

Magnesium bromide ethyl etherate

sc-255258



The Power to Question

Material Safety Data Sheet

Hazard Alert Code
Key:

EXTREME

HIGH

MODERATE

LOW

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

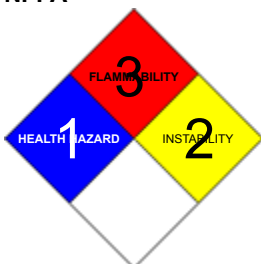
PRODUCT NAME

Magnesium bromide ethyl etherate

STATEMENT OF HAZARDOUS NATURE

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

NFPA



SUPPLIER

Santa Cruz Biotechnology, Inc.
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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

C₄H₁₀Br₂MgO, MgBr₂.(CH₃CH₂)₂O

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

		Min	Max
Flammability	3		
Toxicity	2		
Body Contact	1		
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.
Harmful if swallowed.
Highly flammable.
Repeated exposure may cause skin dryness and cracking.
Vapours may cause drowsiness and dizziness.
Harmful to aquatic organisms.

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.
- Bromide poisoning causes intense vomiting so the dose is often removed.
Effects include drowsiness, irritability, inco-ordination, vertigo, confusion, mania, hallucinations and coma.
- Magnesium salts are generally absorbed so slowly that oral administration causes few toxic effects, as the dose is readily expelled via the bowel.
If evacuation fails, mucosal irritation and absorption may result.

EYE

- Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Slight abrasive damage may also result.

SKIN

- Skin contact is not thought to produce harmful health effects (as classified under EC Directives 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.
- Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.
- Open cuts, abraded or irritated skin should not be exposed to this material.
- Solution of material in moisture on the skin, or perspiration, may increase irritant effects.
- 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 is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models).
Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
- Inhalation of vapours may cause drowsiness and dizziness.
This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.
- 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.

CHRONIC HEALTH EFFECTS

- Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.
Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

There is some evidence from animal testing that exposure to this material may result in toxic effects to the unborn baby.

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.

Chronic intoxication with ionic bromides, historically, has resulted from medical use of bromides but not from environmental or occupational exposure; depression, hallucinosis, and schizophreniform psychosis can be seen in the absence of other signs of intoxication. Bromides may also induce sedation, irritability, agitation, delirium, memory loss, confusion, disorientation, forgetfulness (aphasias), dysarthria, weakness, fatigue, vertigo, stupor, coma, decreased appetite, nausea and vomiting, diarrhoea, hallucinations, an acne like rash on the face, legs and trunk, known as bronchoderma (seen in 25-30% of case involving bromide ion), and a profuse discharge from the nostrils (coryza).

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
magnesium bromide diethyl etherate	29858-07-9	>98
hydrolysis yields		
magnesium bromide	7789-48-2	
diethyl ether	60-29-7	

Section 4 - FIRST AID MEASURES

SWALLOWED

- IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.
- For advice, contact a Poisons Information Centre or a doctor.
- Urgent hospital treatment is likely to be needed.
- In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.

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.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin or hair contact occurs

- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- If dust is inhaled, remove from contaminated area.
- Encourage patient to blow nose to ensure clear passage of breathing.
- If irritation or discomfort persists seek medical attention.

NOTES TO PHYSICIAN

- for poisons (where specific treatment regime is absent)

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 L/min.

- Monitor and treat, where necessary, for pulmonary oedema .

Treatment of intoxication by the bromide ion includes hydration, the maintenance of mild water diuresis, and sodium, or even better, ammonium chloride (10-15 gm. daily in divided doses) with an osmotic or high ceiling diuretic.

In acute poisoning the stomach should be emptied by aspiration and lavage and sodium chloride given by intravenous infusion.

Magnesium is present in the blood, as a normal constituent, at concentrations between 1.6 to 2.2 meq/l. Some 30% is plasma bound.

Section 5 - FIRE FIGHTING MEASURES

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

EXTINGUISHING MEDIA

For SMALL FIRES

Dry chemical, CO₂, water spray or foam.

For LARGE FIRES

Water-spray, fog or foam.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- Fight fire from a safe distance, with adequate cover.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 1000 metres in all directions.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Flammable solid which burns and propagates flame easily, even when partly wetted with water.
- Any source of ignition, i.e. friction, heat, sparks or flame, may cause fire or explosion.
- May burn fiercely
- May form explosive mixtures with air.

Combustion products include carbon dioxide (CO₂), hydrogen bromide, metal oxides, other pyrolysis products typical of burning organic material.

FIRE INCOMPATIBILITY

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

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Remove all ignition sources.
- DO NOT touch or walk through spilled material.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- DO NOT touch or walk through spilled material.
- Control personal contact by using protective equipment.

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.
- Prevent concentration in hollows and sumps.

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

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.<.

STORAGE REQUIREMENTS

FOR MINOR QUANTITIES

- Store in an indoor fireproof cabinet or in a room of noncombustible construction.
- 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.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	TWA F/CC	Notes
Canada - Ontario Occupational Exposure Limits	magnesium bromide diethyl etherate (Particles (Insoluble or Poorly Soluble) Not Otherwise)		10 (I)						
Canada - British Columbia Occupational Exposure Limits	magnesium bromide diethyl etherate (Particles (Insoluble or Poorly Soluble) Not Otherwise Classified (PNOC))		10 (N)						
Canada - Ontario Occupational Exposure Limits	magnesium bromide diethyl etherate (Specified (PNOS) / Particules (insolubles ou peu solubles) non précisées par ailleurs)		3 (R)						

US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	magnesium bromide diethyl etherate (Particulates not otherwise regulated Respirable fraction)	5		
US - California Permissible Exposure Limits for Chemical Contaminants	magnesium bromide diethyl etherate (Particulates not otherwise regulated Respirable fraction)	5		(n)
US - Oregon Permissible Exposure Limits (Z-1)	magnesium bromide diethyl etherate (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	magnesium bromide diethyl etherate (Particulates not otherwise regulated, Respirable dust)	5		
US - Oregon Permissible Exposure Limits (Z-1)	magnesium bromide diethyl etherate (Particulates not otherwise regulated (PNOR) (f) Respirable Fraction)	-	5	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 - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	magnesium bromide diethyl etherate (Particulates not otherwise regulated (PNOR)(f)-Respirable fraction)	5		
US ACGIH Threshold Limit Values (TLV)	diethyl ether (Ethyl ether)	400	500	TLV® Basis CNS impair; URT irr

Canada - Alberta Occupational Exposure Limits	diethyl ether (Diethyl ether (Ethyl ether))	400	1210	500	1520
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Canada - British Columbia Occupational Exposure Limits	diethyl ether (Ethyl ether)	400		500	
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Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	diethyl ether (Diethyl ether)	400	1210	500	1520
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US OSHA Permissible Exposure Levels (PELs) - Table Z1	diethyl ether (Ethyl ether)	400	1200		
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US - Minnesota Permissible Exposure Limits (PELs)	diethyl ether (Ethyl ether)	400	1200	500	1500
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US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	diethyl ether (Ethyl ether)	400	1200	500	1500
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US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	diethyl ether (Ethyl ether)	400	1200		
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US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	diethyl ether (Ethyl ether)	400	1200	500	1500
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US - California Permissible Exposure Limits for Chemical Contaminants	diethyl ether (Ethyl ether)	400	1,200	500	1500
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US - Idaho - Limits for Air Contaminants	diethyl ether (Ethyl ether)	400	1200		
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Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination	diethyl ether (Ethyl ether)	400		500	
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Limits

US - Hawaii Air Contaminant Limits	diethyl ether (Ethyl ether)	400	1,200	500	1,500	
US - Alaska Limits for Air Contaminants	diethyl ether (Ethyl ether)	400	1200	500	1500	
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	diethyl ether (Diethyl ether, see Ethyl ether)	400	1,200	500	1,500	
US - Washington Permissible exposure limits of air contaminants	diethyl ether (Diethyl ether (Ethyl ether))	400		500		
US - Michigan Exposure Limits for Air Contaminants	diethyl ether (Ethyl ether)	400	1200		500	1500
Canada - Nova Scotia Occupational Exposure Limits	diethyl ether (Ethyl ether)	400		500		TLV Basis central nervous system impairment; upper respiratory tract irritation
Canada - Prince Edward Island Occupational Exposure Limits	diethyl ether (Ethyl ether)	400		500		TLV® Basis CNS impair; URT irr
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	diethyl ether (Ethyl ether)	400	1200			
US - Oregon Permissible Exposure Limits (Z-1)	diethyl ether (Ethyl ether)	400	1,200			
Canada - Northwest Territories Occupational Exposure Limits (English)	diethyl ether (Diethyl ether (Ethyl ether))	400	1213	500	1516	

PERSONAL PROTECTION



RESPIRATOR

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

EYE

- Safety glasses with side shields
- Chemical goggles.
- 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

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
- Wear physical protective gloves, eg. leather.
- Wear safety footwear.

OTHER

- Overalls.
- Eyewash unit.
- Barrier cream.
- Skin cleansing cream.
- 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 large scale or continuous use

- Spark-free, earthed ventilation system, venting directly to the outside and separate from usual ventilation systems
- Provide dust collectors with explosion vents

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

State	DIVIDED SOLID	Molecular Weight	258.23
Melting Range (°F)	>572	Viscosity	Not Applicable
Boiling Range (°F)	Not available	Solubility in water (g/L)	Reacts
Flash Point (°F)	95	pH (1% solution)	Not applicable
Decomposition Temp (°F)	Not Available	pH (as supplied)	Not applicable

Autoignition Temp (°F)	Not available.	Vapour Pressure (mmHG)	Not available.
Upper Explosive Limit (%)	Not available.	Specific Gravity (water=1)	Not available
Lower Explosive Limit (%)	Not available.	Relative Vapour Density (air=1)	Not Applicable
Volatile Component (%vol)	Not available.	Evaporation Rate	Not available

APPEARANCE

Powder; reacts with water.

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

STORAGE INCOMPATIBILITY

- Segregate from alcohol, water.
- Avoid reaction with oxidising agents
- NOTE May develop pressure in containers; open carefully. Vent periodically.

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

Section 11 - TOXICOLOGICAL INFORMATION

magnesium bromide diethyl etherate

TOXICITY AND IRRITATION

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

MAGNESIUM BROMIDE

MAGNESIUM BROMIDE DIETHYL ETHERATE

No significant acute toxicological data identified in literature search.

MAGNESIUM BROMIDE DIETHYL ETHERATE

MAGNESIUM BROMIDE

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.

DIETHYL ETHER

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
Anaesthetics, volatile	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	3
Diesel fuel, as total hydrocarbons	US ACGIH Threshold Limit Values (TLV) - Carcinogens	Carcinogen Category	A3
diethyl ether	US - Rhode Island Hazardous Substance List	IARC	
CAS~	US - Maine Chemicals of High Concern List	Carcinogen	A3
CAS~	Canada - Prince Edward Island Occupational Exposure Limits - Carcinogens	Notes	TLV® Basis Dermatitis

SKIN

diethyl ether	US ACGIH Threshold Limit Values (TLV) - Skin	Skin Designation	Yes
diethyl ether	US AIHA Workplace Environmental Exposure Levels (WEELs) - Skin	Notes	TLV® Basis Dermatitis
diethyl ether	US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants - Skin	Skin Designation	Yes
diethyl ether	Canada - British Columbia Occupational Exposure Limits - Skin	Notation	Skin
diethyl ether	US - Minnesota Permissible Exposure Limits (PELs) - Skin	Skin Designation	Yes
diethyl ether	US OSHA Permissible Exposure Levels (PELs) - Skin	Skin Designation	Yes
diethyl ether	Canada - Alberta Occupational Exposure Limits - Skin	Substance Interaction	1

Section 12 - ECOLOGICAL INFORMATION

Harmful to aquatic organisms.

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

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

B. Component Waste Numbers

When diethyl ether is present as a solid waste as a discarded commercial chemical product, off-specification species, as a container residue, or a spill residue, use EPA waste number U117 (waste code I).

Disposal Instructions

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

- Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.

Otherwise:

- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
- Where possible retain label warnings and MSDS and observe all notices pertaining to the product.

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.
- Dispose of 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. Observe all label safeguards until containers are cleaned and destroyed.

Section 14 - TRANSPORTATION INFORMATION

DOT:

Symbols:	G	Hazard class or Division:	4.1
Identification Numbers:	UN1325	PG:	II
Label Codes:	4.1	Special provisions:	A1, IB8, IP2, IP4, 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:	B
Vessel stowage: Other:	None		

Hazardous materials descriptions and proper shipping names:

Flammable solids, organic, n.o.s.

Air Transport IATA:

ICAO/IATA Class:	4.1	ICAO/IATA Subrisk:	None
UN/ID Number:	1325	Packing Group:	II
Special provisions:	A3		
Cargo Only			
Packing Instructions:	448	Maximum Qty/Pack:	50 kg
Passenger and Cargo		Passenger and Cargo	
Packing Instructions:	445	Maximum Qty/Pack:	15 kg
Passenger and Cargo Limited Quantity		Passenger and Cargo Limited Quantity	
Packing Instructions:	Y441	Maximum Qty/Pack:	5 kg

Shipping Name: FLAMMABLE SOLID, ORGANIC, N.O.S. *(CONTAINS
MAGNESIUM BROMIDE DIETHYL ETHERATE)

Maritime Transport IMDG:

IMDG Class:	4.1	IMDG Subrisk:	None
UN Number:	1325	Packing Group:	II
EMS Number:	F-A,S-G	Special provisions:	274 915
Limited Quantities:	1 kg		

Shipping Name: FLAMMABLE SOLID, ORGANIC, N.O.S.(contains magnesium bromide diethyl etherate)

Section 15 - REGULATORY INFORMATION

mmagnesium bromide diethyl etherate (CAS: 29858-07-9) is found on the following regulatory lists;

"Canada - Alberta Ambient Air Quality Guidelines","Canada - Alberta Ambient Air Quality Objectives","Canada - British Columbia Occupational Exposure Limits","Canada - Ontario Occupational Exposure Limits","Canada -

Quebec Permissible Exposure Values for Airborne Contaminants (English)","Canada National Pollutant Release Inventory (NPRI)","US - California Permissible Exposure Limits for Chemical Contaminants","US - Michigan Exposure Limits for Air Contaminants","US - Oregon Permissible Exposure Limits (Z-1)","US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants","US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants","US Clean Air Act (CAA) National Ambient Air Quality Standards (NAAQS)"

Regulations for ingredients

magnesium bromide (CAS: 7789-48-2,13446-53-2) is found on the following regulatory lists;

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

diethyl ether (CAS: 60-29-7) 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 Industrial Hazardous Substances","Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits","Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances","Canada CEPA Environmental Registry Substance Lists - List of substances on the DSL that meet the human health criteria for categorization (English)","Canada Domestic Substances List (DSL)","Canada Ingredient Disclosure List (SOR/88-64)","Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (English)","GESAMP/EHS Composite List - GESAMP Hazard Profiles","IMO IBC Code Chapter 17: Summary of minimum requirements","IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances","International Council of Chemical Associations (ICCA) - High Production Volume List","International Fragrance Association (IFRA) Survey: Transparency List","US - Alaska Limits for Air Contaminants","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 - Delaware Pollutant Discharge Requirements - Reportable Quantities","US - Florida Essential Chemicals","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 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 Hazardous wastes which are Discarded Commercial Chemical Products or Off-Specification Batches of Commercial Chemical Products or Spill Residues of Either","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 Discarded Chemical Products List - ""U"" Chemical Products","US - Washington Permissible exposure limits of air contaminants","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 Department of Transportation (DOT) List of Hazardous Substances and Reportable Quantities - Hazardous Substances Other Than Radionuclides","US DOE Temporary Emergency Exposure Limits (TEELs)","US Drug Enforcement Administration (DEA) List I and II Regulated Chemicals","US EPA High Production Volume Program Chemical List","US EPA Master Testing List - Index I Chemicals Listed","US EPA Master Testing List - Index II Chemicals Removed","US List of Lists - Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112(r) of the Clean Air Act","US OSHA Permissible Exposure Levels (PELs) - Table Z1","US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide","US RCRA (Resource Conservation & Recovery Act) - List of Hazardous Wastes","US RCRA (Resource Conservation & Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards","US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory","US TSCA Section 4/12 (b) - Sunset Date/Status","US TSCA Section 8 (a) - Preliminary Assessment Information Rules (PAIR) - Reporting List","US TSCA Section 8 (d) - Health and Safety Data Reporting","USA: Chemical Facility Anti-Terrorism Standards - List Appendix A - 6CFR 27"

Section 16 - OTHER INFORMATION

LIMITED EVIDENCE

- Cumulative effects may result following exposure*.
- May be harmful to the foetus/embryo*.

* (limited evidence).

Ingredients with multiple CAS Nos

Ingredient Name	CAS
magnesium bromide	7789-48-2, 13446-53-2

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■ 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.

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