

# Diglyme

sc-211330



The Power is Question

## Material Safety Data Sheet

Hazard Alert Code Key:

EXTREME

HIGH

MODERATE

LOW

## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME

Diglyme

### 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

C6-H14-O3, (CH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>O, "diethyl glycol dimethyl ether", "ethylene diglycol dimethyl ether", bis-(2-methoxyethyl)ether, "ether, bis(2-methoxyethyl)", "diglycol methyl ether", "ethane, 1, 1' -oxybis(2-methoxy)", "2-methoxyethyl ether", Diglyme, dimethyl-digol, DEGDEE

## Section 2 - HAZARDS IDENTIFICATION

### CHEMWATCH HAZARD RATINGS

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

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



### CANADIAN WHMIS SYMBOLS



## EMERGENCY OVERVIEW

### RISK

May form explosive peroxides.  
May impair fertility.  
May cause harm to the unborn child.  
Flammable.

## POTENTIAL HEALTH EFFECTS

### ACUTE HEALTH EFFECTS

#### SWALLOWED

■ The material has NOT been classified as "harmful by ingestion".  
This is because of the lack of corroborating animal or human evidence.

#### EYE

■ Although the liquid is not thought to be an irritant, direct contact with the eye may produce transient discomfort characterized by tearing or conjunctival redness (as with windburn).

#### SKIN

■ The material is not thought to be a skin irritant (as classified using animal models).  
Temporary discomfort, however, may result from prolonged dermal exposures.  
■ Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.  
■ 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.

#### INHALED

■ Inhalation of vapours may cause drowsiness and dizziness.  
This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo.  
■ There is some evidence to suggest that the material can cause respiratory irritation in some persons.  
The body's response to such irritation can cause further lung damage.  
■ Inhalation of high concentrations of gas/vapor causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.  
■ Inhalation of diethylene glycol dimethyl ether vapours (when product is heated), mist or ingestion of liquid may result in vomiting, headache, rapid breathing, increased heart rate, lowered blood pressure, muscle weakness and unconsciousness.

### CHRONIC HEALTH EFFECTS

■ Ample evidence exists from experimentation that reduced human fertility is directly caused by exposure to the material.  
Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material.  
Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.  
Oral administration of diethylene glycol dimethyl ether in pregnant mice produced a significant reduction in viable litters. Rabbit tests indicate that the substance may produce foetal abnormalities when the mother was exposed dermally to doses exceeding 750 mg/kg/day. Dermal exposure did produce decreased spleen weights in guinea pigs and significantly increased urinary calcium excretion. Mild changes in liver cells involving fatty changes were also evident.  
Inhalation studies indicate that the substance does not produce a adverse effects in rats exposed to concentration as high as 216 ppm over 13 weeks.  
Some glycol esters and their ethers cause wasting of the testicles, reproductive changes, infertility and changes to kidney function. Shorter chain compounds are more dangerous.

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
diethylene glycol dimethyl ether	111-96-6	>98

## Section 4 - FIRST AID MEASURES

#### SWALLOWED

· Immediately give a glass of water. · First aid is not generally required. If in doubt, contact a Poisons Information Center or a doctor.

#### EYE

■ If this product comes in contact with the eyes: · Wash out immediately with fresh 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.

#### SKIN

■ If skin contact occurs: · Immediately remove all contaminated clothing, including footwear · Flush skin and hair with running water (and soap if available).

#### INHALED

· If fumes or combustion products are inhaled remove from contaminated area. · Other measures are usually unnecessary.

### NOTES TO PHYSICIAN

■ Treat symptomatically.

## Section 5 - FIRE FIGHTING MEASURES

Vapor Pressure (mmHg):	3 @ 20 degC
Upper Explosive Limit (%):	17.4
Specific Gravity (water=1):	0.945
Lower Explosive Limit (%):	1.5

### EXTINGUISHING MEDIA

- Foam.
- Dry chemical powder.

### FIRE FIGHTING

- Alert Emergency Responders and tell them location and nature of hazard.
- May be violently or explosively reactive.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 500 metres in all directions.

### GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Liquid and vapor are flammable.
- Moderate fire hazard when exposed to heat or flame.

Combustion products include: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), other pyrolysis products typical of burning organic material.

WARNING: Long standing in contact with air and light may result in the formation of potentially explosive peroxides.

### FIRE INCOMPATIBILITY

- Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result.

### PERSONAL PROTECTION

Glasses:

Chemical goggles.

Gloves:

Respirator:

Type A Filter of sufficient capacity

## Section 6 - ACCIDENTAL RELEASE MEASURES

### MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.

### MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Emergency Responders and tell them location and nature of hazard.

## Section 7 - HANDLING AND STORAGE

### PROCEDURE FOR HANDLING

- Containers, even those that have been emptied, may contain explosive vapours.
  - Do NOT cut, drill, grind, weld or perform similar operations on or near containers.
- The tendency of many ethers to form explosive peroxides is well documented. Ethers lacking non-methyl hydrogen atoms adjacent to the ether link are thought to be relatively safe
- DO NOT concentrate by evaporation, or evaporate extracts to dryness, as residues may contain explosive peroxides with DETONATION potential.
  - Any static discharge is also a source of hazard.
  - Before any distillation process remove trace peroxides by shaking with excess 5% aqueous ferrous sulfate solution or by percolation through a column of activated alumina.
  - Distillation results in uninhibited ether distillate with considerably increased hazard because of risk of peroxide formation on storage.
  - Add inhibitor to any distillate as required.
  - When solvents have been freed from peroxides by percolation through columns of activated alumina, the absorbed peroxides must promptly be desorbed by treatment with polar solvents such as methanol or water, which should then be disposed of safely.
- The substance accumulates peroxides which may become hazardous only if it evaporates or is distilled or otherwise treated to concentrate the peroxides. The substance may concentrate around the container opening for example.
- Purchases of peroxidisable chemicals should be restricted to ensure that the chemical is used completely before it can become peroxidised.
- A responsible person should maintain an inventory of peroxidisable chemicals or annotate the general chemical inventory to indicate which chemicals are subject to peroxidation. An expiration date should be determined. The chemical should either be treated to remove peroxides or disposed of before this date.
  - The person or laboratory receiving the chemical should record a receipt date on the bottle. The individual opening the container should add an opening date.
  - Unopened containers received from the supplier should be safe to store for 18 months.
  - Opened containers should not be stored for more than 12 months.
  - Avoid all personal contact, including inhalation.
  - Wear protective clothing when risk of overexposure occurs.

### RECOMMENDED STORAGE METHODS

- DO NOT use aluminum or galvanized containers.

Packing as supplied by manufacturer. Plastic containers may only be used if approved for flammable liquid.

- For low viscosity materials (i): Drums and jerricans must be of the non-removable head type. (ii): Where a can is to be used as an inner package, the can must have a screwed enclosure.
- For materials with a viscosity of at least 2680 cSt. (23 deg. C).

### STORAGE REQUIREMENTS

- Store in original containers in approved flammable liquid storage area.
- DO NOT store in pits, depressions, basements or areas where vapors may be trapped.

Easily peroxidizable. Products formed as a result of peroxidation are not only safety hazards but may chemically alter the chemical behavior of the parent compound.

- Store in an upright position.

## 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
US - California Permissible Exposure Limits for Chemical Contaminants	diethylene glycol dimethyl ether (Diethylene glycol dimethyl ether, Diglyme)	1	5.5	5	27				

ENDOELTABLE

### PERSONAL PROTECTION



### RESPIRATOR

- type a filter of sufficient capacity.
- Consult your EHS staff for recommendations

### EYE

- Safety glasses with side shields.
- Chemical goggles.

### HANDS/FEET

- Wear chemical protective gloves, eg. PVC.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended.

- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.

- Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

### OTHER

- Overalls.
- PVC Apron.
- 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.

### ENGINEERING CONTROLS

- For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

## PHYSICAL PROPERTIES

Liquid.

Mixes with water.

State	Liquid	Molecular Weight	134.20
Melting Range (°F)	-90	Viscosity	Not Available
Boiling Range (°F)	324	Solubility in water (g/L)	Miscible
Flash Point (°F)	135	pH (1% solution)	Not applicable
Decomposition Temp (°F)	Not available	pH (as supplied)	Not applicable
Autoignition Temp (°F)	369	Vapor Pressure (mmHg)	3 @ 20 degC
Upper Explosive Limit (%)	17.4	Specific Gravity (water=1)	0.945
Lower Explosive Limit (%)	1.5	Relative Vapor Density (air=1)	4.6
Volatile Component (%vol)	100	Evaporation Rate	36 BuAc=1

## APPEARANCE

Colourless liquid with a mild ether-like odour; mixes with water, alcohol, ether and hydrocarbon solvents.

Ether groups are generally stable to hydrolysis in water under neutral conditions and ambient temperatures. OECD guideline studies indicate ready biodegradability for several glycol ethers although higher molecular weight species seem to biodegrade at a slower rate. No glycol ethers that have been tested demonstrate marked resistance to biodegradative processes. Upon release to the atmosphere by evaporation, high boiling glycol ethers are estimated to undergo photodegradation (atmospheric half lives = 2.4-2.5 hr). When released to water, glycol ethers undergo biodegradation (typically 47-92% after 8-21 days) and have a low potential for bioaccumulation (log Kow ranges from -1.73 to +0.51). log Kow -0.06 In the environment, based on physicochemical properties and experimental data, diglyme will not bioaccumulate (log Kow = -0.36) and will distribute primarily to water and secondarily to soil where it will be subject to volatilisation and slow biodegradation under conditions favorable to bacteria. It is stable to hydrolysis but expected to react rapidly with atmospheric hydroxyl radicals with a half-life of about 7 hours.

Material	Value
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## Section 10 - CHEMICAL STABILITY

### CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.

### STORAGE INCOMPATIBILITY

#### ■ Diethylene glycol dimethyl ether (diglyme):

- forms unstable peroxides on exposure to air, heat, or sunlight or UV light (peroxides may be removed by stirring with a suspension of iron oxide in aqueous alcohol).
- reacts violently with oxidisers, metal halides, permanganates, peroxides, ammonium persulfate, bromine dioxide, sulfuric acid, nitric acid, perchloric acid, and other strong acids
- is incompatible with acyl halides, aliphatic amines, alkalis, boranes, isocyanates.
- Glycol ethers may form peroxides under certain conditions; the potential for peroxide formation is enhanced when these substances are used in processes such as distillation where they are concentrated or even evaporated to near-dryness or dryness; storage under a nitrogen atmosphere is recommended to minimise the possible formation of highly reactive peroxides
- Nitrogen blanketing is recommended if transported in containers at temperatures within 15 deg C of the flash-point and at or above the flash-point - large containers may first need to be purged and inerted with nitrogen prior to loading
- In the presence of strong bases or the salts of strong bases, at elevated temperatures, the potential exists for runaway reactions.
- Contact with aluminium should be avoided; release of hydrogen gas may result- glycol ethers will corrode scratched aluminium surfaces.
- May discolour in mild steel/ copper; lined containers, glass or stainless steel is preferred
- Glycols and their ethers undergo violent decomposition in contact with 70% perchloric acid. This seems likely to involve formation of the glycol perchlorate esters (after scission of ethers) which are explosive, those of ethylene glycol and 3-chloro-1,2-propanediol being more powerful than glyceryl nitrate, and the former so sensitive that it explodes on addition of water . Investigation of the hazards associated with use of 2-butoxyethanol for alloy electropolishing showed that mixtures with 50-95% of acid at 20 deg C, or 40-90% at 75 C, were explosive and initiatable by sparks. Sparking caused mixtures with 40-50% of acid to become explosive, but 30% solutions appeared safe under static conditions of temperature and concentration.

Avoid reaction with oxidizing agents.

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

## Section 11 - TOXICOLOGICAL INFORMATION

diethylene glycol dimethyl ether

### TOXICITY AND IRRITATION

#### DIETHYLENE GLYCOL DIMETHYL ETHER:

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

#### ■ For diethylene glycol dimethyl ether (diglyme):

Acute toxicity: The acute oral LD50 of diglyme is very high with a value of about 5000 mg/kg being reported for rat gavage studies. Exposure of rats to saturated vapor for 7 hours did not produce any significant adverse effects that were macroscopically visible at necropsy. The

dermal LD50 in experimental animals is unknown but based on human skin absorption studies and a "read across" approach using analogs is expected to be greater than 2000 mg/kg in the rabbit. As with most glycol ethers, dermal absorption is viewed as a potentially significant route of exposure.

Repeated-dose toxicity studies by the oral or inhalation route; demonstrate that the male reproductive organs followed by the bone marrow are important target organs for high-level diglyme exposures. Although low-level exposures are well tolerated, evidence in experimental animals indicates the potential for serious adverse effects in with overexposure. Metabolic studies in animals indicate that 2-methoxyacetic acid is a minor but variable metabolic product of diglyme. As 2-methoxyacetic acid is considered to interfere with cellular proliferation, tissues with rapidly proliferation are both predicted to be and are in fact target organs in experimental animals. These tissues include the testes (sperm production) the bone marrow (blood cell production) and, in pregnant experimental animals, the developing conceptus.

Genotoxicity: Multiple Salmonella typhimurium reverse mutation assays show lack of mutagenic activity in the presence or absence of metabolic activation and in vitro DNA damage and chromosome aberration studies have produce negative results. A study investigating the in vivo genotoxicity of diglyme after inhalation exposure indicated a lack of genotoxic activity as evidenced by no increase in bone-marrow cell chromosome aberrations after exposures to levels of diglyme that cause testicular damage.

Developmental toxicity has been investigated in rats using inhalation as the route of exposure, and investigated in mice and rabbits using oral administration. The rat and mouse study provided acceptable evidence o specific developmental toxicity from exposure of animals to diglyme. The rabbit study is less clear since the maternal NOAEL is stated as being lower than the developmental NOAEL; nevertheless, the effect on concepti are of sufficient magnitude to indicate specific developmental toxicity in the face of adverse maternal effects

Reproductive toxicity: The combination of developmental toxicity findings in treated pregnant animals and testicular toxicity in repeated dose studies indicates the potential of finding adverse reproductive effects. There is additional evidence that treated and affected males lose actual reproductive capacity. This evidence comes from a study designed to investigate if diglyme produced a dominant lethal effect. In this study, groups of male rats were exposed to diglyme vapor for five consecutive days and then were mated weekly without further treatment. High-dose treated males were unable to produce many offspring from weekly matings between week 5 and 9 after exposure. This is indicative of a male-mediated adverse reproductive effect of diglyme in experimental animals.

No significant acute toxicological data identified in literature search.

## Section 12 - ECOLOGICAL INFORMATION

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

### Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
diethylene glycol dimethyl ether	LOW	No Data Available	LOW	HIGH

### GESAMP/EHS COMPOSITE LIST - GESAMP Hazard Profiles

Name / EHS TRN A1a A1b A1 A2 B1 B2 C1 C2 C3 D1 D2 D3 E1 E2 E3 Cas No / RTECS No \_\_\_\_\_  
 \_\_\_\_\_ Diethylen 143 247 2 NI 2 NR 1 NI 0 0 (2) (1) 2 S 2 e glycol 8 phthalate / CAS:111- 96- 6 /

Legend: EHS=EHS Number (EHS=GESAMP Working Group on the Evaluation of the Hazards of Harmful Substances Carried by Ships)  
 NRT=Net Register Tonnage, A1a=Bioaccumulation log Pow, A1b=Bioaccumulation BCF, A1=Bioaccumulation, A2=Biodegradation, B1=Acuteaquatic toxicity LC/ECIC50 (mg/l), B2=Chronic aquatic toxicity NOEC (mg/l), C1=Acute mammalian oral toxicity LD50 (mg/kg), C2=Acute mammalian dermal toxicity LD50 (mg/kg), C3=Acute mammalian inhalation toxicity LC50 (mg/kg), D1=Skin irritation & corrosion, D2=Eye irritation& corrosion, D3=Long-term health effects, E1=Tainting, E2=Physical effects on wildlife & benthic habitats, E3=Interference with coastal amenities, For column A2: R=Readily biodegradable, NR=Not readily biodegradable. For column D3: C=Carcinogen, M=Mutagenic, R=Reprotoxic, S=Sensitising, A=Aspiration hazard, T=Target organ systemic toxicity, L=Lunginjury, N=Neurotoxic, I=Immunotoxic. For column E1: NT=Not tainting (tested), T=Tainting test positive. For column E2: Fp=Persistent floater, F=Floater, S=Sinking substances. The numerical scales start from 0 (no hazard), while higher numbers reflect increasing hazard. (GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships)

## Section 13 - DISPOSAL CONSIDERATIONS

### US EPA Waste Number & Descriptions

A. General Product Information

Ignitability characteristic: use EPA hazardous waste number D001 (waste code I)

### Disposal Instructions

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

! Puncture containers to prevent re-use and bury at an authorized landfill.

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. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. 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.

DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.

## Section 14 - TRANSPORTATION INFORMATION

DOT:

Symbols: None Hazard class or Division: 3

Identification Numbers: UN3271 PG: III

Label Codes: 3 Special provisions: B1, IB3, T4, TP1, TP29

Packaging: Exceptions: 150 Packaging: Non- bulk: 203

Packaging: Exceptions: 150 Quantity limitations: 60 L

Passenger aircraft/rail:

Quantity Limitations: Cargo 220 L Vessel stowage: Location: A aircraft only:

Vessel stowage: Other: None

COMBUSTIBLE LIQUID

A flammable liquid with a flash point at or above 38 deg.C (100 deg.F) that does not meet the definition of any other hazard class may be reclassified as a combustible liquid. This provision does not apply to transportation by vessel or aircraft, except where other means of transportation is impracticable. An elevated temperature material that meets the definition of a Class 3 material because it is intentionally heated and offered for transportation or transported at or above its flash point may not be reclassified as a combustible liquid. Refer to 49 CFR 173.120(b)(2)

### Air Transport IATA:

ICAO/IATA Class: 3 ICAO/IATA Subrisk: None

UN/ID Number: 3271 Packing Group: III

Special provisions: A3

Cargo Only

Packing Instructions: 220 L Maximum Qty/Pack: 366

Passenger and Cargo Passenger and Cargo

Packing Instructions: 60 L Maximum Qty/Pack: 355

Passenger and Cargo Limited Quantity Passenger and Cargo Limited Quantity

Packing Instructions: 10 L Maximum Qty/Pack: Y344

Shipping Name: ETHERS, N.O.S. \* 3271 (CONTAINS DIETHYLENE GLYCOL DIMETHYL ETHER)

### Maritime Transport IMDG:

IMDG Class: 3 IMDG Subrisk: None

UN Number: 3271 Packing Group: III

EMS Number: F-E , S-D Special provisions: 223 274

Limited Quantities: 5 L

Shipping Name: ETHERS, N.O.S.(contains diethylene glycol dimethyl ether)

## Section 15 - REGULATORY INFORMATION

### diethylene glycol dimethyl ether (CAS: 111-96-6) is found on the following regulatory lists;

"International Chemical Secretariat (ChemSec) REACH SIN\* List (\*Substitute It Now!) 1.0", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals", "US - California Air Toxics ""Hot Spots"" List (Assembly Bill 2588) Substances for which emissions must be quantified", "US - California Permissible Exposure Limits for Chemical Contaminants", "US DOE Temporary Emergency Exposure Limits (TEELs)", "US EPA High Production Volume Program Chemical List", "US Toxic Substances Control Act (TSCA) - Inventory", "US TSCA Section 8 (a) - Preliminary Assessment Information Rules (PAIR) - Reporting List", "US TSCA Section 8 (d) - Health and Safety Data Reporting"

## Section 16 - OTHER INFORMATION

*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. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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