

Sustainable Futures

Summary Assessment

Using

P2 Framework Models

This document was developed to help compile estimation results from U.S. EPA OPPT's P2 Framework Models www.epa.gov/oppt/sf/tools/.methods.htm and is used by OPPT during Sustainable Futures (SF) training described at www.epa.gov/oppt/sf/meetings/train.htm. Participants in the voluntary SF Pilot Project are asked to submit the information contained in this assessment along with their SF PMNs in their choice of format.
Use of this specific format is not mandatory.

Chemical Assessed:

CAS Registry Number:

Participant Name:

Date of Assessment:

Record ID:	CAS No.		
Chemical Structure	MW:		
	MF:		
	Physical Form:		
	Submitter:		
	Trade Name:		
	Use:		
	Is this a representative structure? (Y/N)	Production Volume:	
SMILES:			
Name:			
Synonyms:			
SUSTAINABLE FUTURES SUMMARY:			
Concern Level	HIGH	MODERATE	LOW
Persistence			
Bioconcentration			
Cancer Health Hazard			
Non-Cancer Health Hazard			
Aquatic Toxicity Hazard			
Is the chemical predicted to be a PBT by PBT Profiler?			
Overall Hazard Concern	Human Health Hazard: Aquatic Hazard:		
Overall Risk	Human Health Risk: Aquatic Risk:		

CAS No.	Submitter:
PHYSICAL/CHEMICAL PROPERTIES:	
Melting Point (deg C)	
Boiling Point (deg C)	
Boiling Point Pressure (mm Hg)	
Vapor Pressure (mm Hg)	
Water Solubility (g/L)	
Log K_{ow}	
ENVIRONMENTAL TRANSPORT AND FATE:	
Transport	
Henry's Law Constant – HLC (atm-m³/mol)	
Soil Adsorption Coefficient – K_{oc}	
Bioconcentration Factor – BCF	
Persistence	
Experimental Biodeg Tests	
Ultimate Biodeg Model	
Primary Biodeg Model	
Atmospheric Half-life	
Hydrolysis Half-life	
Volatilization Half-life for Model River	
Volatilization Half-life for Model Lake	
Removal in Sewage Treatment Plant	
Ready Biodegradability	
Byproducts	
Degradation Products	
Metabolites	

CAS No.	Submitter:
ECOTOXICITY:	
ECOSAR Class	
Acute Toxicity	
Fish LC₅₀	
Daphnid LC₅₀	
Green Algae EC₅₀	
Chronic Toxicity	
Fish ChV	
Daphnid ChV	
Green Algae ChV	
Overall Hazard Concern for Aquatic Toxicity	
CANCER HEALTH EFFECTS:	
Experimental data	
OncoLogic Results	
Overall Hazard Concern for Carcinogenicity	
NON-CANCER HEALTH EFFECTS:	
Acute Toxicity	
Irritation	
Skin Sensitizer	
Reproductive Effects	
Developmental Effects	
Immune System Effects	
Genotoxicity	
Mutagenicity	
Systemic Effects	
Overall Hazard Concern for Non-Cancer Health Effects	

CAS No.		Submitter:	
EXPOSURE MODELS:			
INDUSTRIAL RELEASE AND EXPOSURE VALUES: CHEMSTEER			
Process		Number of Release Days	
SIC Code / NPDES No.		Number of Facilities	
Occupational Exposure Values			
	Cancer LADD	Chronic ADD	Acute APDR
Dermal			
Inhalation			
Environmental Release Values			
Release to Water			
Release to Air (Fugitive)			
Release to Landfill			
Release from Incineration			
Other Release Activities			
GENERAL POPULATION EXPOSURE VALUES: E-FAST			
Aquatic Exposure			
Lowest Acute COC – Aquatic Exposure			
Lowest Chronic COC – Aquatic Exposure			
Predicted Environmental Concentration (PEC)			
PEC Exceeds Chronic COC (days / year)			
Human Exposure			
	Cancer LADDpot	Chronic ADDpot	Acute ADRpot
Drinking Water			
Fish Ingestion			
Fugitive Emissions			
Incineration Emissions			
Landfill Leaching			
Dermal – Consumer Use			
Inhalation – Consumer Use			
RISK ASSESSMENT CALCULATIONS:			
MOE – Acute Occupational Exposure			
MOE – Chronic Occupational Exposure			
MOE – Acute General Population Exposure			
MOE – Chronic General Population Exposure			

CAS No.

Submitter:

SUMMARY CONCLUSIONS:

Occupational Risk:

Risk of Non-Cancer Acute Effects from Occupational Exposure:

Risk of Non-Cancer Chronic Effects from Occupational Exposure:

Risk of Cancer Effects from Occupational Exposure:

General Population Risk:

Risk of Non-Cancer Acute Effects to General Population:

Risk of Non-Cancer Chronic Effects to General Population:

Risk of Cancer Effects to General Population:

Aquatic Risk:

Acute Risk to the Aquatic Environment:

Chronic Risk to the Aquatic Environment:

Physical/Chemical Properties

Environmental Fate

CAS No.

Submitter:

Aquatic Hazard

Human Health Cancer Hazard

Human Health Non-Cancer Hazard

CAS No.

Submitter:

Environmental Exposure

Occupational Exposure

General Population Exposure

Environmental (Aquatic) Risk Assessment

Human Health Risk Assessment

CAS No.

Submitter:

Table I - Selected Analogs

Analog	Structure	Concern Identified	Basis of Concern	Concern Level

References

Definitions and Abbreviations

Appendix 1: Determination of Aquatic Risk

Chemical Identifier: **CAS Number:**

Release Activity 1: (manufacturing, processing) **Site Information: (SIC Code or other identifier)**

	Endpoint	Effect Level (ppb)	Assessment Factor	Acute COC (ppb)	PEC (ppb)	Potential for Risk?
Acute Profile						
	Endpoint	Effect Level (ppb)	Assessment Factor	Chronic COC (ppb)	Days/Year PEC Exceeds COC	Potential for Risk?
Chronic Profile						

Release Activity 2: (manufacturing, processing) **Site Information: (SIC Code or other identifier)**

	Endpoint	Effect Level (ppb)	Assessment Factor	Acute COC (ppb)	PEC (ppb)	Potential for Risk?
Acute Profile						
	Endpoint	Effect Level (ppb)	Assessment Factor	Chronic COC (ppb)	Days/Year PEC Exceeds COC	Potential for Risk?
Chronic Profile						

Appendix 2: Determination of Human Health Risk from Occupational Exposure

Chemical Identifier:

CAS Number:

Exposure Activity 1:

Site Information:

	Endpoint (Concern Effect)	NOAEL (mg/kg-d)	LOAEL (mg/kg-d)	Exposure Dose and Source (mg/kg-d)	MOE*	Potential for Risk?
Occupational Exposure	1.					
	2.					
	3.					

Exposure Activity 2:

Site Information:

	Endpoint (Concern Effect)	NOAEL (mg/kg-d)	LOAEL (mg/kg-d)	Exposure Dose and Source (mg/kg-d)	MOE*	Potential for Risk?
Occupational Exposure	1.					
	2.					
	3.					

*MOE < 100 indicates potential for risk when using a NOAEL value; MOE < 1000 indicates potential for risk when using a LOAEL value.

Appendix 3: Determination of Human Health Risk to the General Population

Chemical Identifier:

CAS Number:

Exposure Activity 1:

Site Information:

	Endpoint (Concern Effect)	NOAEL (mg/kg-d)	LOAEL (mg/kg-d)	Exposure Dose and Source (mg/kg-d)	MOE*	Potential for Risk?
General Population Exposure	1.					
	2.					
	3.					

Exposure Activity 2:

Site Information:

	Endpoint (Concern Effect)	NOAEL (mg/kg-d)	LOAEL (mg/kg-d)	Exposure Dose and Source (mg/kg-d)	MOE*	Potential for Risk?
General Population Exposure	1.					
	2.					
	3.					

*MOE < 100 indicates potential for risk when using a NOAEL value; MOE < 1000 indicates potential for risk when using a LOAEL value.