

# Diphosphorus tetraiodide

sc-252754

## Material Safety Data Sheet



The Power to Question

Hazard Alert Code  
Key:

EXTREME

HIGH

MODERATE

LOW

## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME

Diphosphorus tetraiodide

### STATEMENT OF HAZARDOUS NATURE

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

### NFPA



### SUPPLIER

Santa Cruz Biotechnology, Inc.  
2145 Delaware Avenue  
Santa Cruz, California 95060  
800.457.3801 or 831.457.3800

### EMERGENCY

ChemWatch  
Within the US & Canada: 877-715-9305  
Outside the US & Canada: +800 2436 2255  
(1-800-CHEMCALL) or call +613 9573 3112

### SYNONYMS

P2I4, "phosphorus iodide", "phosphorous tetraiodide"

## Section 2 - HAZARDS IDENTIFICATION

### CHEMWATCH HAZARD RATINGS

		Min	Max
Flammability	3		
Toxicity	2		
Body Contact	3		
Reactivity	2		
Chronic	2		

Min/Nil=0  
Low=1  
Moderate=2  
High=3  
Extreme=4



### CANADIAN WHMIS SYMBOLS



## **EMERGENCY OVERVIEW**

### **RISK**

Causes burns.

Risk of serious damage to eyes.

Reacts violently with water liberating extremely flammable gases.

Highly flammable.

### **POTENTIAL HEALTH EFFECTS**

#### **ACUTE HEALTH EFFECTS**

##### **SWALLOWED**

- The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.

- The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion".

This is because of the lack of corroborating animal or human evidence.

- Ingestion of acidic corrosives may produce burns around and in the mouth, the throat and oesophagus.

Immediate pain and difficulties in swallowing and speaking may also be evident.

##### **EYE**

- The material can produce chemical burns to the eye following direct contact.

Vapours or mists may be extremely irritating.

- If applied to the eyes, this material causes severe eye damage.

- Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns.

Mild burns of the epithelia generally recover rapidly and completely.

##### **SKIN**

- The material can produce chemical burns following direct contact with the skin.

- Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.

- Open cuts, abraded or irritated skin should not be exposed to this material.

- Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.

Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

- Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue.

##### **INHALED**

- If inhaled, this material can irritate the throat and lungs of some persons.

- Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual.

- Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.

- Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage.

There may be dizziness, headache, nausea and weakness.

- Once low blood sugar, uraemia, liver enlargement or delirium appears, acute phosphorus poisoning has a mortality of almost 50%.

The mean time between onset of symptoms and death is 5-6 days.

#### **CHRONIC HEALTH EFFECTS**

- Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in

some persons compared to the general population.

Based on experience with animal studies, there is a possibility that exposure to the material may result in toxic effects to the development of the foetus, at levels which do not cause significant toxic effects to the mother.

Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Prime symptom is breathlessness; lung shadows show on X-ray.

Repeated or prolonged exposure to acids may result in the erosion of teeth, swelling and/or ulceration of mouth lining. Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs. Chronic exposure may inflame the skin or conjunctiva.

Iodine and iodides, may give rise to local allergic reactions such as hives, rupture of skin blood vessels, pain in joints or diseases of the lymph nodes.

Iodine and iodides cause goitre and diminished as well as increased activity of the thyroid gland. A toxic syndrome resulting from chronic iodide overdose and from repeated administration of small amounts of iodine is characterised by excessive saliva production, head cold, sneezing, conjunctivitis, headache, fever, laryngitis, inflammation of the bronchi and mouth cavity, inflamed parotid gland, and various skin rashes. Swelling and inflammation of the throat, irritated and swollen eyes and lung swelling may also occur. Swelling of the glottis, necessitating a tracheotomy has been reported. Use of iodides in pregnancy can cause foetal death, severe goitre, hypothyroidism and the cretinoid appearance of the newborn.

Chronic phosphorus intoxication is characterised by general ill health a reduced red blood cell level, extreme weakness and wasting, bronchitis, and degenerative changes to the bones.

### Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
diphosphorus tetraiodide	13455-00-0	> 99
NOTE Reacts with water and moisture to produce		
<a href="#">hydrogen iodide</a>	10034-85-2	

### Section 4 - FIRST AID MEASURES

#### SWALLOWED

- For advice, contact a Poisons Information Centre or a doctor at once.
- Urgent hospital treatment is likely to be needed.
- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

#### EYE

If this product comes in contact with the eyes

- Immediately hold eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.

#### SKIN

If skin or hair contact occurs

- Immediately flush body and clothes with large amounts of water, using safety shower if available.
- Quickly remove all contaminated clothing, including footwear.
- Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.
- Transport to hospital, or doctor.

#### INHALED

- If fumes or combustion products are inhaled remove from contaminated area.

- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.
- Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).
- As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.
- Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.

#### **NOTES TO PHYSICIAN**

- For acute or short term repeated exposures to strong acids
- Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the dessicating action of the acid on proteins in specific tissues.

Depending on the degree of exposure, periodic medical examination is indicated. The symptoms of lung oedema often do not manifest until a few hours have passed and they are aggravated by physical effort.

### **Section 5 - FIRE FIGHTING MEASURES**

Vapour Pressure (mmHG)	Negligible
Upper Explosive Limit (%)	Not Applicable
Specific Gravity (water=1)	Not available
Lower Explosive Limit (%)	Not Applicable

#### **EXTINGUISHING MEDIA**

DO NOT USE WATER, CO2 OR FOAM ON SUBSTANCE ITSELF

For SMALL FIRES

- Dry chemical, soda ash or lime.

For LARGE FIRES

- DRY sand, dry chemical, soda ash;
- OR withdraw and allow fire to burn itself out.

#### **FIRE FIGHTING**

- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear full protective clothing plus breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 800 metres in all directions.

#### **GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS**

- May ignite on contact with air, moist air or water.
- May react vigorously or explosively on contact with water.
- May decompose explosively when heated or involved in fire.
- May REIGNITE after fire is extinguished.

Combustion products include hydrogen iodide, phosphorus oxides (POx).

#### **FIRE INCOMPATIBILITY**

- Segregate from alcohol, water.

- NOTE May develop pressure in containers; open carefully. Vent periodically.
- Keep dry

## Section 6 - ACCIDENTAL RELEASE MEASURES

### MINOR SPILLS

- Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.
- Check regularly for spills and leaks.
- Material from spill may be contaminated with water resulting in generation of gas which subsequently may pressure closed containers.
- Hold spill material in vented containers only and plan for prompt disposal
- Eliminate all ignition sources.
- Cover with DRY earth, sand or other non-combustible material.
- Then cover with plastic sheet to minimise spreading and to prevent exposure to rain or other sources of water.
- Use clean, non-sparking tools to collect absorbed material and place into loosely-covered metal or plastic containers ready for disposal.

### MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Eliminate all ignition sources (no smoking, flares, sparks or flames)
- Stop leak if safe to do so; prevent entry into waterways, drains or confined spaces.

## Section 7 - HANDLING AND STORAGE

### PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of overexposure occurs.
- Use in a well-ventilated area.
- Avoid contact with moisture.

### RECOMMENDED STORAGE METHODS

- Glass container is suitable for laboratory quantities
- Storage containers must be hermetically sealed; the product must be stored under an inert, dry gas.

For low viscosity materials and solids

Drums and jerricans must be of the non-removable head type.

Where a can is to be used as an inner package, the can must have a screwed enclosure.<.

Packaged under argon.

### STORAGE REQUIREMENTS

KEEP DRY! Packages must be protected from water ingress.

#### FOR MINOR QUANTITIES

- Store in an indoor fireproof cabinet or in a room of noncombustible construction and
- provide adequate portable fire-extinguishers in or near the storage area.

#### FOR PACKAGE STORAGE

- Store in original containers in approved flame-proof area.
- No smoking, naked lights, heat or ignition sources.

Air- and light-sensitive.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>	Peak ppm	Peak mg/m <sup>3</sup>	TWA F/CC	Notes
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Canada - Ontario Occupational Exposure Limits	diphosphorus tetraiodide (Particles (Insoluble or Poorly Soluble) Not Otherwise)	10 (I)	
Canada - British Columbia Occupational Exposure Limits	diphosphorus tetraiodide (Particles (Insoluble or Poorly Soluble) Not Otherwise Classified (PNOC))	10 (N)	
Canada - Ontario Occupational Exposure Limits	diphosphorus tetraiodide (Specified (PNOS) / Particules (insolubles ou peu solubles) non précisées par ailleurs)	3 (R)	
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	diphosphorus tetraiodide (Particulates not otherwise regulated Respirable fraction)	5	
US - California Permissible Exposure Limits for Chemical Contaminants	diphosphorus tetraiodide (Particulates not otherwise regulated Respirable fraction)	5	(n)
US - Oregon Permissible Exposure Limits (Z-1)	diphosphorus tetraiodide (Particulates not otherwise regulated (PNOR) (f) Total Dust)	- 10	Bold print identifies substances for which the Oregon Permissible Exposure Limits (PELs) are different than the federal Limits. PNOR means "particles not otherwise regulated."
US - Michigan Exposure Limits for Air Contaminants	diphosphorus tetraiodide (Particulates not otherwise regulated, Respirable dust)	5	
US - Oregon Permissible Exposure Limits (Z-1)	diphosphorus tetraiodide (Particulates not otherwise	- 5	Bold print identifies substances for which the Oregon Permissible Exposure Limits (PELs)

	regulated (PNOR) (f) Respirable Fraction)		are different than the federal Limits. PNOR means "particles not otherwise regulated."
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	diphosphorus tetraiodide (Particulates not otherwise regulated (PNOR)(f)- Respirable fraction)	5	
Canada - Nova Scotia Occupational Exposure Limits	hydrogen iodide (Iodides)	0.01	TLV Basis Hypothyroidism; upper respiratory tract irritation
US ACGIH Threshold Limit Values (TLV)	hydrogen iodide (Iodine and iodides Iodides)	0.01	TLV® Basis Hypothyroidism; URT irr
Canada - Prince Edward Island Occupational Exposure Limits	hydrogen iodide (Iodine and iodides Iodides)	0.01	TLV® Basis Hypothyroidism; URT irr

#### PERSONAL PROTECTION



#### RESPIRATOR

•Type B-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 1432000 & 1492001, ANSI Z88 or national equivalent)

#### EYE

- Chemical goggles.
- Full face shield may be required for supplementary but never for primary protection of eyes
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

#### HANDS/FEET

- Wear chemical protective gloves, eg. PVC.
- Wear safety footwear or safety gumboots, eg. Rubber

#### NOTE

- The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
  - Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.
- Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include
- frequency and duration of contact,

- chemical resistance of glove material,
- glove thickness and
- dexterity

#### OTHER

- Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.
- For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets), non sparking safety footwear.
- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.

#### ENGINEERING CONTROLS

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

### Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

#### PHYSICAL PROPERTIES

Corrosive.

Acid.

State	DIVIDED SOLID	Molecular Weight	569.57
Melting Range (°F)	257- 262	Viscosity	Not Applicable
Boiling Range (°F)	Not available	Solubility in water (g/L)	Reacts violently
Flash Point (°F)	Not Applicable	pH (1% solution)	Not available.
Decomposition Temp (°F)	Not Available	pH (as supplied)	Not applicable
Autoignition Temp (°F)	Not applicable	Vapour Pressure (mmHG)	Negligible
Upper Explosive Limit (%)	Not Applicable	Specific Gravity (water=1)	Not available
Lower Explosive Limit (%)	Not Applicable	Relative Vapour Density (air=1)	Not Applicable
Volatile Component (%vol)	Negligible	Evaporation Rate	Not Applicable

#### APPEARANCE

Crystalline solid; reacts violently with water, evolving hydrogen iodide, an irritating and corrosive gas. Mixes with acetone, alcohol, carbon disulfide and hydrogen sulfide.

### Section 10 - CHEMICAL STABILITY

#### CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of shock and friction
- May heat spontaneously
- Identify and remove sources of ignition and heating.
- Incompatible material, especially oxidisers, and/or other sources of oxygen may produce unstable product(s).
- Avoid sources of water contamination (e.g. rain water, moisture, high humidity).

#### STORAGE INCOMPATIBILITY

- Inorganic acids are generally soluble in water with the release of hydrogen ions. The resulting solutions have

pH's of less than 7.0.

- Inorganic acids neutralise chemical bases (for example amines and inorganic hydroxides) to form salts - neutralisation can generate dangerously large amounts of heat in small spaces.
- The dissolution of inorganic acids in water or the dilution of their concentrated solutions with additional water may generate significant heat.
- The addition of water to inorganic acids often generates sufficient heat in the small region of mixing to cause some of the water to boil explosively. The resulting "bumping" can spatter the acid.
- Segregate from alcohol, water.
- Avoid reaction with oxidising agents, bases and strong reducing agents.
- NOTE May develop pressure in containers; open carefully. Vent periodically.

For diphosphorus tetraiodide

Avoid alcohols.

Forms explosive and extremely sensitive compounds with most oxidising substances such as chlorates, nitrates, perchlorates or permanganates.

Reacts violently with glycerol, chlorosulfonic acid, 25% or 50% oleum, hydroxylamine, dimethyl sulfoxide (DMSO), dimethylformamide, sulfuric acid, fluorosulfonic acid.

For incompatible materials - refer to Section 7 - Handling and Storage.

## Section 11 - TOXICOLOGICAL INFORMATION

diphosphorus tetraiodide

### TOXICITY AND IRRITATION

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.
- No significant acute toxicological data identified in literature search.
- Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound.

### CARCINOGEN

Iodine and iodides Iodides	US ACGIH Threshold Limit Values (TLV) - Carcinogens	Carcinogen Category	A4
hydrogen iodide	US - Rhode Island Hazardous Substance List	IARC	
CAS~	US - Maine Chemicals of High Concern List	Carcinogen	A4
CAS~	Canada - Prince Edward Island Occupational Exposure Limits - Carcinogens	Notes	TLV® Basis Hypothyroidism; URT irr
TWA_F_CC~	Canada - Prince Edward Island Occupational Exposure Limits - Carcinogens	Notes	TLV Basis Hypothyroidism; upper respiratory tract irritation

## Section 12 - ECOLOGICAL INFORMATION

This material and its container must be disposed of as hazardous waste.

## Section 13 - DISPOSAL CONSIDERATIONS

### US EPA Waste Number & Descriptions

A. General Product Information

Corrosivity characteristic: use EPA hazardous waste number D002 (waste code C)

Reactivity characteristic: use EPA hazardous waste number D003 (waste code R).

### Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate. In most instances the supplier of the material should be consulted.

- DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.

Recycle wherever possible.

- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Treat and neutralise at an approved treatment plant. Treatment should involve: Mixing or slurring in water; Neutralisation with soda-lime or soda-ash followed by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material)
- Decontaminate empty containers with 5% aqueous sodium hydroxide or soda ash, followed by water. Observe all label safeguards until containers are cleaned and destroyed.

#### Section 14 - TRANSPORTATION INFORMATION

DOT:

Symbols:	None	Hazard class or Division:	4.3
Identification Numbers:	UN3131	PG:	II
Label Codes:	4.3, 8	Special provisions:	IB6, IP2, T3, TP33
Packaging: Exceptions:	151	Packaging: Non-bulk:	212
Packaging: Exceptions:	151	Quantity limitations: Passenger aircraft/rail:	15 kg
Quantity Limitations: Cargo aircraft only:	50 kg	Vessel stowage: Location:	E
Vessel stowage: Other:	85		

Hazardous materials descriptions and proper shipping names:

Water-reactive solid, corrosive, n.o.s

**Air Transport IATA:**

ICAO/IATA Class:	4.3	ICAO/IATA Subrisk:	8
UN/ID Number:	3131	Packing Group:	II
Special provisions:	A3		
Cargo Only			
Packing Instructions:	490	Maximum Qty/Pack:	50 kg
Passenger and Cargo		Passenger and Cargo	
Packing Instructions:	483	Maximum Qty/Pack:	15 kg

Passenger and Cargo Limited Quantity		Passenger and Cargo Limited Quantity	
Packing Instructions:	Y475	Maximum Qty/Pack:	5 kg
Shipping name:WATER-REACTIVE SOLID, CORROSIVE, N.O.S.(contains diphosphorus tetraiodide)			
<b>Maritime Transport IMDG:</b>			
IMDG Class:	4.3	IMDG Subrisk:	8
UN Number:	3131	Packing Group:	II
EMS Number:	F-G,S-L	Special provisions:	76 274
Limited Quantities:	0		
Shipping name:WATER-REACTIVE SOLID, CORROSIVE, N.O.S.(contains diphosphorus tetraiodide)			

## Section 15 - REGULATORY INFORMATION

**diphosphorus tetraiodide (CAS: 13455-00-0) is found on the following regulatory lists;**

"Canada Non-Domestic Substances List (NDSL)","US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory"

**Regulations for ingredients**

**hydrogen iodide (CAS: 10034-85-2) is found on the following regulatory lists;**

"Canada - Saskatchewan Industrial Hazardous Substances","Canada Controlled Drugs and Substances Act Schedule VI","Canada Domestic Substances List (DSL)","Canada Ingredient Disclosure List (SOR/88-64)","Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (English)","US - Alabama Precursor Chemicals","US - Florida Essential Chemicals","US - Florida Precursor Chemicals","US - Massachusetts Oil & Hazardous Material List","US - New Jersey Right to Know Hazardous Substances","US - Pennsylvania - Hazardous Substance List","US - Rhode Island Hazardous Substance List","US Department of Homeland Security Chemical Facility Anti-Terrorism Standards - Chemicals of Interest","US Department of Transportation (DOT), Hazardous Material Table","US DOE Temporary Emergency Exposure Limits (TEELs)","US Drug Enforcement Administration (DEA) List I and II Regulated Chemicals","US EPA Acute Exposure Guideline Levels (AEGLs) - Interim","US NFPA 45 Fire Protection for Laboratories Using Chemicals - Flammability Characteristics of Common Compressed and Liquefied Gases","US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide","US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory","USA: Chemical Facility Anti-Terrorism Standards - List Appendix A - 6CFR 27"

## Section 16 - OTHER INFORMATION

### LIMITED EVIDENCE

- Inhalation may produce health damage\*.
- Cumulative effects may result following exposure\*.
- Possible skin sensitiser\*.
- May possibly be harmful to the foetus/embryo\*.

\* (limited evidence).

*Reasonable care has been taken in the preparation of this information, but the author makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The author makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. For additional technical information please call our toxicology department on +800 CHEMCALL.*

- Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net/references](http://www.chemwatch.net/references).

- The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

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[www.chemwatch.net](http://www.chemwatch.net)

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