROP
Water Solub:		mg/L	
Distrib Coef:	4.3E+2	ml/g	SSG_KD
Geo Mean Sol:	5.7E+2	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	1.1E+2		ECOTOX
Salt BCF:	5.1E+5		ECOTOX
ENVIRONMENTAL			
Fresh BCF:	6.1E+3		ECOTOX
Salt BCF:	5.1E+5		ECOTOX
Log Kow:	-5.7E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:	5.7E+2	mg/L	CALC

OTHER DATA

Melting Point:	1.1E+3	C
Boiling Point:	2.6E+3	C
Formula:	Cu	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Copper
CAS Number: 007440-50-8

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity	0
Gas Mobility:	
Gas Migration:	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		0
Water Solub:		
Distrib:		4.3E+2
Geo Mean Sol:		5.7E+2
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E-2
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E-2

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	0

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	0
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	0
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	500.0
Salt:	50000.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox.	1000
Salt Tox:	1000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5000.0
Salt:	50000.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		µg/m3
Cancer Risk:		mg/m3
Non Cancer Risk:		mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	1.3E+0	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:		mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:		mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG:	1.3E+0	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:		mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:		mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:	1.3E+1 [D, E, K, cc]	µg/L
Salt CMC:	4.8E+0 [D, cc, ff]	µg/L
CHRONIC		
Fresh CCC:	9.0E+0 [D, E, K, cc]	µg/L
Salt CCC:	3.1E+0 [D, cc, ff]	µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Cyanide
CAS Number: 000057-12-5

TOXICITY

Parameter	Value		Unit	Source
Oral RfD:	2.0E-2		mg/kg/day	IRIS
Inhal RfD:			mg/kg/day	
Oral Slope:			(mg/kg/day)^-1	
Oral Wt-of-Evid:				
Inhal Slope:			(mg/kg/day)^-1	
Inhal Wt-of-Evid:				
Oral ED10:			mg/kg/day	
Oral ED10 Wgt				
Inhal ED10:			mg/kg/day	
Inhal ED10 Wgt.				
Oral LD50:			mg/kg	
Dermal LD50			mg/kg	
Gas Inhal LC50.			ppm	
Dust Inhal LC50:			mg/L	
ACUTE				
Fresh CMC:	2.2E+1	K, Q	µg/L	WATCRIT
Salt CMC:	1.0E+0	Q, bb	µg/L	WATCRIT
CHRONIC				
Fresh CCC.	5.2E+0	K, Q	µg/L	WATCRIT
Salt CCC:	1.0E+0	Q, bb	µg/L	WATCRIT
Fresh Ecol LC50:	4.3E+1		µg/L	ECOTOX
Salt Ecol LC50:	9.6E+1		µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Ha flives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg		days	
Radio:		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg		days	
Radio		days	
Log Kow:	-6.9E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value	
Metal Contain:	Yes	
Organic:	No	
Gas.	Yes	
Particulate:	No	
Radionuclide:	No	
Rad. Element:	No	
Molecular Weight:	2.6E+1	
Density:		@

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:	3.1E+2	Torr	PHYSPROP
Henry's Law:	2.4E-2	atm-m3/mol	PHYSPROP
Water Solub:		mg/L	
Distrib Coef:	9.9E+0	ml/g	DITOR_KD
Geo Mean Sol:		mg/L	

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:			
Salt BCF:			
ENVIRONMENTAL			
Fresh BCF:			
Salt BCF:			
Log Kow:	-6.9E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:		mg/L	

OTHER DATA

Melting Point:
Boiling Point:
Formula: CN(-)

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Cyanide

CAS Number: 000057-12-5

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity	100
Gas Mobility:	1.0000
Gas Migration:	17

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		100
Water Solub:		
Distrib:		9.9E+0
Geo Mean Sol:		
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E+0
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E+0

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	100

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity	100
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity.	100
Persistence	
River.	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	0.5
Salt:	0.5

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	1000
Salt Tox:	1000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	0.5
Salt:	0.5

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		µg/m3
Cancer Risk:		mg/m3
Non Cancer Risk:		mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	2.0E-1	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	7.3E-1	mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	1.6E+3	mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG	2.0E-1	mg/L
Cancer Risk:		mg/L
Non Cancer Risk	7.3E-1	mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	2.7E+1	mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:	2.2E+1 K, Q	µg/L
Salt CMC:	1.0E+0 Q, ob	µg/L
CHRONIC		
Fresh CCC:	5.2E+0 K, Q	µg/L
Salt CCC:	1.0E+0 Q, ob	µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Lead
CAS Number: 007439-92-1

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity:	10000
Gas Mobility:	
Gas Migration:	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		10000
Water Solub:		
Distrib:		9.0E+2
Geo Mean Sol:		8.7E+2
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E-2
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E-2

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5.0
Salt:	5000.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	1000
Salt Tox.	1000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	50000.0
Salt.	5000.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS	1.5E+0	µg/m3
Cancer Risk:		mg/m3
Non Cancer Risk:		mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	1.5E-2	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:		mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:		mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG:	1.5E-2	mg/L
Cancer Risk:		mg/L
Non Cancer Risk.		mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:		mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:	6.5E+1 [D, E, bb, gg]	µg/L
Salt CMC:	2.1E+2 [D, bb]	µg/L
CHRONIC		
Fresh CCC:	2.5E+0 [D, E, bb, gg]	µg/L
Salt CCC:	8.1E+0 [D, bb]	µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Lead
CAS Number: 007439-92-1

TOXICITY

Parameter	Value		Unit	Source
Oral RfD:			mg/kg/day	
Inha RfD:			mg/kg/day	
Oral Slope:			(mg/kg/day)^-1	
Oral Wt-of-Evid:				
Inhal Slope:			(mg/kg/day)^-1	
Inhal Wt-of-Evid:				
Oral ED10:			mg/kg/day	
Oral ED10 Wgt:				
Inhal ED10:			mg/kg/day	
Inhal ED10 Wgt:				
Oral LD50:			mg/kg	
Dermal LD50:			mg/kg	
Gas Inhal LC50:			ppm	
Dust Inhal LC50:			mg/L	
ACUTE				
Fresh CMC:	6.5E+1	D, E, bb, gg	µg/L	WATCRIT
Salt CMC:	2.1E+2	D, bb	µg/L	WATCRIT
CHRONIC				
Fresh CCC:	2.5E+0	D, E, bb, gg	µg/L	WATCRIT
Salt CCC:	8.1E+0	D, bb	µg/L	WATCRIT
Fresh Ecol LC50:	4.4E+2		µg/L	ECOTOX
Salt Ecol LC50:	[illegible].1E+2		µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
Log Kow:	7.3E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value		
Metal Contain:	Yes		
Organic:	No		
Gas:	No		
Particulate:	Yes		
Radionuclide:	No		
Rad. Element:	No		
Molecular Weight:	2.1E+2		
Density:	1.1E+1	g/mL @	C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:	2.5E-2	atm-m3/mol	PHYSPROP
Water Solub:		mg/L	
Distrib Coef:	9.0E+2	ml/g	BAES_KD
Geo Mean Sol:	8.7E+2	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	8.7E+0		ECOTOX
Salt BCF:	5.0E+3		ECOTOX
ENVIRONMENTAL			
Fresh BCF:	1.7E+4		ECOTOX
Salt BCF:	5.0E+3		ECOTOX
Log Kow:	7.3E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:	8.7E+2	mg/L	CALC

OTHER DATA

Melting Point:	3.3E+2	C
Boiling Point:	1.7E+3	C
Formula:	Pb	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Manganese
CAS Number: 007439-96-5

TOXICITY

Parameter	Value	Unit	Source
Oral RfD:	1.4E-1	mg/kg/day	IRIS
Inhal RfD:	1.4E-5	mg/kg/day	IRIS
Oral Slope:		(mg/kg/day)^-1	
Oral Wt-of-Evid:			
Inhal Slope:		(mg/kg/day)^-1	
Inhal Wt-of-Evid:			
Oral ED10:		mg/kg/day	
Oral ED10 Wgt:			
Inhal ED10:		mg/kg/day	
Inhal ED10 Wgt:			
Oral LD50:		mg/kg	
Dermal LD50:		mg/kg	
Gas Inhal LC50:		ppm	
Dust Inhal LC50:	1.9E+0	mg/L	RTECS
ACUTE			
Fresh CMC:		µg/L	
Salt CMC:		µg/L	
CHRONIC			
Fresh CCC:		µg/L	
Salt CCC:		µg/L	
Fresh Ecol LC50:		µg/L	
Salt Ecol LC50:		µg/L	

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
Log Kow:	2.3E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value		
Metal Contain:	Yes		
Organic:	No		
Gas:	No		
Particulate:	Yes		
Radionuclide:	No		
Rad. Element:	No		
Molecular Weight:	5.5E+1		
Density:	7.3E+0	g/mL @	C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:		atm-m3/mol	
Water Solub:		mg/L	
Distrib Coef:	6.5E+1	ml/g	BAES_KD
Geo Mean Sol:	1.1E+3	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:			
Salt BCF:	2.5E+4		ECOTOX
ENVIRONMENTAL			
Fresh BCF:			
Salt BCF:	2.5E+4		ECOTOX
Log Kow:	2.3E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:	1.1E+3	mg/L	CALC

OTHER DATA

Melting Point:	1.2E+3	C
Boiling Point:	2.1E+3	C
Formula:	Mn	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Manganese
CAS Number: 007439-96-5

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity	10000
Gas Mobility	
Gas Migration	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		10000
Water Solub:		
Distrib.		6.5E+1
Geo Mean Sol:		1.1E+3
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E-2
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E-2

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	10000
Persistence	
River.	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	50000.0
Salt:	50000.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	0
Salt Tox:	0
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	50000.0
Salt:	50000.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS.		µg/m3
Cancer Risk:		mg/m3
Non Cancer Risk:	5.2E-5	mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:		mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	5.1E+0	mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	1.1E+4	mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG:		mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	5.1E+0	mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	1.9E+2	mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:		µg/L
Salt CMC:		µg/L
CHRONIC		
Fresh CCC:		µg/L
Salt CCC:		µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Mercury

CAS Number: 007439-97-6

TOXICITY

Parameter	Value		Unit	Source
Oral RfD:	3.0E-4		mg/kg/day	IRIS
Inhal RfD:	8.6E-5		mg/kg/day	IRIS
Oral Slope:			(mg/kg/day)^-1	
Oral Wt-of-Evid:				
Inhal Slope			(mg/kg/day)^-1	
Inhal Wt-of-Evid:				
Oral ED10:			mg/kg/day	
Oral ED10 Wgt:				
Inhal ED10			mg/kg/day	
Inhal ED10 Wgt:				
Oral LD50:			mg/kg	
Dermal LD50:			mg/kg	
Gas Inhal LC50:			ppm	
Dust Inhal LC50:			mg/L	
ACUTE				
Fresh CMC:	1.4E+0	D, K, hh	µg/L	WATCRIT
Salt CMC:	1.8E+0	D, ee, hh	µg/L	WATCRIT
CHRONIC				
Fresh CCC:	7.7E-1	D, K, hh	µg/L	WATCRIT
Salt CCC:	9.4E-1	D, ee, hh	µg/L	WATCRIT
Fresh Ecol LC50:	4.8E+0		µg/L	ECOTOX
Salt Ecol LC50:	2.0E+0		µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Ha flives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
Log Kow:	6.2E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value	
Metal Contain:	Yes	
Organic:	No	
Gas:	Yes	
Particulate:	Yes	
Radionuclide:	No	
Rad. Element:	No	
Molecular Weight:	2.0E+2	
Density:	1.4E+1	g/mL @ 20.00 C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:	2.0E-3	Torr	CHEMFATE
Henry's Law:	1.1E-2	atm-m3/mol	LIVECHEM
Water Solub:		mg/L	
Distrib Coef:	5.2E+1	ml/g	SSG_KD
Geo Mean Sol:	4.5E+2	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	8.6E+4		VER_BCF
Salt BCF:	1.8E+4		ECOTOX
ENVIRONMENTAL			
Fresh BCF:	2.7E+4		ECOTOX
Salt BCF:	7.0E+5		ECOTOX
Log Kow:	6.2E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:	4.5E+2	mg/L	CALC

OTHER DATA

Melting Point:	-3.9E+1	C
Boiling Point:	3.6E+2	C
Formula:	Hg	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Mercury

CAS Number: 007439-97-6

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity:	10000
Gas Mobility:	0.2000
Gas Migration.	17

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		10000
Water Solub:		
Distrib:		5.2E+1
Geo Mean Sol:		4.5E+2
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E-2
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E-2

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity.	10000
Persistence	
River:	1.0000
Lake.	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	50000.0
Salt:	50000.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	10000
Salt Tox:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	50000.0
Salt:	50000.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS.		µg/m3
Cancer Risk.		mg/m3
Non Cancer Risk:	3.1E-4	mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	2.0E-3	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.1E-2	mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	2.3E+1	mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG:	2.0E-3	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.1E-2	mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL.	1.0E+0	ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	4.1E-1	mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:	1.4E+0 [D, K, hh]	µg/L
Salt CMC:	1.8E+0 [D, ee, hh]	µg/L
CHRONIC		
Fresh CCC:	7.7E-1 [D, K, hh]	µg/L
Salt CCC:	9.4E-1 [D, ee, hh]	µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Nickel
CAS Number: 007440-02-0

TOXICITY

Parameter	Value		Unit	Source
Oral RfD:	2.0E-2		mg/kg/day	IRIS
Inhal RfD:			mg/kg/day	
Oral Slope:			(mg/kg/day)^-1	
Oral Wt-of-Evid:				
Inhal Slope:			(mg/kg/day)^-1	
Inhal Wt-of-Evid:				
Oral ED10:			mg/kg/day	
Oral ED10 Wgt:				
Inhal ED10	1.0E-1		mg/kg/day	SPHEM
Inhal ED10 Wgt:	A			
Oral LD50:	5.0E+0		mg/kg	RTECS
Dermal LD50:			mg/kg	
Gas Inhal LC50:			ppm	
Dust Inhal LC50:			mg/L	
ACUTE				
Fresh CMC	4.7E+2	D, E, K	µg/L	WATCRIT
Salt CMC:	7.4E+1	D, bb	µg/L	WATCRIT
CHRONIC				
Fresh CCC.	5.2E+1	D, E, K	µg/L	WATCRIT
Salt CCC:	8.2E+0	D, bb	µg/L	WATCRIT
Fresh Ecol LC50:	4.8E-2		µg/L	ECOTOX
Salt Ecol LC50:	2.6E+2		µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio.		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility.		days	
Photolysis.		days	
Biodeg:		days	
Radio:		days	
Log Kow	-5.7E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value		
Metal Contain:	Yes		
Organic:	No		
Gas:	No		
Particulate:	Yes		
Radionuclide:	No		
Rad. Element:	No		
Molecular Weight:	5.9E+1		
Density:	8.9E+0	g/mL @	C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:	2.5E-2	atm-m3/mol	PHYSPROP
Water Solub:		mg/L	
Distrib Coef:	6.5E+1	ml/g	SSG_KD
Geo Mean Sol:	1.5E+3	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	8.0E-1		VER_BCF
Salt BCF:	4.7E+2		VER_BCF
ENVIRONMENTAL			
Fresh BCF:	1.1E+2		VER_BCF
Salt BCF:	4.7E+2		VER_BCF
Log Kow:	-5.7E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:	1.5E+3	mg/L	CALC

OTHER DATA

Melting Point:	1.5E+3	C
Boiling Point.	2.9E+3	C
Formula:	Ni	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Nickel

CAS Number: 007440-02-0

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity:	10000
Gas Mobility:	
Gas Migration	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		10000
Water Solub:		
Distrib:		6.5E+1
Geo Mean Sol:		1.5E+3
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E-2
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E-2

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	0.5
Salt:	500.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	100
Salt Tox:	1000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	500.0
Salt:	500.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		µg/m3
Cancer Risk:		mg/m3
Non Cancer Risk:		mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:		mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	7.3E-1	mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	1.6E+3	mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG		mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	7.3E-1	mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	2.7E+1	mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:	4.7E+2 [D, E, K]	µg/L
Salt CMC:	7.4E+1 [D, bb]	µg/L
CHRONIC		
Fresh CCC:	5.2E+1 [D, E, K]	µg/L
Salt CCC:	8.2E+0 [D, bb]	µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Selenium
CAS Number: 007782-49-2

TOXICITY

Parameter	Value		Unit	Source
Oral RfD	5.0E-3		mg/kg/day	IRIS
Inhal RfD:			mg/kg/day	
Oral Slope:			(mg/kg/day)^-1	
Oral Wt-of-Evid:				
Inhal Slope:			(mg/kg/day)^-1	
Inhal Wt-of-Evid:				
Oral ED10:			mg/kg/day	
Oral ED10 Wgt:				
Inhal ED10:			mg/kg/day	
Inhal ED10 Wgt:				
Oral LD50	4.8E+0		mg/kg	ACGIH
Dermal LD50:	7.8E+1		mg/kg	ACGIH
Gas Inhal LC50:			ppm	
Dust Inhal LC50:	8.3E-1		mg/L	ACGIH
ACUTE				
Fresh CMC:		L, R, T D, bb, dd	µg/L	WATCRIT
Salt CMC:	2.9E+2		µg/L	WATCRIT
CHRONIC				
Fresh CCC:	5.0E+0	T D, bb, dd	µg/L	WATCRIT
Salt CCC:	7.1E+1		µg/L	WATCRIT
Fresh Ecol LC50:	2.6E+2		µg/L	ECOTOX
Salt Ecol LC50:	6.0E+2		µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Ha flives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg		days	
Radio:		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg		days	
Radio		days	
Log Kow:	2.4E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value	
Metal Contain:	Yes	
Organic:	No	
Gas:	No	
Particulate:	Yes	
Radionuclide:	No	
Rad. Element:	No	
Molecular Weight:	7.9E+1	
Density:	4.8E+0	g/mL @ 20.00 C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:	9.7E-3	atm-m3/mol	PHYSPROP
Water Solub:		mg/L	
Distrib Coef:	5.0E+0	ml/g	SSG_KD
Geo Mean Sol:	2.6E+6	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	6.2E+1		ECOTOX
Salt BCF:	9.0E+2		ECOTOX
ENVIRONMENTAL			
Fresh BCF:	3.2E+2		ECOTOX
Salt BCF:	9.0E+2		ECOTOX
Log Kow:	2.4E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:	2.6E+6	mg/L	CALC

OTHER DATA

Melting Point:	2.2E+2	C
Boiling Point:	6.9E+2	C
Formula:	Se	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Selenium
CAS Number: 007782-49-2

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity:	100
Gas Mobility:	
Gas Migration:	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		100
Water Solub:		
Distrib:		5.0E+0
Geo Mean Sol:		2.6E+6
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E+0
Non Liq.	Karst:	1.0E+0
	Non Karst.	1.0E+0

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	100

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity.	100
Persistence	
River.	1.0000
Lake.	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	100
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	50.0
Salt:	500.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	1000
Salt Tox:	100
Persistence	
River:	.0000
Lake:	.0000
Bioaccumulation	
Fresh:	500.0
Salt:	500.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		µg/m3
Cancer Risk..		mg/m3
Non Cancer Risk		mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	5.0E-2	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.8E-1	mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	3.9E+2	mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG	5.0E-2	mg/L
Cancer Risk		mg/L
Non Cancer Risk.	.8E-1	mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk	6.8E+0	mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:	L, R, T	µg/L
Salt CMC:	2.9E+2 D, bb, dd	µg/L
CHRONIC		
Fresh CCC.	5.0E+0 T	µg/L
Salt CCC:	7.1E+1 D, bb, dd	µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Silver
CAS Number: 007440-22-4

TOXICITY

Parameter	Value		Unit	Source
Oral RfD:	5.0E-3		mg/kg/day	IRIS
Inhal RfD:			mg/kg/day	
Oral Slope			(mg/kg/day)^-1	
Oral Wt-of-Evid:				
Inhal Slope:			(mg/kg/day)^-1	
Inhal Wt-of-Evid.				
Oral ED10:			mg/kg/day	
Oral ED10 Wgt:				
Inhal ED10			mg/kg/day	
Inhal ED10 Wgt.				
Oral LD50:	5.0E+1		mg/kg	ACGIH
Dermal LD50:			mg/kg	
Gas Inhal LC50:			ppm	
Dust Inhal LC50:			mg/L	
ACUTE				
Fresh CMC:	3.2E+0	D, E, G	µg/L	WATCRIT
Salt CMC:	1.9E+0	D, G	µg/L	WATCRIT
CHRONIC				
Fresh CCC:			µg/L	
Salt CCC:			µg/L	
Fresh Ecol LC50:	1.6E+0		µg/L	ECOTOX
Salt Ecol LC50:	1.0E+1		µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg		days	
Radio.		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio		days	
Log Kow:	2.3E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value	
Metal Contain:	Yes	
Organic:	No	
Gas:	No	
Particulate:	Yes	
Radionuclide:	No	
Rad. Element:	No	
Molecular Weight:	1.1E+2	
Density:	1.1E+1	g/mL @ 20.00 C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:		atm-m3/mol	
Water Solub:		mg/L	
Distrib Coef:	8.3E+0	ml/g	SSG_KD
Geo Mean Sol:	2.5E+2	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	2.8E+1		VER_BCF
Salt BCF:	3.9E+5		ECOTOX
ENVIRONMENTAL			
Fresh BCF:	2.8E+1		VER_BCF
Salt BCF:	3.9E+5		ECOTOX
Log Kow:	2.3E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:	2.5E+2	mg/L	CALC

OTHER DATA

Melting Point:	9.6E+2	C
Boiling Point:	2.2E+3	C
Formula:	Ag	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Silver
CAS Number: 007440-22-4

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity:	100
Gas Mobility:	
Gas Migration:	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		100
Water Solub:		
Distrib:		8.3E+0
Geo Mean Sol:		2.5E+2
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E+0
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E+0

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	100

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	100
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	100
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	50.0
Salt:	50000.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	10000
Salt Tox:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	50.0
Salt:	50000.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		µg/m3
Cancer Risk		mg/m3
Non Cancer Risk:		mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:		mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.8E-1	mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	3.9E+2	mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG:		mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.8E-1	mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	6.8E+0	mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:	3.2E+0 [D, E, G]	µg/L
Salt CMC:	1.9E+0 [D, G]	µg/L
CHRONIC		
Fresh CCC:		µg/L
Salt CCC:		µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Zinc
CAS Number: 007440-66-6

TOXICITY

Parameter	Value		Unit	Source
Oral RfD:	3.0E-1		mg/kg/day	IRIS
Inhal RfD:			mg/kg/day	
Oral Slope:			(mg/kg/day)^-1	
Oral Wt-of-Evid:				
Inhal Slope:			(mg/kg/day)^-1	
Inhal Wt-of-Evid:				
Oral ED10:			mg/kg/day	
Oral ED10 Wgt:				
Inhal ED10:			mg/kg/day	
Inhal ED10 Wgt:				
Oral LD50:			mg/kg	
Dermal LD50:			mg/kg	
Gas Inhal LC50:			ppm	
Dust Inhal LC50:			mg/L	
ACUTE				
Fresh CMC:	1.2E+2	D, E, K	µg/L	WATCRIT
Salt CMC:	9.0E+1	D, bb	µg/L	WATCRIT
CHRONIC				
Fresh CCC:	1.2E+2	D, E, K	µg/L	WATCRIT
Salt CCC:	8.1E+1	D, bb	µg/L	WATCRIT
Fresh Ecol LC50:	1.0E+1		µg/L	ECOTOX
Salt Ecol LC50:	3.3E+1		µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
Log Kow			

PHYSICAL CHARACTERISTICS

Parameter	Value	
Metal Contain:	Yes	
Organic:	No	
Gas:	No	
Particulate:	Yes	
Radionuclide:	No	
Rad. Element:	No	
Molecular Weight:	6.5E+1	
Density:	7.1E+0	g/mL @ 25.00 C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:	2.5E-2	atm-m3/mol	PHYSPROP
Water Solub:		mg/L	
Distrib Coef:	6.2E+1	ml/g	SSG_KD
Geo Mean Sol:	1.4E+3	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	2.8E+0		ECOTOX
Salt BCF:	1.2E+5		ECOTOX
ENVIRONMENTAL			
Fresh BCF:	1.5E+4		ECOTOX
Salt BCF:	1.7E+5		ECOTOX
Log Kow:			
Water Solub:			
Geo Mean Sol:	1.4E+3	mg/L	CALC

OTHER DATA

Melting Point:	4.2E+2	C
Boiling Point:	9.1E+2	C
Formula:	Zn	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Zinc
CAS Number: 007440-66-6

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity:	10
Gas Mobility:	
Gas Migration	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		10
Water Solub:		
Distrib:		6.2E+1
Geo Mean Sol:		1.4E+3
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E-2
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E-2

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	10
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	10
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5.0
Salt:	50000.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	10
Salt Tox:	100
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	50000.0
Salt:	50000.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		µg/m3
Cancer Risk:		mg/m3
Non Cancer Risk:		mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:		mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.1E+1	mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	2.3E+4	mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam.		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG:		mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.1E+1	mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	4.1E+2	mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:	1.2E+2 [D, E, K]	µg/L
Salt CMC:	9.0E+1 [D, bb]	µg/L
CHRONIC		
Fresh CCC:	1.2E+2 [D, E, K]	µg/L
Salt CCC:	8.1E+1 [D, bb]	µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Chromium
CAS Number: 007440-47-3

TOXICITY

Parameter	Value	Unit	Source
Oral RfD:	3.0E-3	mg/kg/day	IRIS
Inhal RfD:	2.3E-6	mg/kg/day	IRIS
Oral Slope:		(mg/kg/day)^-1	
Oral Wt-of-Evid:			
Inhal Slope		(mg/kg/day)^-1	
Inhal Wt-of-Evid:			
Oral ED10:		mg/kg/day	
Oral ED10 Wgt:			
Inhal ED10	2.6E-3	mg/kg/day	SPHEM
Inhal ED10 Wgt:	A		
Oral LD50:		mg/kg	
Dermal LD50:		mg/kg	
Gas Inhal LC50:		ppm	
Dust Inhal LC50:		mg/L	
ACUTE			
Fresh CMC:		µg/L	
Salt CMC:		µg/L	
CHRONIC			
Fresh CCC:		µg/L	
Salt CCC:		µg/L	
Fresh Ecol LC50:	2.2E+1	µg/L	ECOTOX
Salt Ecol LC50:	1.0E+3	µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
Log Kow:	2.3E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value		
Metal Contain:	Yes		
Organic:	No		
Gas:	No		
Particulate:	Yes		
Radionuclide:	No		
Rad. Element:	No		
Molecular Weight:	5.2E+1		
Density:	7.2E+0	g/mL @	C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:		atm-m3/mol	
Water Solub:		mg/L	
Distrib Coef:	1.9E+1	ml/g	SSG_KD
Geo Mean Sol:	6.0E+5	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	1.2E+2		LIVECHEM
Salt BCF:	1.9E+2		LIVECHEM
ENVIRONMENTAL			
Fresh BCF:	1.5E+2		LIVECHEM
Salt BCF:	1.9E+2		LIVECHEM
Log Kow:	2.3E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:	6.0E+5	mg/L	CALC

OTHER DATA

Melting Point:	1.9E+3	C
Boiling Point:	2.7E+3	C
Formula:	Cr	

CLASS INFORMATION

Class	Parent Substance
Chromium:	018540-29-9

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Chromium
CAS Number: 007440-47-3

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity:	10000
Gas Mobility	
Gas Migration:	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		10000
Water Solub:		
Distrib:		1.9E+1
Geo Mean Sol:		6.0E+5
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E-2
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E-2

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	500.0
Salt:	500.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	10000
Salt Tox.	100
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	500.0
Salt:	500.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		µg/m3
Cancer Risk:		mg/m3
Non Cancer Risk:	8.3E-6	mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	1.0E-1	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.1E-1	mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	2.3E+2	mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Cam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG:	1.0E-1	mg/L
Cancer Risk:		mg/L
Non Cancer Risk	1.1E-1	mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	4.1E+0	mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:		µg/L
Salt CMC:		µg/L
CHRONIC		
Fresh CCC:		µg/L
Salt CCC:		µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Copper
CAS Number: 007440-50-8

TOXICITY

Parameter	Value		Unit	Source
Oral RfD			mg/kg/day	
Inhal RfD:			mg/kg/day	
Oral Slope			(mg/kg/day)^-1	
Oral Wt-of-Evid:				
Inhal Slope:			(mg/kg/day)^-1	
Inhal Wt-of-Evid.				
Oral ED10			mg/kg/day	
Oral ED10 Wgt:				
Inhal ED10:			mg/kg/day	
Inhal ED10 Wgt.				
Oral LD50			mg/kg	
Dermal LD50:			mg/kg	
Gas Inhal LC50:			ppm	
Dust Inhal LC50:			mg/L	
ACUTE				
Fresh CMC:	1.3E+1	D, E, K, cc	µg/L	WATCRIT
Salt CMC:	4.8E+0	D, cc, ff	µg/L	WATCRIT
CHRONIC				
Fresh CCC:	9.0E+0	D, E, K, cc	µg/L	WATCRIT
Salt CCC:	3.1E+0	D, cc, ff	µg/L	WATCRIT
Fresh Ecol LC50:	1.6E-1		µg/L	ECOTOX
Salt Ecol LC50:	1.5E+0		µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis.		days	
Biodeg:		days	
Radio		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
Log Kow:	-5.7E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value		
Metal Contain:	Yes		
Organic:	No		
Gas:	No		
Particulate:	Yes		
Radionuclide:	No		
Rad. Element:	No		
Molecular Weight:	6.4E+1		
Density:	9.0E+0	g/mL @	C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:	2.5E-2	atm-m3/mol	PHYSPROP
Water Solub:		mg/L	
Distrib Coef:	4.3E+2	ml/g	SSG_KD
Geo Mean Sol:	5.7E+2	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	1.1E+2		ECOTOX
Salt BCF:	5.1E+5		ECOTOX
ENVIRONMENTAL			
Fresh BCF:	6.1E+3		ECOTOX
Salt BCF:	5.1E+5		ECOTOX
Log Kow:	-5.7E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:	5.7E+2	mg/L	CALC

OTHER DATA

Melting Point:	1.1E+3	C
Boiling Point:	2.6E+3	C
Formula:	Cu	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical Copper

CAS Number: 007440-50-8

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity:	0
Gas Mobility	
Gas Migration.	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		0
Water Solub:		
Distrib:		4.3E+2
Geo Mean Sol:		5.7E+2
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E-2
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E-2

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	0

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	0
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	0
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh.	500.0
Salt:	50000.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	1000
Salt Tox:	1000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5000.0
Salt:	50000.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS.		µg/m3
Cancer Risk:		mg/m3
Non Cancer Risk:		mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	1.3E+0	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:		mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:		mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA.		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG:	1.3E+0	mg/L
Cancer Risk:		mg/L
Non Cancer Risk.		mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:		mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:	1.3E+1 [D, E, K, cc]	µg/L
Salt CMC:	4.8E+0 [D, cc, ff]	µg/L
CHRONIC		
Fresh CCC:	9.0E+0 [D, E, K, cc]	µg/L
Salt CCC:	3.1E+0 [D, cc, ff]	µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Arsenic
CAS Number: 007440-38-2

TOXICITY

Parameter	Value		Unit	Source
Oral RfD:	3.0E-4		mg/kg/day	IRIS
Inhal RfD:			mg/kg/day	
Oral Slope	1.5E+0		(mg/kg/day)^-1	IRIS
Oral Wt-of-Evid.	A			
Inhal Slope:	1.5E+1		(mg/kg/day)^-1	IRIS
Inhal Wt-of-Evid:	A			
Oral ED10.	7.0E-3		mg/kg/day	EPA_ED10
Oral ED10 Wgt:	A			
Inhal ED10:	7.0E-3		mg/kg/day	EPA_ED10
Inhal ED10 Wgt:	A			
Oral LD50:			mg/kg	
Dermal LD50			mg/kg	
Gas Inhal LC50:			ppm	
Dust Inhal LC50			mg/L	
ACUTE				
Fresh CMC:	3.4E+2	A, D, K	µg/L	WATCRIT
Salt CMC.	6.9E+1	A, D, bb	µg/L	WATCRIT
CHRONIC				
Fresh CCC:	1.5E+2	A, D, K	µg/L	WATCRIT
Salt CCC:	3.6E+1	A, D, bb	µg/L	WATCRIT
Fresh Ecol LC50.	1.5E+3		µg/L	ECOTOX
Salt Ecol LC50:	3.9E+2		µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility.		days	
Photolysis:		days	
Biodeg:		days	
Radio.		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio.		days	
Log Kow:	6.8E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value		
Metal Contam:	Yes		
Organic:	No		
Gas:	No		
Particulate.	Yes		
Radionuclide:	No		
Rad. Element:	No		
Molecular Weight:	7.5E+1		
Density:	5.8E+0	g/mL @	C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:	7.7E-1	atm-m3/mol	PHYSPROP
Water Solub:		mg/L	
Distrib Coef:	2.9E+1	ml/g	SSG_KD
Geo Mean Sol:	1.2E+5	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	4.0E+0		VER_BCF
Salt BCF:	3.5E+2		VER_BCF
ENVIRONMENTAL			
Fresh BCF:	8.7E+3		ECOTOX
Salt BCF:	3.5E+2		VER_BCF
Log Kow:	6.8E-1		PHYSPROP
Water Solub.			
Geo Mean Sol:	1.2E+5	mg/L	CALC

OTHER DATA

Melting Point:	8.2E+2	C
Boiling Point:	6.0E+2	C
Formula:	As	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Arsenic
CAS Number: 007440-38-2

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity:	10000
Gas Mobility:	
Gas Migration:	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		10000
Water Solub:		
Distrib.		2.9E+1
Geo Mean Sol.		1.2E+5
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E-2
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E-2

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5.0
Salt:	500.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	10
Salt Tox:	100
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5000.0
Salt:	500.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS		µg/m3
Cancer Risk	5.7E-7	mg/m3
Non Cancer Risk:		mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	1.0E-2	mg/L
Cancer Risk:	5.7E-5	mg/L
Non Cancer Risk:	1.1E-2	mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:	4.3E-1	mg/kg
Non Cancer Risk:	2.3E+1	mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL.		pCi/L
UMTRCA.		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG:	1.0E-2	mg/L
Cancer Risk.	5.7E-5	mg/L
Non Cancer Risk:	1.1E-2	mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL.		ppm
Cancer Risk:	2.1E-3	mg/kg
Non Cancer Risk:	4.1E-1	mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:	3.4E+2 [A, E, K]	µg/L
Salt CMC:	6.9E+1 [A, E, bb]	µg/L
CHRONIC		
Fresh CCC:	1.5E+2 [A, D, K]	µg/L
Salt CCC:	3.6E+1 [A, D, bb]	µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Nickel
CAS Number: 007440-02-0

TOXICITY

Parameter	Value		Unit	Source
Oral RfD:	2.0E-2		mg/kg/day	IRIS
Inhal RfD:			mg/kg/day	
Oral Slope:			(mg/kg/day)^-1	
Oral Wt-of-Evid:				
Inhal Slope:			(mg/kg/day)^-1	
Inhal Wt-of-Evid:				
Oral ED10:			mg/kg/day	
Oral ED10 Wgt:				
Inhal ED10:	1.0E-1		mg/kg/day	SPHEM
Inhal ED10 Wgt:	A			
Oral LD50:	5.0E+0		mg/kg	RTECS
Dermal LD50:			mg/kg	
Gas Inhal LC50:			ppm	
Dust Inhal LC50:			mg/L	
ACUTE				
Fresh CMC:	4.7E+2	D, E, K	µg/L	WATCRIT
Salt CMC:	7.4E+1	D, bb	µg/L	WATCRIT
CHRONIC				
Fresh CCC:	5.2E+1	D, E, K	µg/L	WATCRIT
Salt CCC:	8.2E+0	D, bb	µg/L	WATCRIT
Fresh Ecol LC50:	4.8E-2		µg/L	ECOTOX
Salt Ecol LC50:	2.6E+2		µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
Log Kow:	-5.7E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value		
Metal Contam:	Yes		
Organic:	No		
Gas:	No		
Particulate:	Yes		
Radionuclide:	No		
Rad. Element:	No		
Molecular Weight:	5.9E+1		
Density:	8.9E+0	g/mL @	C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:	2.5E-2	atm-m3/mol	PHYSPROP
Water Solub:		mg/L	
Distrib Coef:	6.5E+1	ml/g	SSG_KD
Geo Mean Sol:	1.5E+3	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	8.0E-1		VER_BCF
Salt BCF:	4.7E+2		VER_BCF
ENVIRONMENTAL			
Fresh BCF:	1.1E+2		VER_BCF
Salt BCF:	4.7E+2		VER_BCF
Log Kow:	-5.7E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:	1.5E+3	mg/L	CALC

OTHER DATA

Melting Point:	1.5E+3	C
Boiling Point:	2.9E+3	C
Formula:	Ni	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Nickel
CAS Number: 007440-02-0

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity:	10000
Gas Mobility:	
Gas Migration.	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		10000
Water Solub:		
Distrib:		6.5E+1
Geo Mean Sol.		1.5E+3
Mobility.		
Liquid	Karst:	1.0E+0
	Non Karst:	1.0E-2
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E-2

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity.	10000

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	0.5
Salt:	500.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	100
Salt Tox:	1000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	500.0
Salt:	500.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		µg/m3
Cancer Risk:		mg/m3
Non Cancer Risk:		mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:		mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	7.3E-1	mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	1.6E+3	mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG:		mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	7.3E-1	mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	2.7E+1	mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:	4.7E+2 [D, E, K]	µg/L
Salt CMC:	7.4E+1 [D, bb]	µg/L
CHRONIC		
Fresh CCC:	5.2E+1 [D, E, K]	µg/L
Salt CCC:	8.2E+0 [D, bb]	µg/L

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Silver
CAS Number: 007440-22-4

TOXICITY

Parameter	Value		Unit	Source
Oral RfD:	5.0E-3		mg/kg/day	IRIS
Inhal RfD:			mg/kg/day	
Oral Slope			(mg/kg/day)^-1	
Oral Wt-of-Evid:				
Inhal Slope:			(mg/kg/day)^-1	
Inhal Wt-of-Evid:				
Oral ED10			mg/kg/day	
Oral ED10 Wgt:				
Inhal ED10:			mg/kg/day	
Inhal ED10 Wgt:				
Oral LD50:	5.0E+1		mg/kg	ACGIH
Dermal LD50:			mg/kg	
Gas Inhal LC50:			ppm	
Dust Inhal LC50:			mg/L	
ACUTE				
Fresh CMC:	3.2E+0	D, E, G	µg/L	WATCRIT
Salt CMC:	1.9E+0	D, G	µg/L	WATCRIT
CHRONIC				
Fresh CCC:			µg/L	
Salt CCC:			µg/L	
Fresh Ecol LC50:	1.6E+0		µg/L	ECOTOX
Salt Ecol LC50:	1.0E+1		µg/L	ECOTOX

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg.		days	
Radio.		days	
RIVER - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg.		days	
Radio		days	
Log Kow:	2.3E-1		PHYSPROP

PHYSICAL CHARACTERISTICS

Parameter	Value	
Metal Contain:	Yes	
Organic:	No	
Gas:	No	
Particulate:	Yes	
Radionuclide:	No	
Rad. Element:	No	
Molecular Weight:	1.1E+2	
Density:	1.1E+1	g/mL @ 20.00 C

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:		atm-m3/mol	
Water Solub:		mg/L	
Distrib Coef:	8.3E+0	ml/g	SSG_KD
Geo Mean Sol:	2.5E+2	mg/L	CALC

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	2.8E+1		VER_BCF
Salt BCF:	3.9E+5		ECOTOX
ENVIRONMENTAL			
Fresh BCF:	2.8E+1		VER_BCF
Salt BCF:	3.9E+5		ECOTOX
Log Kow:	2.3E-1		PHYSPROP
Water Solub:			
Geo Mean Sol:	2.5E+2	mg/L	CALC

OTHER DATA

Melting Point:	9.6E+2	C
Boiling Point:	2.2E+3	C
Formula:	Ag	

CLASS INFORMATION

Class	Parent Substance

SUPERFUND CHEMICAL DATA MATRIX

Date: 1/28/2004
Chemical: Silver
CAS Number: 007440-22-4

ASSIGNED FACTOR VALUES

AIR PATHWAY

Parameter	Value
Toxicity:	100
Gas Mobility:	
Gas Migration:	

GROUND WATER PATHWAY

Parameter		Value
Toxicity:		100
Water Solub:		
Distrib:		8.3E+0
Geo Mean Sol:		2.5E+2
Mobility:		
Liquid	Karst:	1.0E+0
	Non Karst.	1.0E+0
Non Liq.	Karst:	1.0E+0
	Non Karst:	1.0E+0

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	100

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value
Toxicity:	100
Persistence	
River.	1.0000
Lake:	1.0000

HUMAN FOOD CHAIN

Parameter	Value
Toxicity:	100
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	50.0
Salt.	50000.0

ENVIRONMENTAL

Parameter	Value
Fresh Tox:	10000
Salt Tox:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	50.0
Salt:	50000.0

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		µg/m3
Cancer Risk:		mg/m3
Non Cancer Risk:		mg/m3

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:		mg/L
Cancer Risk:		mg/L
Non Cancer Risk	1.8E-1	mg/L

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	3.9E+2	mg/kg

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

DRINKING WATER

Parameter	Value	Unit
MCL/MCLG:		mg/L
Cancer Risk:		mg/L
Non Cancer Risk	1.8E-1	mg/L

HUMAN FOOD CHAIN

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	6.8E+0	mg/kg

ENVIRONMENTAL

Parameter	Value	Unit
ACUTE		
Fresh CMC:	3.2E+0 [D, E, G]	µg/L
Salt CMC:	1.9E+0 [D, G]	µg/L
CHRONIC		
Fresh CCC:		µg/L
Salt CCC:		µg/L