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<b>SAFETY DATA SHEET</b>		Revision Date: 05/21/2015
		Print Date: 6/25/2015
		SDS Number: R0717521
Optiphen™ PLUS preservative ™ Trademark, Ashland or its subsidiaries, registered in various countries 830417		Version: 1.0

29 CFR 1910.1200 (OSHA HazCom 2012)

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

### Product identifier

Trade name : Optiphen™ PLUS  
preservative  
™ Trademark, Ashland or its subsidiaries, registered in  
various countries

### Recommended use of the chemical and restrictions on use

Use of the Substance/Mixture : Preservative

<b>Details of the supplier of the safety data sheet</b> Ashland P.O. Box 2219 Columbus, OH 43216 United States of America  EHS Customer Requests@ashland.com	<b>Emergency telephone number</b> 1-800-ASHLAND (1-800-274-5263)  <b>Regulatory Information Number</b> 1-800-325-3751  <b>Product Information</b> 614-790-3333
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## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Eye irritation : Category 2A

### GHS Label element

Hazard pictograms :



Signal Word : Warning

Hazard Statements : Causes serious eye irritation.

Precautionary Statements : **Prevention:**  
Wash skin thoroughly after handling.  
Wear eye protection/ face protection.  
**Response:**  
IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/ attention.

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#### Other hazards

None known.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Hazardous components

Chemical Name	CAS-No.	Classification	Concentration (%)
2-PHENOXYETHANOL	122-99-6	Acute Tox. 4; H302 Eye Irrit. 2A; H319	52.25
1,2-OCTANEDIOL	1117-86-8	Eye Irrit. 2A; H319	41.73
SORBIC ACID	110-44-1	Skin Irrit. 2; H315 Eye Irrit. 2A; H319 STOT SE 3; H335	6.00

### SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- If inhaled : If breathed in, move person into fresh air.  
If unconscious place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention.  
If on skin, rinse well with water.  
Wash contaminated clothing before re-use.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
Remove contact lenses.

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Protect unharmed eye.

- If swallowed : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:  
stomach or intestinal upset (nausea, vomiting, diarrhea)  
irritation (nose, throat, airways)  
pain in the abdomen and lower back  
acute kidney failure (sudden slowing or stopping of urine production)  
Causes serious eye irritation.
- Notes to physician : No hazards which require special first aid measures.

## SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Water spray  
Foam  
Carbon dioxide (CO2)  
Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release.  
Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : carbon dioxide and carbon monoxide
- Specific extinguishing methods :  
  
Product is compatible with standard fire-fighting agents.
- Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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Special protective equipment : In the event of fire, wear self-contained breathing apparatus.  
for firefighters

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.
- Other information : Comply with all applicable federal, state, and local regulations.

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## SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Do not breathe vapours/dust.  
Do not smoke.  
Container hazardous when empty.  
Avoid contact with skin and eyes.  
Smoking, eating and drinking should be prohibited in the application area.  
For personal protection see section 8.  
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Electrical installations / working materials must comply with the technological safety standards.

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

- Engineering measures** : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

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### Personal protective equipment

#### Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin and body protection : Wear as appropriate:  
impervious clothing  
Safety shoes  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.  
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.  
When using do not eat or drink.  
When using do not smoke.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

Colour : light yellow

Odour : No data available

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Boiling point/boiling range : No data available

Flash point : 255 °F / 124 °C

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

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Relative density : No data available

Density : 1.014 - 1.024 g/cm3

Solubility(ies)  
Water solubility : No data available

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Thermal decomposition : No data available

Viscosity  
Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Oxidizing properties : No data available

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## SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Product will not undergo hazardous polymerization.

Conditions to avoid : excessive heat  
Do not allow evaporation to dryness.  
Exposure to light.

Incompatible materials : Strong bases  
Strong oxidizing agents

Hazardous decomposition products : carbon dioxide and carbon monoxide

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## SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation  
Skin contact  
Eye Contact  
Ingestion

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#### Acute toxicity

Not classified based on available information.

#### Components:

##### 2-PHENOXYETHANOL:

Acute oral toxicity : LD 50 (Rat): 1,850 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

##### 1,2-OCTANEDIOL:

Acute oral toxicity : LD 50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 401  
GLP: yes  
Assessment: No adverse effect has been observed in acute oral toxicity tests.

Acute inhalation toxicity : LC 50 (Rat): > 7.015 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Remarks: Information given is based on data obtained from similar substances.

##### SORBIC ACID:

Acute oral toxicity : LD 50 (Rat): 7.36 g/kg

Acute inhalation toxicity : LC 50 (Rat): > 38.1 mg/m3  
Exposure time: 6 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD 50 (Rabbit): > 7,940 mg/kg

#### Skin corrosion/irritation

Not classified based on available information.

#### Product:

Remarks: May cause skin irritation in susceptible persons.

#### Components:

##### 2-PHENOXYETHANOL:

Species: Rabbit  
Result: Not irritating to skin

##### 1,2-OCTANEDIOL:

Species: Rabbit  
Result: Not irritating to skin

##### SORBIC ACID:

Result: Irritating to skin

#### Serious eye damage/eye irritation

Causes serious eye irritation.

#### Product:

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Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin., Causes serious eye irritation.

**Components:**

2-PHENOXYETHANOL:

Species: Rabbit

Result: Irritating to eyes

1,2-OCTANEDIOL:

Result: Irritating to eyes

SORBIC ACID:

Species: Rabbit

Result: Irritating to eyes

Method: OECD Test Guideline 405

**Respiratory or skin sensitisation**

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

**Components:**

2-PHENOXYETHANOL:

Species: Guinea pig

Assessment: Does not cause skin sensitisation.

Method: OECD Test Guideline 406

1,2-OCTANEDIOL:

Test Type: Local lymph node assay

Species: Mouse

Assessment: Did not cause sensitisation on laboratory animals.

Method: OECD Test Guideline 429

Result: Did not cause sensitisation on laboratory animals.

GLP: yes

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

2-PHENOXYETHANOL:

Genotoxicity in vitro

: Test Type: Ames test

Test species: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

1,2-OCTANEDIOL:

Genotoxicity in vitro

: Test Type: Ames test

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

GLP: yes

**Carcinogenicity**

Not classified based on available information.

**Reproductive toxicity**

Not classified based on available information.



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#### STOT - single exposure

Not classified based on available information.

#### Components:

SORBIC ACID:

Exposure routes: Inhalation

Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

#### STOT - repeated exposure

Not classified based on available information.

#### **Aspiration toxicity**

Not classified based on available information.

#### Product:

No aspiration toxicity classification

#### Further information

#### Product:

Remarks: No data available

#### Carcinogenicity:

##### IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

##### OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

##### NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

## SECTION 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

#### Components:

##### 2-PHENOXYETHANOL:

Toxicity to fish : LC 50 (Fathead minnow (*Pimephales promelas*)): 337 - 352 mg/l  
Exposure time: 96 h  
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): > 500 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202

Toxicity to algae : NOEC (*Desmodesmus subspicatus* (green algae)): > 500 mg/l  
End point: Growth inhibition

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Exposure time: 72 h

Test Type: static test

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 23 mg/l  
Exposure time: 34 d  
Test Type: flow-through test  
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia (water flea)): 9.43 mg/l  
Exposure time: 21 d  
End point: Reproduction Test  
Test Type: semi-static test  
Method: OECD Test Guideline 211

#### 1,2-OCTANEDIOL:

Toxicity to fish : LC 50 (Danio rerio (zebra fish)): > 2.2 - < 22.2 mg/l  
Exposure time: 96 h  
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): 176 mg/l  
Exposure time: 48 h  
Test Type: semi-static test  
Method: OECD Test Guideline 202

Toxicity to algae : EC 50 (Pseudokirchneriella subcapitata (green algae)): 35 mg/l  
End point: Growth inhibition  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
GLP: yes

#### SORBIC ACID:

Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): 75 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Method: OECD Test Guideline 203  
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 70 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202  
GLP: yes

Toxicity to algae : EbC50 (Desmodesmus subspicatus (green algae)): 24.1 mg/l  
End point: Biomass  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201  
GLP: yes

ErC50 (Desmodesmus subspicatus (green algae)): 41.9 mg/l

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End point: Growth inhibition  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201  
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Water flea (Daphnia magna)): 50 mg/l  
Exposure time: 21 d  
Test Type: semi-static test  
Method: OECD Test Guideline 211  
GLP: yes

### Persistence and degradability

#### Components:

##### 2-PHENOXYETHANOL:

Biodegradability : Result: Readily biodegradable  
Biodegradation: 99 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

##### 1,2-OCTANEDIOL:

Biodegradability : Result: Readily biodegradable  
Biodegradation: 75 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D  
Remarks: Readily biodegradable

##### SORBIC ACID:

Biodegradability : Result: Readily biodegradable  
Biodegradation: 74.9 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D

### Bioaccumulative potential

#### Components:

##### 2-PHENOXYETHANOL:

Partition coefficient: n-octanol/water : log Pow: 1.16

##### 1,2-OCTANEDIOL:

Partition coefficient: n-octanol/water : log Pow: 1.0

##### SORBIC ACID:

Partition coefficient: n-octanol/water : log Pow: 1.33  
pH: 2.5

### Mobility in soil

#### Components:

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No data available

**Other adverse effects**

No data available

**Product:**

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life.

**Components:**

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**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods**

General advice : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.

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**SECTION 14. TRANSPORT INFORMATION**

**International transport regulations**

**REGULATION**

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.
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**U.S. DOT - ROAD**

Not dangerous goods
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**U.S. DOT - RAIL**

Not dangerous goods
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**U.S. DOT - INLAND WATERWAYS**

Not dangerous goods
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#### TRANSPORT CANADA - ROAD

Not dangerous goods

#### TRANSPORT CANADA - RAIL

Not dangerous goods

#### TRANSPORT CANADA - INLAND WATERWAYS

Not dangerous goods

#### INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

#### INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

#### INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

#### MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

Not dangerous goods

#### \*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Marine pollutant	no
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Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

#### SECTION 15. REGULATORY INFORMATION

**SARA 311/312 Hazards** : Acute Health Hazard

#### SARA 313 Component(s)

2-PHENOXYETHANOL 122-99-6 52.30 %

#### Pennsylvania Right To Know

2-PHENOXYETHANOL 122-99-6 50.00 - 70.00 %

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1,2-OCTANEDIOL 1117-86-8 30.00 - 50.00 %

SORBIC ACID 110-44-1 5.00 - 10.00 %

**New Jersey Right To Know**

2-PHENOXYETHANOL 122-99-6 50.00 - 70.00 %

1,2-OCTANEDIOL 1117-86-8 30.00 - 50.00 %

SORBIC ACID 110-44-1 5.00 - 10.00 %

**California Prop 65**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**The components of this product are reported in the following inventories:**

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

AUSTR : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

KECL : On the inventory, or in compliance with the inventory

PICCS : Not in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

**Inventories**

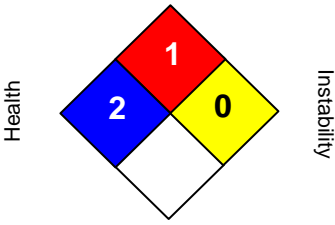
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECL (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

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## SECTION 16. OTHER INFORMATION

### Further information

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NFPA:	HMIS III:						
<p>Flammability</p> <p>Health</p> <p>Instability</p> <p>Special hazard.</p> 	<table border="1"> <tr> <td><b>HEALTH</b></td><td><b>2</b></td></tr> <tr> <td><b>FLAMMABILITY</b></td><td><b>1</b></td></tr> <tr> <td><b>PHYSICAL HAZARD</b></td><td></td></tr> </table> <p>0 = not significant, 1 = Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic</p>	<b>HEALTH</b>	<b>2</b>	<b>FLAMMABILITY</b>	<b>1</b>	<b>PHYSICAL HAZARD</b>	
<b>HEALTH</b>	<b>2</b>						
<b>FLAMMABILITY</b>	<b>1</b>						
<b>PHYSICAL HAZARD</b>							

### NFPA Flammable and Combustible Liquids Classification

Combustible Liquid Class IIIB

### Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Sources of key data used to compile the Safety Data Sheet

Ashland internal data including own and sponsored test reports

The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists

BEI : Biological Exposure Index

CAS : Chemical Abstracts Service (Division of the American Chemical Society).

CMR : Carcinogenic, Mutagenic or Toxic for Reproduction

FG : Food grade

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GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement

IATA : International Air Transport Association.

IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization

ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"

IMDG : International Maritime Code for Dangerous Goods

ISO : International Organization for Standardization

logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population

LDxx : Lethal Dose, for xx percent of test population.

ICxx : Inhibitory Concentration for xx of a substance

Ecxx : Effective Concentration of xx

N.O.S.: Not Otherwise Specified

OECD : Organization for Economic Co-operation and Development

OEL : Occupational Exposure Limit

P-Statement : Precautionary Statement

PBT : Persistent , Bioaccumulative and Toxic

PPE : Personal Protective Equipment

STEL : Short-term exposure limit

STOT : Specific Target Organ Toxicity

TLV : Threshold Limit Value

TWA : Time-weighted average

vPvB : Very Persistent and Very Bioaccumulative

WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act

DOT : Department of Transportation

FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act

HMIRC : Hazardous Materials Information Review Commission

HMIS : Hazardous Materials Identification System

NFPA : National Fire Protection Association

NIOSH : National Institute for Occupational Safety and Health

OSHA : Occupational Safety and Health Administration

PMRA : Health Canada Pest Management Regulatory Agency

RTK : Right to Know

WHMIS : Workplace Hazardous Materials Information System