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Part of Europa Biosite

Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

Dibromoisocyanuric Acid

sc-294301

Material Safety Data Sheet

Hazard Alert Code Key:	EXTREME	HIGH	MODERATE	LOW

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
Dibromoisocyanuric Acid

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
C3-H-Br2-N3-O3, "1, 3-dibromo-1, 3, 5-triazine-2, 4, 6-trione"

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

		Min	Max
Flammability:	1		
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

Harmful if swallowed.
Contact with acids liberates toxic gas.
Causes burns.
Risk of serious damage to eyes.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

■ 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.
■ The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.
■ Ingestion of dichloroisocyanurates will give rise to corrosive attack on the mouth, oesophagus and internal organs and may result in weakness, lethargy, tremors, salivation, lachrymation and possible coma.
Toxicity seems to be related to the corrosive effects of the substance (or its aqueous reaction product hypochlorous acid) on the stomach lining, rather than to systemic effects.
■ Single and repeated dose studies in animals by oral and skin routes of cyanuric acid and some cyanurates generally show a low degree of toxicity.
At high doses several studies showed kidney damage.
■ Triazine derivatives have been shown to cause structural damage to theliver in animal studies.
■ Ingestion of bromine may cause severe gastroenteritis and may be fatal.
Ingestion may produce brown discolouration of the lips, tongue and mucous membranes.

EYE

■ The material can produce chemical burns to the eye following direct contact.
Vapors or mists may be extremely irritating.
■ If applied to the eyes, this material causes severe eye damage.
■ Bromine vapour produces irritation, lachrymation and inflammation; higher concentrations may produce blepharospasm and photophobia.
Severe painful burns may develop from contact with liquid or vapour.

SKIN

■ The material can produce chemical burns following direct contactwith the skin.
■ Skin contact is not thought to produce harmful health effects (as classified using animal models).
Systemic harm, however, has been identified following exposure of animals by at least one other route and 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.
■ Measle-like eruptions and severe burns may develop following exposure to bromine vapour.
Liquid bromine contact produces initial cooling, then a burning sensation.

INHALED

■ 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.
■ Toxic effects may result from lung absorption of bromine.
Exposure to low concentrations results in copious mucous secretion in the upper airways, coughing, epistaxis (nosebleed), respiratory difficulties, vertigo and headache, and a feeling of oppression, dizziness.
■ The material can cause respiratory irritation in some persons.
The body's response to such irritation can cause further lung damage.

CHRONIC HEALTH EFFECTS

■ Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue.
Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.
There is some evidence that human exposure to the material may result in developmental toxicity. This evidence is based on animal studies where effects have been observed in the absence of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not secondary non-specific consequences of the other toxic effects.
The chlorinated isocyanurates have low acute oral and dermal toxicity but are very irritating to the eyes, They are very mild skin irritants and are not considered to be skin sensitizers.
A subchronic toxicity study showed effects in the urinary bladders of male mice and rats. Chronic toxicity studies (2-year feeding studies) using rats and mice showed no oncogenic effects at any dose level. The chlorinated isocyanurates are not teratogenic or mutagenic. Metabolism studies show that they are rapidly absorbed, distributed and excreted unmetabolised.
Chronic inhalation toxicity: Rats were exposed to sodium dichloroisocyanurate dihydrate dust at 3, 10 and 30 mg/m3 for 6hrs/day, 5/days/week for 4 weeks and the 10 and 30 mg/m3 groups showed some signs of toxicity (eye and respiratory tract irritation, reduced growth and altered organ weights) [Monsanto, Kirk-Othmer]
Chronic ingestion toxicity: Signs of severe toxicity (increased deaths, difficult breathing, gastrointestinal bleeding and reduced activity and growth) were seen in rats fed on high doses of dichloroisocyanurate in drinking water (4000 and 8000 ppm) for 59 days. Rats fed high doses of dichloroisocyanurate (6000 and 12000 ppm) in th diet for 13 weeks showed some signs of toxicity (reduced growth and reduced liver end kidney weights. [Monsanto, Kirk-Othmer]
Delayed effects can include shortness of breath, violent headaches, pulmonary oedema and pneumonia. Experimental studies on laboratory animals indicate possible teratogenic and other reproductive effects. [BASF].
Bromine is very irritating for the mucous membranes. It has cumulative properties, being deposited in the tissues as bromides and displacing other halogens (iodine and chlorine). Long-term effects include disorders of the nervous system. Chronic exposure to bromine has been

associated with headache, joint pain, chest pain, loss of appetite, increasing irritability, loss of corneal reflexes, pharyngitis, vegetative disorders, hypertension and myocardial degeneration, gastrointestinal secretory disorders, leukopoiesis and leukocytosis inhibition and thyroid dysfunction have also been reported.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
dibromoisocyanuric acid	15114-43-9	>98
hydrolysis yields		
bromine	7726-95-6	

Section 4 - FIRST AID MEASURES

SWALLOWED
· For advice, contact a Poisons Information Center or a doctor at once. · Urgent hospital treatment is likely to be needed.

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.

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.

INHALED
· If fumes or combustion products are inhaled remove from contaminated area. · Lay patient down. Keep warm and rested. Inhalation of vapors or aerosols (mists, fumes) may cause lung edema. Corrosive substances may cause lung damage (e.g.

NOTES TO PHYSICIAN
■ Depending on the degree of exposure, periodic medical examination is indicated. The symptoms of lung edema often do not manifest until a few hours have passed and they are aggravated by physical effort.
Bromine is poisonous.
For the treatment of bromine burns:
· Bromine should be removed from the skin as soon as possible with aqueous sodium bicarbonate.
· Blood bromine is not a good indicator of toxicity and should not be measured.
Inhalation Management:
· Maintain a clear airway; give humidified 100% oxygen and ventilate if necessary.
· If respiratory irritation occurs assess respiratory function and if necessary perform chest X-rays to check for chemical pneumonitis.
· Consider the use of steroids to reduce inflammatory response.
· Treat pulmonary oedema with PEEP or CPAP ventilation.
Dermal Management:
· Remove contaminated clothing, place in double sealed, clear bags and label; store in a secure area away from patients and staff.
· Irrigate with copious amounts of water.
· Skin burns should be treated symptomatically.
Eye Management:
· Irrigate thoroughly with running water or saline for 15 minutes.
· Stain with fluorescein and refer to an opthamologist if there is uptake of stain.
Oral Management:
· NO GASTRIC LAVAGE OR EMETIC.
· Encourage oral fluids, unless perforation is suspected.
· Consider plasma extenders/ blood or IV fluids for shock or analgesics for pain.
· Consider the use of steroids to reduce the inflammatory response.
· Take abdominal X-rays to check for perforation.
· If facilities are available, early gastro-oesophagoscopy should be undertaken within 12-24 hours of the event to assess the extent and severity of the injury.

Section 5 - FIRE FIGHTING MEASURES

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

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 explosive 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

· Combustible solid which burns but propagates flame with difficulty.
· Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited.
Combustion products include: carbon monoxide (CO), carbon dioxide (CO_2), hydrogen bromide, nitrogen oxides (NOx), other pyrolysis products typical of burning organic material.

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:
Type AB-P Filter of sufficient capacity

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.
· 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.
Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.
· Do NOT cut, drill, grind or weld such containers.
· In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

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
Canada - Alberta Occupational Exposure Limits	bromine (Bromine)	0.1	0.7	0.2	1.3				

Canada - British Columbia Occupational Exposure Limits	bromine (Bromine)	0.1		0.2				
US NIOSH Recommended Exposure Limits (RELs)	bromine (Bromine)	0.1	0.7	0.3	2			
US OSHA Permissible Exposure Levels (PELs) - Table Z1	bromine (Bromine)	0.1	0.7					
US ACGIH Threshold Limit Values (TLV)	bromine (Bromine)	0.1		0.2				TLV Basis: upper and lower respiratory tract irritation; lung damage
US - Minnesota Permissible Exposure Limits (PELs)	bromine (Bromine)	0.1	0.7	0.3	2			
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	bromine (Bromine)	0.1	0.7					
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	bromine (Bromine)	0.1	0.7	0.3	2			
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	bromine (Bromine)	0.1	0.7	0.3	2			
US - California Permissible Exposure Limits for Chemical Contaminants	bromine (Bromine)	0.1	0.7			C		
US - Idaho - Limits for Air Contaminants	bromine (Bromine)	0.1	0.7					
Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	bromine (Bromine)	0.1	0.66	0.2	1,3			
US - Hawaii Air Contaminant Limits	bromine (Bromine)	0.1	0.7	0.3	2			
US - Alaska Limits for Air Contaminants	bromine (Bromine)	0.1	0.7	0.3	2			
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination	bromine (Bromine)	0.1		0.2				

Limits						
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	bromine (Bromine)	0.1	0.7	0.3	2	
US - Washington Permissible exposure limits of air contaminants	bromine (Bromine)	0.1		0.3		
US - Michigan Exposure Limits for Air Contaminants	bromine (Bromine)	0.1	0.7	0.3	2	
Canada - Prince Edward Island Occupational Exposure Limits	bromine (Bromine)	0.1		0.2		TLV Basis: upper and lower respiratory tract irritation; lung damage
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	bromine (Bromine)	0.1	0.7			
Canada - Nova Scotia Occupational Exposure Limits	bromine (Bromine)	0.1		0.2		TLV Basis: upper and lower respiratory tract irritation; lung damage
US - Oregon Permissible Exposure Limits (Z-1)	bromine (Bromine)	0.1	0.7			
Canada - Northwest Territories Occupational Exposure Limits (English)	bromine (Bromine)	0.1	0.65	0.3	2	

ENDOELTABLE
The following materials had no OELs on our records

• dibromoisocyanuric acid: CAS:15114-43-9

PERSONAL PROTECTION




RESPIRATOR

Type AB-P Filter of sufficient capacity
Consult your EHS staff for recommendations

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 is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
· Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES
Corrosive.
Contact with acids liberates toxic gas.

State	DIVIDED SOLID	Molecular Weight	287.87
Melting Range (°F)	588.2	Viscosity	Not Applicable
Boiling Range (°F)	Not Applicable	Solubility in water (g/L)	Reacts
Flash Point (°F)	Not Available	pH (1% solution)	Not Applicable
Decomposition Temp (°F)	Not Available	pH (as supplied)	Not Applicable
Autoignition Temp (°F)	Not Available	Vapour Pressure (mmHG)	Negligible
Upper Explosive Limit (%)	Not Available	Specific Gravity (water=1)	Not Available
Lower Explosive Limit (%)	Not Available	Relative Vapor Density (air=1)	Not Applicable
Volatile Component (%vol)	Negligible	Evaporation Rate	Not Applicable

APPEARANCE
White to light-yellow powder; reacts with water.

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY
· Presence of incompatible materials.
· Product is considered stable under normal handling conditions.

STORAGE INCOMPATIBILITY
· Contact with acids produces toxic fumes.
· Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous.
Avoid storage of dichloroisocyanurates with ammonia, urea or similar nitrogen containing compounds, inorganic reducing compounds, calcium hypochlorite, alkalis and water.
Corrosive to most metals in the presence of moisture.
· Many compounds containing more than one N-halogen bond are unstable and exhibit explosive properties.
BRETHERICK L.: Handbook of Reactive Chemical Hazards.
· Avoid strong bases.
· 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.
· NOTE: May develop pressure in containers; open carefully. Vent periodically.
Segregate from alcohol, water.
Avoid storage with reducing agents.
Bromine
· is a powerful oxidiser which reacts violently with reducing agents
· may cause fire or explosion in contact with organic or other readily oxidisable materials

· forms hydrobromic acid and oxygen in contact with water or steam
· may be violently reactive in contact with aqueous ammonia, acetaldehyde, acetylene, acrylonitrile, hydrogen
· reacts violently with aluminium, titanium, mercury or potassium when anhydrous; when wet reacts with other metals
· reacts with alkali metals, finely powdered metals; heat of reaction is exothermic and may initiate combustion
· is incompatible with alcohols, antimony, alkali hydroxides, arsenites, azides, boron, calcium nitrite, caesium monoxide, carbonyls, dimethylformamide, ethyl phosphine, fluorine, ferrous and mercurous salts, germanium, hypophosphites, iron carbide, isobutyrophenone, magnesium phosphide, methanol, nickel carbonyl, olefins, ozone, sodium
· attacks some coatings, and polyethylene, polypropylene, PVC, natural rubber, and to a lesser degree, neoprene
· corrodes iron, steel, stainless steels, galvanised iron, copper and copper alloys, aluminium.

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

Section 11 - TOXICOLOGICAL INFORMATION

DIBROMOISOCYANURIC ACID

TOXICITY AND IRRITATION

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

TOXICITY	IRRITATION
Oral (Rat) LD50: 1500 mg/kg *	

TOXICITY	IRRITATION
BROMINE:	
Oral (human) LDLo: 14 mg/kg.	Nil Reported
Inhalation (human) LCLo: 1000 ppm.	
Oral (Human) LD: 14 mg/kg	
Inhalation (Human) LC: 1000 ppm/4h	
Oral (Rat) LD50: 2600 mg/kg	
Inhalation (Rat) LC50: 2700 mg/m³/4h	
Oral (Mouse) LD50: 3100 mg/kg	
Oral (Rabbit) LD50: 4160 mg/kg	
Oral (Guinea pig) LD50: 5500 mg/kg	
None (None) None: None None None	

■ The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.

CARCINOGEN

BROMINE COMPOUNDS (ORGANIC OR INORGANIC)	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	P65-MC

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
bromine			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)
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.
¦ 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.
· 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: 5.1
Identification Numbers: UN3085 PG: II
Label Codes: 5.1, 8 Special provisions: 62, IB6,
IP2, T3,
TP33
Packaging: Exceptions: None Packaging: Non- bulk: 212
Packaging: Exceptions: None Quantity limitations: 5 kg
Passenger aircraft/rail:
Quantity Limitations: Cargo 25 kg Vessel stowage: Location: B
aircraft only:
Vessel stowage: Other: 13, 34,
56, 58,
106, 138
Hazardous materials descriptions and proper shipping names:
Oxidizing solid, corrosive, n.o.s.

Air Transport IATA:

ICAO/IATA Class: 5.1 ICAO/IATA Subrisk: 8
UN/ID Number: 3085 Packing Group: II
Special provisions: A3
Cargo Only
Packing Instructions: 511 Maximum Qty/Pack: 25 kg
Passenger and Cargo Passenger and Cargo
Packing Instructions: 508 Maximum Qty/Pack: 5 kg
Passenger and Cargo Limited Quantity Passenger and Cargo Limited Quantity
Packing Instructions: Y508 Maximum Qty/Pack: 2.5 kg
Shipping Name: OXIDIZING SOLID, CORROSIVE, N.O.S.
*(CONTAINS DIBROMOISOCYANURIC ACID)

Maritime Transport IMDG:

IMDG Class: 5.1 IMDG Subrisk: 8
UN Number: 3085 Packing Group: II

EMS Number: F-A , S-Q Special provisions: 274
Limited Quantities: 1 kg Marine Pollutant: Yes
Shipping Name: OXIDIZING SOLID, CORROSIVE, N.O.S.

Section 15 - REGULATORY INFORMATION

Regulations for ingredients

bromine (CAS: 7726-95-6) is found on the following regulatory lists;

"Canada - Alberta Occupational Exposure Limits","Canada - British Columbia Occupational Exposure Limits","Canada - Northwest Territories Occupational Exposure Limits (English)","Canada - Nova Scotia Occupational Exposure Limits","Canada - Prince Edward Island Occupational Exposure Limits","Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)","Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits","Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances","Canada Domestic Substances List (DSL)","Canada Ingredient Disclosure List (SOR/88-64)","Canada National Pollutant Release Inventory (NPRI)","Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (English)","OECD Representative List of High Production Volume (HPV) Chemicals","US - Alaska Limits for Air Contaminants","US - California Air Toxics ""Hot Spots"" List (Assembly Bill 2588) Substances for which emissions must be quantified","US - California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List","US - California Permissible Exposure Limits for Chemical Contaminants","US - Connecticut Hazardous Air Pollutants","US - Hawaii Air Contaminant Limits","US - Idaho - Limits for Air Contaminants","US - Massachusetts Oil & Hazardous Material List","US - Michigan Exposure Limits for Air Contaminants","US - Minnesota Hazardous Substance List","US - Minnesota Permissible Exposure Limits (PELs)","US - New Jersey Right to Know Hazardous Substances","US - Oregon Hazardous Materials","US - Oregon Permissible Exposure Limits (Z-1)","US - Pennsylvania - Hazardous Substance List","US - Rhode Island Hazardous Substance List","US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants","US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants","US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants","US - Washington Permissible exposure limits of air contaminants","US - Wyoming List of Highly Hazardous Chemicals, Toxics and Reactives","US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants","US ACGIH Threshold Limit Values (TLV)","US CERCLA Priority List of Hazardous Substances","US Department of Homeland Security Chemical Facility Anti-Terrorism Standards - Chemicals of Interest","US DOE Temporary Emergency Exposure Limits (TEELs)","US EPA Acute Exposure Guideline Levels (AEGLs) - Interim","US EPCRA Section 313 Chemical List","US List of Lists - Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112(r) of the Clean Air Act","US NIOSH Recommended Exposure Limits (RELs)","US OSHA List of Highly Hazardous Chemicals, Toxics and Reactives","US OSHA Permissible Exposure Levels (PELs) - Table Z1","US SARA Section 302 Extremely Hazardous Substances","US Toxic Substances Control Act (TSCA) - Inventory","USA: Chemical Facility Anti-Terrorism Standards - List Appendix A - 6CFR 27"

No data for dibromoisocyanuric acid (CAS: , 15114-43-9)

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.

■ 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.

Issue Date: Aug-3-2010

Print Date:Jan-29-2011