SUPERFUND CHEMICAL DATA MATRIX

Date: 3/31/2012
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: 3/31/2012
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

			Ground Water Mobility				Persistence		Bioaccumulation				Ecotoxicity					
			Liquid		Non-Liquid				Food Chain		Environment							
Substance Name	CAS Number	Toxicity	Karst	Non-Karst	Karst	Non-Karst	River	Lake	Fresh	Salt	Fresh	Salt	Fresh	Salt	Air Gas Migration	Air Gas Mobility	Gas	Part
Acenaphthene†	000083-32-9	10	1.00E+00	1.00E-02	2.00E-01	2.00E-03	0.4000	0.4000	500.0	500.0	500.0	500.0	10000	1000	11	0.2000	Yes	Yes
Acenaphthylene	000208-96-8	0	1.00E+00	1.00E-04*	2.00E-01	2.00E-05*	0.4000	1.0000	500.0	500.0	500.0	500.0	0	0	11	0.0200	Yes	Yes
Acetone†	000067-64-1	1	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	0.0700	0.5	0.5	0.5	0.5	100	1	17	1.0000	Yes	No
Acrolein†	000107-02-8	10000	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.0700	0.0700	500.0	500.0	500.0	500.0	1000	1000	17	1.0000	Yes	No
Acrylamide	000079-06-1	10000	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.0000	1.0000	5.0	5.0	5.0	5.0	10	10	6	0.2000	Yes	Yes
Alachlor**	015972-60-8	100	1.00E+00	1.00E-02	1.00E+00	1.00E-02	0.4000	0.0700	500.0	500.0	50.0	50.0	1000	1000	6	0.0200	Yes	Yes
Aldrin	000309-00-2	10000	1.00E+00	1.00E-04	2.00E-03	2.00E-07	1.0000	1.0000	5000.0*	50000.0	50000.0	50000.0	10000	10000	6	0.0020	Yes	Yes
Aluminum	007429-90-5	0	1.00E+00	1.00E+00*	1.00E+00*	1.00E+00*	1.0000	1.0000	50.0	50.0	5000.0*	5000.0*	100	100	...	...	No	Yes
Americium**	007440-35-9	0	1.00E+00	1.00E+00	...	...	1.0000	1.0000	5000.0	5000.0	5000.0	5000.0	0	0	...	...	No	Yes
Aniline	000062-53-3	10000	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.0000	0.4000	50.0*	50.0*	500.0	500.0	10000	10	11	1.0000	Yes	No
Anthracene†	000120-12-7	10	1.00E+00	1.00E-04	2.00E-03	2.00E-07	0.4000	0.4000	50000.0	50000.0	50000.0	50000.0	10000	10000	6	0.0020	Yes	Yes
Antimony	007440-36-0	10000	1.00E+00	1.00E-02	1.00E+00	1.00E-02	1.0000	1.0000	5.0*	5.0*	5.0	50.0*	100	100	...	...	No	Yes
Arsenic	007440-38-2	10000	1.00E+00	1.00E-02	1.00E+00	1.00E-02	1.0000	1.0000	5.0	500.0	5000.0*	500.0	10	100	...	...	No	Yes
Asbestos	001332-21-4	10000	1.00E+00	1.00E-04	...	...	1.0000	1.0000	0.5	0.5	0.5	0.5	0	0	...	...	No	Yes
Barium	007440-39-3	10000	1.00E+00	1.00E-02	1.00E+00	1.00E-02	1.0000	1.0000	500.0*	500.0*	500.0*	500.0*	1	1	...	...	No	Yes

* Indicates difference between previous version of chemical data (JUN 96) and current version of chemical data (JAN04).
** Indicates new hazardous substance in current version of chemical data (JAN04).
† See March 2012 SCDM update for volatile substances.

Substance Name	CAS Number	AIR PATHWAY			SOIL PATHWAY	
		NAAQS NESHAPS (ug/m^3)	Reference Dose Screen Conc (mg/m^3)	Cancer Risk Screen Conc (mg/m^3)	Reference Dose Screen Conc (mg/kg)	Cancer Risk Screen Conc (mg/kg)
Acenaphthene†	000083-32-9	...	...	...	4.7E+3	...
Acenaphthylene	000208-96-8	...	...	...	...	...
Acetone†	000067-64-1	...	3.2E+1	...	7.0E+4	...
Acrolein†	000107-02-8	...	2.1E-5	...	3.9E+1	...
Acrylamide	000079-06-1	...	...	1.9E-6	1.6E+1	1.4E-1
Alachlor**	015972-60-8	...	...	...	7.8E+2	8.0E+0
Aldrin	000309-00-2	...	...	5.0E-7	2.3E+0	3.8E-2
Aluminum	007429-90-5	...	...	...	...	...
Americium**	007440-35-9	...	...	...	...	...
Aniline	000062-53-3	...	1.0E-3	...	...	1.1E+2*
Anthracene†	000120-12-7	...	...	...	2.3E+4	...
Antimony	007440-36-0	...	4.2E-4*	...	3.1E+1	...
Arsenic	007440-38-2	...	...	5.7E-7	2.3E+1	4.3E-1
Asbestos	001332-21-4	...	...	Inhal Unit Risk: 2.3E-1 fibers/mL*	...	...

* Indicates difference between previous version of chemical data (JUN 96) and current version of chemical data (JAN04).
** Indicates new hazardous substance in current version of chemical data (JAN04).
† See March 2012 SCDM update for volatile substances.
‡ Indicates cancer risk through a mutagenic mode of action.