Lead (II) nitrate

sc-211724

Material Safety Data Sheet

Hazard Alert Code Key: EXTREME | HIGH | MODERATE | LOW

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

Lead (II) nitrate

STATEMENT OF HAZARDOUS NATURE

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

NFPA

SUPPLIER

Company: Santa Cruz Biotechnology, Inc. Company: Santa Cruz Biotechnology, Inc. Address: Address: 2145 Delaware Ave 2145 Delaware Ave Santa Cruz, CA 95060 Santa Cruz, CA 95060 United States of America Telephone: 800.457.3801 or 831.457.3800 Telephone: 800.457.3801 or 831.457.3800 Emergency Tel: **CHEMWATCH: From within the US and Emergency Tel: ChemWatch Canada: 877- 715- 9305** Emergency Tel: **From within the US and Canada: 877- Emergency Tel: From outside the US and Canada: 715- 9305 From outside the US and Canada: 800- +800 2436 2255 (1- 800- CHEMCALL) or call +613 2436- 2255 (1- 800- CHEMCALL) Or call 613- 9573- 9573 3112 3112**

SYNONYMS

Pb(NO3)2, N2-O6-Pb, "lead dinitrate", "lead(2+) nitrate", "nitric acid, lead(2+) salt"

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

		Min Max
Flammability:	0	
Toxicity:	3	
Body Contact:	2	
Reactivity:	2	
Chronic:	3	

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

CANADIAN WHMIS SYMBOLS

EMERGENCY OVERVIEW

RISK

Danger of cumulative effects.
May cause harm to the unborn child.
Possible risk of impaired fertility.
Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
Harmful by inhalation and if swallowed.
Irritating to eyes, respiratory system and skin.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

■ The substance and/or its metabolites may bind to hemoglobin inhibiting normal uptake of oxygen.
This condition, known as "methemoglobinemia", is a form of oxygen starvation (anoxia).

■ Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

EYE

■ This material can cause eye irritation and damage in some persons.

SKIN

■ This material can cause inflammation of the skin oncontact in some persons.

■ The material may accentuate any pre-existing dermatitis condition.

■ Skin contact is not thought to have harmful health effects, however 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.

INHALED

■ The material can cause respiratory irritation in some persons.
The body's response to such irritation can cause further lung damage.

■ 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.

■ Inhalation of dusts, generated by the material, during the course of normalhandling, may be harmful.

CHRONIC HEALTH EFFECTS

■ Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects.
Ample evidence exists that developmental disorders are directlycaused by human exposure to the material.
Ample evidence from experiments exists that there is a suspicionthis material directly reduces fertility.
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.
Lead, in large amounts, can affect the blood, nervous system, heart, glands, immune system and digestive system. Anemia may occur.
Lead can cross the placenta, and cause miscarriage, stillbirths and birth defects. Exposure before birth can cause mental retardation, behavioral disorders and infant death.
Lead can accumulate in the skeleton for a very long time.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
lead nitrate	10099-74-8	>98

Section 4 - FIRST AID MEASURES

SWALLOWED

· 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: · 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. · Lay patient down. Keep warm and rested.

NOTES TO PHYSICIAN
■ The toxicity of nitrates and nitrites result from their vasodilating properties and their propensity to form methemoglobin.
· Most produce a peak effect within 30 minutes.
· Clinical signs of cyanosis appear before other symptoms because of the dark pigmentation of methemoglobin.
· Gastric acids solubilize lead and its salts and lead absorption occurs in the small bowel.
· Particles of less than 1um diameter are substantially absorbed by the alveoli following inhalation.

Section 5 - FIRE FIGHTING MEASURES

Vapour Pressure (mmHG):	Not applicable.
Upper Explosive Limit (%):	Not applicable
Specific Gravity (water=1):	4.5 @ 20 C
Lower Explosive Limit (%):	Not applicable

EXTINGUISHING MEDIA
■ FOR SMALL FIRE:
· USE FLOODING QUANTITIES OF WATER.
· DO NOT use dry chemicals, CO2 or foam.

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 800 metres in all directions.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS
· Will not burn but increases intensity of fire.
· Heating may cause expansion or decomposition leading to violent rupture of containers.
Decomposition may produce toxic fumes of: nitrogen oxides (NOx), metal oxides.

FIRE INCOMPATIBILITY
■ Avoid storage with reducing agents.
· Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous.

PERSONAL PROTECTION
Glasses:
Full face- shield.
Gloves:
Respirator:
Particulate

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS
· Clean up all spills immediately.
· No smoking, naked lights, ignition sources.
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
· Avoid personal contact and inhalation of dust, mist or vapors.
· Provide adequate ventilation.

RECOMMENDED STORAGE METHODS
· DO NOT repack. Use containers supplied by manufacturer only.
For low viscosity materials
· 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.

STORAGE REQUIREMENTS
■ In addition, Goods of Class 5.1, packing group II should be:
· stored in piles so that

· the height of the pile does not exceed 1 metre
· the maximum quantity in a pile or building does not exceed 1000 tonnes unless the area is provided with automatic fire extinguishers
· the maximum height of a pile does not exceed 3 metres where the room is provided with automatic fire extinguishers or 2 meters if not.
· the minimum distance between piles is not less than 2 metres where the room is provided with automatic fire extinguishers or 3 meters if not.
· the minimum distance to walls is not less than 1 metre.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³	Peak ppm	Peak mg/m³	TWA F/CC	Notes
US - Idaho - Acceptable Maximum Peak Concentrations	lead nitrate (Lead and its inorganic compounds (Z37.11-1969))		0.2						
Canada - British Columbia Occupational Exposure Limits	lead nitrate (Lead - elemental and inorganic compounds, as Pb)		0.05						Elemental 2B; R/Other inorganic 2A, R
Canada - Alberta Occupational Exposure Limits	lead nitrate (Lead elemental & inorganic compounds, as Pb)		0.05						
US OSHA Permissible Exposure Levels (PELs) - Table Z1	lead nitrate (Lead, inorganic (as Pb); see 1910.1025)		0.05						If an employee is exposed to lead for more than 8 hours in any work day, the permissible exposure limit, as a time weighted average (TWA) for that day, shall be reduced according to the following formula:
US ACGIH Threshold Limit Values (TLV)	lead nitrate (Lead - elemental and inorganic compounds (as Pb))		0.05						TLV Basis: central nervous system impairment; peripheral nervous system impairment; hematologic effects. BEI
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	lead nitrate (Lead inorganic (as Pb); see 1910.1025.)		For independent pigments, lead						

US - California Permissible Exposure Limits for Chemical Contaminants	lead nitrate (Lead (metallic) and inorganic compounds, dust and fume, as Pb (see also Section 5198))		0.05					
Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	lead nitrate (Lead, and inorganic compounds, (as Pb))		0.05					
US - Hawaii Air Contaminant Limits	lead nitrate (Lead inorganic (as Pb))		0.05					See º12-202-33.1 and 12-148.1
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	lead nitrate (Lead and inorganic compounds, (as Pb))		0.05		0.15			T20
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	lead nitrate (Lead, inorganic, fumes and dusts (as Pb))	-	0.15	-	0.45			
US - Washington Permissible exposure limits of air contaminants	lead nitrate (Lead, inorganic (as Pb) (see WAC 296-62-07521 and 296-155-176))		0.05					
Canada - Nova Scotia Occupational Exposure Limits	lead nitrate (Lead - elemental and inorganic compounds (as Pb))		0.05					TLV Basis: central nervous system impairment; peripheral nervous system impairment; hematologic effects. BEI
Canada - Prince Edward Island Occupational Exposure Limits	lead nitrate (Lead - elemental and inorganic compounds (as Pb))		0.05					TLV Basis: central nervous system impairment; peripheral nervous system impairment; hematologic effects. BEI
Canada - Northwest Territories Occupational Exposure Limits (English)	lead nitrate (Lead, inorg., fumes & dusts (as Pb))		0.15		0.45			

US - Michigan Exposure Limits for Air Contaminants	lead nitrate (Lead inorganic (as Pb); see R 325.51901 et seq.F)		0.05						
Canada - Ontario Occupational Exposure Limits	lead nitrate (Elemental lead, inorganic and organic compounds of lead, as Pb except tetraethyl lead / Plomb élémentaire, composés inorganiques et organiques du plomb, en Pb, sauf le plomb tétraéthyle)		0.05						Skin (organic compounds) / Peau (composés organiques)
US - Oregon Permissible Exposure Limits (Z-1)	lead nitrate (Lead, inorganic (as Pb))	0.05	0.05						(See 1910.1025 & 1926.62) Refers to 8hr (ppm) and 8hr (mg/m3)

ENDOELTABLE

PERSONAL PROTECTION

RESPIRATOR

• particulate.

EYE

· Chemical goggles.
· Full face shield.

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.

· DO NOT wear cotton or cotton-backed gloves.
· DO NOT wear leather gloves.
· Promptly hose all spills off leather shoes or boots or ensure that such footwear is protected with PVC over-shoes.

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

■ Local exhaust ventilation usually required. If risk of overexposure exists, wear an approved respirator.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solid.
Mixes with water.

State	Divided solid	Molecular Weight	331.2
Melting Range (°F)	878 (decomposes)	Viscosity	Not Applicable
Boiling Range (°F)	Not available.	Solubility in water (g/L)	Miscible
Flash Point (°F)	Not Applicable	pH (1% solution)	3-4 (5% soln)
Decomposition Temp (°F)	Not Available	pH (as supplied)	Not applicable
Autoignition Temp (°F)	Not applicable	Vapour Pressure (mmHG)	Not applicable.
Upper Explosive Limit (%)	Not applicable	Specific Gravity (water=1)	4.5 @ 20 C
Lower Explosive Limit (%)	Not applicable	Relative Vapor Density (air=1)	Not applicable.
Volatile Component (%vol)	Nil	Evaporation Rate	Not applicable

APPEARANCE

White, almost odourless crystals; mixes with water, forming a slightly acid solution.

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY

· Presence of incompatible materials.
· Product is considered stable under normal handling conditions.

STORAGE INCOMPATIBILITY

■ Derivative of electronegative metal.
for metal nitrates:
· Segregate from heavy metals, phosphides, sodium acetate, lead nitrate, tartrates, trichloroethylene,
· Avoid shock and heat.
· Mixtures of metal nitrates with alkyl esters may explode due to the formation of unstable alkyl nitrates.
· Mixtures of a nitrate with phosphorous, tin(II) chloride and other reducing agents may react explosively.
· Mixtures containing nitrates and organic materials are potentially dangerous, especially if acidic materials or heavy metals are present.
· Fibrous organic material, jute, wood and similar cellulosic material can become highly combustible by nitrate impregnation
· Metal nitrates are incompatible with cyanides, thiocyanates, isothiocyanates and hypophosphites. Avoid reaction with the following which can cause an explosion: barium thiocyanate, boron phosphide, cyanides, sodium hypophosphite, sulfur and charcoal, powdered aluminium or aluminium oxide, sodium thiosulfate.
· Mixtures of metal nitrates and phosphinates may explode on heating
· A mixture of aluminium powder, water and metal nitrate may explode due to a self accelerating reaction.
· Mixtures containing nitrates, nitrites and organic materials are potentially dangerous, especially in the presence of acidic materials and heavy metals.
· Metals and their oxides or salts may react violently with chlorine trifluoride and bromine trifluoride.
· These trifluorides are hypergolic oxidisers. They ignites on contact (without external source of heat or ignition) with recognised fuels - contact with these materials, following an ambient or slightly elevated temperature, is often violent and may produce ignition.
· The state of subdivision may affect the results.
· Inorganic reducing agents react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Their reactions with oxidizing agents may be violent.
· Incidents involving interaction of active oxidants and reducing agents, either by design or accident, are usually very energetic and examples of so-called redox reactions.
· Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous.
Avoid storage with reducing agents.
Reacts violently with ammonium thiocyanate, carbon, lead hypophosphite and potassium acetate

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

Section 11 - TOXICOLOGICAL INFORMATION

lead nitrate

TOXICITY AND IRRITATION

LEAD NITRATE:

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

TOXICITY	IRRITATION
Intraperitoneal (rat) LDLo: 270 mg/kg	Nil Reported
Unreported route (rat) LD50: 3613 mg/kg	

■ 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. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

CARCINOGEN

Lead compounds, inorganic	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	2A
Lead and compounds (inorganic)	US EPA Carcinogens Listing	Carcinogenicity	B2
Lead and compounds (inorganic)	US ACGIH Threshold Limit Values (TLV) - Carcinogens	Carcinogen Category	B2
lead nitrate	US - Rhode Island Hazardous Substance List	IARC	
LEAD NITRATE	US Environmental Defense Scorecard Recognized Carcinogens	Reference(s)	P65-MC
LEAD COMPOUNDS	US Environmental Defense Scorecard Recognized Carcinogens	Reference(s)	P65
LEAD NITRATE	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	P65-MC
LEAD COMPOUNDS	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	P65
Lead and lead compounds (inhalation)	US Air Toxics Hot Spots TSD for Describing Available Cancer Potency Factors	IARC Class	2B
Lead and lead compounds (oral)	US Air Toxics Hot Spots TSD for Describing Available Cancer Potency Factors	IARC Class	
lead nitrate	US - Maine Chemicals of High Concern List	Carcinogen	B2
PBIT_(PERS~	US - Maine Chemicals of High Concern List	Carcinogen	CA Prop 65; IARC; NTP 11th ROC
VPVB_(VERY~	US - Maine Chemicals of High Concern List	Carcinogen	IARC

Section 12 - ECOLOGICAL INFORMATION

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
This material and its container must be disposed of as hazardous waste.
Avoid release to the environment.
Refer to special instructions/ safety data sheets.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
lead nitrate	No Data Available	No Data Available	LOW	

Section 13 - DISPOSAL CONSIDERATIONS

US EPA Waste Number & Descriptions

A. General Product Information
Ignitability characteristic: use EPA hazardous waste number D001 (waste code I)
Toxicity characteristic: use EPA hazardous waste number D008 (waste code E) if this substance, in a solid waste, produces an extract containing greater than 5 mg/L of lead.

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. 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.
For small quantities of oxidizing agent:
· Cautiously acidify a 3% solution to pH 2 with sulfuric acid.
· Gradually add a 50% excess of sodium bisulfite solution with stirring.
· Recycle wherever possible or consult manufacturer for recycling options.
· Consult Waste Management Authority for disposal.

Section 14 - TRANSPORTATION INFORMATION

DOT:
Symbols: None Hazard class or Division: 5.1
Identification Numbers: UN1469 PG: II
Label Codes: 5.1, 6.1 Special provisions: IB8, IP2,
IP4, T3,
TP33
Packaging: Exceptions: 152 Packaging: Non- bulk: 212
Packaging: Exceptions: 152 Quantity limitations: 5 kg
Passenger aircraft/rail:
Quantity Limitations: Cargo 25 kg Vessel stowage: Location: A
aircraft only:
Vessel stowage: Other: None S.M.P.: YES
Hazardous materials descriptions and proper shipping names:
Lead nitrate

Air Transport IATA:

UN/ID Number: 1469 Packing Group: II
Special provisions: None
Cargo Only
Packing Instructions: 25 kg Maximum Qty/Pack: 562
Passenger and Cargo Passenger and Cargo
Packing Instructions: 5 kg Maximum Qty/Pack: 558
Passenger and Cargo Limited Quantity Passenger and Cargo Limited Quantity
Packing Instructions: 1 kg Maximum Qty/Pack: Y543
Shipping Name: LEAD NITRATE

Maritime Transport IMDG:

IMDG Class: 5.1 IMDG Subrisk: 6.1-P
UN Number: 1469 Packing Group: II
EMS Number: F-A , S-Q Special provisions: None
Limited Quantities: 1 kg Marine Pollutant: Yes

Section 15 - REGULATORY INFORMATION

lead nitrate (CAS: 10099-74-8) is found on the following regulatory lists;
"Canada - Saskatchewan Environmental Persistent or Chronic Hazardous Substances","Canada Domestic Substances List (DSL)","Canada Ingredient Disclosure List (SOR/88-64)","International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index","US - California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List","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 CWA (Clean Water Act) - List of Hazardous Substances","US CWA (Clean Water Act) - Reportable Quantities of Designated Hazardous Substances","US Department of Transportation (DOT) List of Hazardous Substances and Reportable Quantities - Hazardous Substances Other Than Radionuclides","US Department of Transportation (DOT) Marine Pollutants - Appendix B","US DOE Temporary Emergency Exposure Limits (TEELs)","US List of Lists - Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112(r) of the Clean Air Act","US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory"

Section 16 - OTHER INFORMATION

LIMITED EVIDENCE
■ Contact with air may produce sufficient heat to ignite combustible materials.*.
* (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.

■ 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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