



SAFETY DATA SHEET
ETHYLENE-BISTETRABROMOPHTHALIMIDE
REVISION 4, DATE 26 SEP 19

1. IDENTIFICATION

| | |
|----------------------------|--|
| Product Name | Ethylene-Bistetrabromophthalimide |
| Other Names | No Data Available |
| Uses | Mainly used as fire-retardant for plastic. |
| Chemical Family | No Data Available |
| Chemical Formula | C ₁₈ H ₄ Br ₈ N ₂ O ₄ |
| Chemical Name | Ethylenebistetrabromophthalimide |
| Product Description | No Data Available |

Contact Details of the Supplier of this Safety Data Sheet

| Organisation | Location | Telephone |
|-------------------------|--|------------------|
| Redox Ltd | 2 Swettenham Road Minto NSW 2566 Australia | +61-2-97333000 |
| Redox Ltd | 11 Mayo Road Wiri Auckland 2104 New Zealand | +64-9-2506222 |
| Redox Inc. | 3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA | +1-424-675-3200 |
| Redox Chemicals Sdn Bhd | Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia | +60-3-5614-2111 |

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

| Organisation | Location | Telephone |
|----------------------------|-----------------|--|
| Poisons Information Centre | Westmead NSW | 1800-251525 131126 |
| Chemcall | Australia | 1800-127406 +64-4-9179888 |
| Chemcall | Malaysia | +64-4-9179888 |
| Chemcall | New Zealand | 0800-243622 +64-4-9179888 |
| National Poisons Centre | New Zealand | 0800-764766 |
| CHEMTREC | USA & Canada | 1-800-424-9300 CN723420 +1-703-527-3887 |

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)

Not Scheduled



Globally Harmonised System

| | |
|------------------------------|--|
| Hazard Classification | NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) |
| Signal Word | None |

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

| | |
|---------------------------------------|---|
| Dangerous Goods Classification | NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code) |
|---------------------------------------|---|

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

| Chemical Entity | Formula | CAS Number | Proportion |
|----------------------------------|--------------|------------|-------------|
| Ethylenebistetrabromophthalimide | C18H4Br8N2O4 | 32588-76-4 | >98 - 100 % |

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

| | |
|--|---|
| Swallowed | IF SWALLOWED: Rinse mouth, then give plenty of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical advice/attention immediately. |
| Eye | IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention. |
| Skin | IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs, get medical advice/attention. |
| Inhaled | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. |
| Advice to Doctor | Treat symptomatically. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. |
| Medical Conditions Aggravated by Exposure | No information available. |

5. FIRE FIGHTING MEASURES

| | |
|----------------------------------|--|
| General Measures | Move containers from fire area if you can do it without risk. Cool containers with water spray until well after fire is out. Dike fire-control water for later disposal. |
| Flammability Conditions | This product is not flammable. |
| Extinguishing Media | If material is involved in a fire, use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction. |
| Fire and Explosion Hazard | Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. |

| | |
|---|---|
| Hazardous Products of Combustion | Thermal decomposition may produce irritating and/or toxic gases, including Carbon monoxide, carbon dioxide, hydrogen bromine, carbonyl bromine, Hydrogen cyanide (Hydrocyanic acid), Nitrogen oxides (NOx). |
| Special Fire Fighting Instructions | Contain runoff from fire control or dilution water - Runoff may cause pollution. |
| Personal Protective Equipment | Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. |
| Flash Point | No Data Available |
| Lower Explosion Limit | No Data Available |
| Upper Explosion Limit | No Data Available |
| Auto Ignition Temperature | No Data Available |
| Hazchem Code | No Data Available |

6. ACCIDENTAL RELEASE MEASURES

| | |
|---|--|
| General Response Procedure | Ensure adequate ventilation. ELIMINATE all ignition sources (if dust clouds can occur). Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing. |
| Clean Up Procedures | Sweep up and shovel into suitable containers for recycling or disposal (see SECTION 13). |
| Containment | Stop leak if you can do it without risk. Prevent dust cloud. Cover powder spill with plastic sheet or tarp to minimise spreading. |
| Decontamination | Residue may be washed down with water. |
| Environmental Precautionary Measures | Keep cleaning run-offs out of municipal sewers and open bodies of water. |
| Evacuation Criteria | Immediately isolate spill or leak area. Keep unauthorised personnel away. |
| Personal Precautionary Measures | Use personal protective equipment as required (see SECTION 8). |

7. HANDLING AND STORAGE

| | |
|------------------|---|
| Handling | Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Minimise dust generation and accumulation. Avoid breathing dust/processing fumes and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Keep away from heat and sources of ignition - No smoking. |
| Storage | Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10). |
| Container | Keep in the original container. |

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| | |
|--------------------------------------|---|
| General | No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards: - Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m ³ (measured as inhalable dust). - New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m ³ ; TWA = 3 mg/m ³ (respirable dust). |
| Exposure Limits | No Data Available |
| Biological Limits | No information available. |
| Engineering Measures | A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. |
| Personal Protection Equipment | - Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Dust |

mask/particulate respirator (refer to AS/NZS 1715 & 1716).

- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses.

- Hand protection: Handle with gloves. Recommended: Impervious gloves.

- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, safety shoes.

Special Hazards Precautions

No information available.

Work Hygienic Practices

Do not eat, drink or smoke when using this product. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--------------------------------|---|
| Physical State | Solid |
| Appearance | Powder |
| Odour | Odourless |
| Colour | Light yellowish |
| pH | No Data Available |
| Vapour Pressure | No Data Available |
| Relative Vapour Density | No Data Available |
| Boiling Point | No Data Available |
| Melting Point | ≥ 470 °C |
| Freezing Point | No Data Available |
| Solubility | Insoluble in water |
| Specific Gravity | No Data Available |
| Flash Point | No Data Available |
| Auto Ignition Temp | No Data Available |
| Evaporation Rate | No Data Available |
| Bulk Density | No Data Available |
| Corrosion Rate | No Data Available |
| Decomposition Temperature | No Data Available |
| Density | No Data Available |
| Specific Heat | No Data Available |
| Molecular Weight | 951.5 |
| Net Propellant Weight | No Data Available |
| Octanol Water Coefficient | No Data Available |
| Particle Size | No Data Available |
| Partition Coefficient | No Data Available |
| Saturated Vapour Concentration | No Data Available |
| Vapour Temperature | No Data Available |
| Viscosity | No Data Available |
| Volatile Percent | No Data Available |
| VOC Volume | No Data Available |
| Additional Characteristics | No information available. |
| Potential for Dust Explosion | Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. |

| | |
|---|---|
| Fast or Intensely Burning Characteristics | No information available. |
| Flame Propagation or Burning Rate of Solid Materials | No information available. |
| Non-Flammables That Could Contribute Unusual Hazards to a Fire | No information available. |
| Properties That May Initiate or Contribute to Fire Intensity | This product is not flammable. |
| Reactions That Release Gases or Vapours | Thermal decomposition may produce irritating and/or toxic gases, including Carbon monoxide, carbon dioxide, hydrogen bromine, carbonyl bromine, Hydrogen cyanide (Hydrocyanic acid), Nitrogen oxides (NOx). |
| Release of Invisible Flammable Vapours and Gases | No information available. |

10. STABILITY AND REACTIVITY

| | |
|---|---|
| General Information | No information available. |
| Chemical Stability | Stable under normal temperatures and pressures. |
| Conditions to Avoid | Avoid generating dust. Avoid moisture and exposure to sunlight. Avoid temperatures over 400 °C. |
| Materials to Avoid | Incompatible/reactive with strong oxidising agents, fluorine, bromine, chlorine. |
| Hazardous Decomposition Products | Thermal decomposition may produce irritating and/or toxic gases, including Carbon monoxide, carbon dioxide, hydrogen bromine, carbonyl bromine, Hydrogen cyanide (Hydrocyanic acid), Nitrogen oxides (NOx). |
| Hazardous Polymerisation | Will not occur. |

11. TOXICOLOGICAL INFORMATION

| | |
|----------------------------|--|
| General Information | <ul style="list-style-type: none">- Acute toxicity: Not classified. May cause irritation to gastrointestinal tract and stomach. Symptoms may include nausea, vomiting or diarrhoea.- Skin corrosion/irritation: Not classified. Prolonged or repeated contact may cause dryness.- Eye damage/irritation: Not classified. May cause tearing and redness.- Respiratory/skin sensitisation: Not classified.- Germ cell mutagenicity: Not classified.- Carcinogenicity: Not classified.- Reproductive toxicity: Not classified.- STOT (single exposure): Not classified. Under normal conditions of use and handling, no inhalation hazard is present. Inhaling dust or powder may cause irritation to respiratory system.- STOT (repeated exposure): Not classified.- Aspiration toxicity: Not classified. |
| Acute | |
| Ingestion | Acute toxicity (Oral): <ul style="list-style-type: none">- LD50, Rat: >7,500 mg/kg bw. [Supplier's SDS]. |
| Other | Acute toxicity (Dermal): <ul style="list-style-type: none">- LD50, Rabbit: >2,000 mg/kg bw. [Supplier's SDS]. |
| Inhalation | Acute toxicity (Inhalation): <ul style="list-style-type: none">- LC50, Rat: >203 mg/L air (1 h) [Supplier's SDS]. |
| Carcinogen Category | None |

12. ECOLOGICAL INFORMATION

| | |
|----------------------------------|---|
| Ecotoxicity | Under assessment as Persistent, Bioaccumulative and Toxic (PBT). |
| Persistence/Degradability | EBTBP is not readily biodegradable, and is not expected to undergo hydrolysis. EBTBP is expected to be persistent. |
| Mobility | EBTBP is expected to mainly partition to soil where it will be highly bound to organic carbon and particulates, and to not volatilize from water. |
| Environmental Fate | Do not allow product to reach ground water, water course or sewage system. |
| Bioaccumulation Potential | EBTBP has low potential for bioaccumulation. |
| Environmental Impact | No Data Available |

13. DISPOSAL CONSIDERATIONS

| | |
|--|--|
| General Information | Dispose of contents/container in a safe manner and in accordance with local/regional/national regulations. |
| Special Precautions for Land Fill | No information available. |

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

| | |
|-----------------------------|--|
| Proper Shipping Name | Ethylenebistetrabromophthalimide |
| Class | No Data Available |
| Subsidiary Risk(s) | No Data Available |
| | No Data Available |
| UN Number | No Data Available |
| Hazchem | No Data Available |
| Pack Group | No Data Available |
| Special Provision | No Data Available |
| Comments | NON-DANGEROUS GOODS: Not regulated for LAND transport. |

Land Transport (Malaysia)

ADR Code

| | |
|-----------------------------|--|
| Proper Shipping Name | Ethylenebistetrabromophthalimide |
| Class | No Data Available |
| Subsidiary Risk(s) | No Data Available |
| | No Data Available |
| UN Number | No Data Available |
| Hazchem | No Data Available |
| Pack Group | No Data Available |
| Special Provision | No Data Available |
| Comments | NON-DANGEROUS GOODS: Not regulated for LAND transport. |

Land Transport (New Zealand)

NZS5433

| | |
|-----------------------------|----------------------------------|
| Proper Shipping Name | Ethylenebistetrabromophthalimide |
|-----------------------------|----------------------------------|

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| | |
|---------------------------|--|
| Class | No Data Available |
| Subsidiary Risk(s) | No Data Available |
| | No Data Available |
| UN Number | No Data Available |
| Hazchem | No Data Available |
| Pack Group | No Data Available |
| Special Provision | No Data Available |
| Comments | NON-DANGEROUS GOODS: Not regulated for LAND transport. |

Land Transport (United States of America)

US DOT

| | |
|-----------------------------|--|
| Proper Shipping Name | Ethylenebistetrabromophthalimide |
| Class | No Data Available |
| Subsidiary Risk(s) | No Data Available |
| | No Data Available |
| UN Number | No Data Available |
| Hazchem | No Data Available |
| Pack Group | No Data Available |
| Special Provision | No Data Available |
| Comments | NON-DANGEROUS GOODS: Not regulated for LAND transport. |

Sea Transport

IMDG Code

| | |
|-----------------------------|---|
| Proper Shipping Name | Ethylenebistetrabromophthalimide |
| Class | No Data Available |
| Subsidiary Risk(s) | No Data Available |
| UN Number | No Data Available |
| Hazchem | No Data Available |
| Pack Group | No Data Available |
| Special Provision | No Data Available |
| EMS | No Data Available |
| Marine Pollutant | No |
| Comments | NON-DANGEROUS GOODS: Not regulated for SEA transport. |

Air Transport

IATA DGR

| | |
|-----------------------------|---|
| Proper Shipping Name | Ethylenebistetrabromophthalimide |
| Class | No Data Available |
| Subsidiary Risk(s) | No Data Available |
| UN Number | No Data Available |
| Hazchem | No Data Available |
| Pack Group | No Data Available |
| Special Provision | No Data Available |
| Comments | NON-DANGEROUS GOODS: Not regulated for AIR transport. |

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification

NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

15. REGULATORY INFORMATION

General Information

No Data Available

Poisons Schedule (Aust)

Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code

Not Hazardous

National/Regional Inventories

Australia (AIC)

Listed

Canada (DSL)

Not Determined

Canada (NDSL)

Not Determined

China (IECSC)

Not Determined

Europe (EINECS)

251-118-6

Europe (REACH)

Not Determined

Japan (ENCS/METI)

Not Determined

Korea (KECI)

Not Determined

Malaysia (EHS Register)

Not Determined

New Zealand (NZIoC)

Listed

Philippines (PICCS)

Not Determined

Switzerland (Giftliste 1)

Not Determined

Switzerland (Inventory of Notified Substances)

Not Determined

Taiwan (NCSR)

Not Determined

USA (TSCA)

Not Determined

16. OTHER INFORMATION

Related Product Codes

ETBRPH1000, ETBRPH1001, ETBRPH1002, ETBRPH1004

Revision

4

Revision Date

26 Sep 2019

Reason for Issue

Updated SDS

Key/Legend

< Less Than
 > Greater Than
AICS Australian Inventory of Chemical Substances
atm Atmosphere
CAS Chemical Abstracts Service (Registry Number)
cm² Square Centimetres
CO₂ Carbon Dioxide
COD Chemical Oxygen Demand
deg C (°C) Degrees Celcius
EPA (New Zealand) Environmental Protection Authority of New Zealand
deg F (°F) Degrees Farenheit
g Grams
g/cm³ Grams per Cubic Centimetre
g/l Grams per Litre
HSNO Hazardous Substance and New Organism
IDLH Immediately Dangerous to Life and Health
immiscible Liquids are insoluable in each other.
inHg Inch of Mercury
inH₂O Inch of Water
K Kelvin
kg Kilogram
kg/m³ Kilograms per Cubic Metre
lb Pound
LC₅₀ LC stands for lethal concentration. LC₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD₅₀ LD stands for Lethal Dose. LD₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or L Litre
m³ Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m³ Milligrams per Cubic Metre
Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH₂O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Heath and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight