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# MATERIAL SAFETY DATA SHEET

Preparation date: 05/05/08  
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## 1. Chemical Product and Company Identification

**Product Name:** Bromothane R Specialty Cleaning Solvent. #M2S-BRD, #M2S-BR2D(55 Gal. Drum); #M2S-BRP, #M2S-BR2P(5 Gal. Pail); #M2S-BRG, #M2S-BR2G(1 Gal.); #M2S-BRL, #M2S-BR2L(1 Quart)

**Chemical Family:** A halogenated alkane solvent.

**Packaged By:** Micro Care Corp., 595 John Downey Dr., New Britain, CT, 06051 USA CAGE/FSCM: OATV9

**Emergency Telephone:** CHEMTREC (800) 424-9300

## 2. Composition/Information on Ingredients

### Active Ingredients:

Chemical Name	Wt.%Range	TIV Units
n-Propyl Bromide CAS # 106-94-5	>80.0	See section 8
1,2-Epoxybutane CAS # 106-88-7	<1.0	See section 8
2-Methyl-2-Propanol CAS # 75-65-0	<5.0	See section 8
Dimethoxymethane CAS # 109-87-5	<5.0	See section 8
2-Propanol CAS # 67-63-0	<10.0	See section 8

All components of this material are listed on the TSCA inventory.

## 3. Hazard Identification

**Emergency Overview:** Colorless to pale yellow liquid. Strong characteristic odor. Causes severe eye irritation. Prolonged contact may cause blistering or chemical burns. Causes mucus membrane and upper respiratory tract irritation. Harmful if swallowed. Keep away from children.

**Relevant Routes of Exposure:** Ingestion, inhalation and skin absorption.

**Signs and Symptoms of Overexposure:** Irritation of eyes and skin ranging from general reddening to blistering, irritation to mucus membranes and respiratory tract, coughing, wheezing, laryngitis, shortness of breath, headache, hallucinations, ataxia, confusion, delirium, muscle weakness, abdominal pain, diarrhea, nausea and vomiting.

### Potential Health Effects:

**Eyes:** Direct contact may irritate seriously with moderate to severe redness, swelling and possibly some corneal injury. Persons wearing contact lenses should wear chemical protective safety goggles when exposed to this product.

**Skin:** Causes skin irritation. Prolonged contact may cause blistering.

**Ingestion:** Not expected to be a hazard in normal industrial use.

**Inhalation:** Causes mucus membrane and respiratory tract irritation.

**Medical Conditions Aggravated by Exposure:** Dermatitis. Liver disorders. Kidney disorders. Respiratory disorders. Central and peripheral nervous system disorders.

**Chronic Health Effects:** Repeated inhalation of high concentrations may cause lung, liver, kidney, urinary, blood, bone marrow, heart, eye, central nervous system, gastrointestinal, reproductive, developmental and fertility effects.

## 4. First Aid Measures

**Eyes:** Immediately flush with water. Remove any contact lenses and continue flushing for 15 minutes, lifting eyelids occasionally until no evidence of the chemical remains. Call a physician.

**Skin:** Wash promptly with soap and water for 15 minutes. Remove and wash contaminated clothing and shoes before reuse.

**Ingestion:** Call a physician.

**Inhalation:** Remove to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**Note to Attending Physician:** There is no specific antidote to overexposure. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Immediate medical attention for acute overexposure is required.

## 5. Firefighting Measures

**Flash Point:** None, Tag Closed Cup, ASTM-D-56.

**Autoignition Temperature:** Not available

**Flammable Limits in Air:** LEL/UEL: 4.0 - 7.8 (% by volume)

**Extinguishing Media:** Use dry chemical, "alcohol" foam, CO2; water may be ineffective, but water should be used to keep fire exposed containers cool. If a spill or leak has not ignited, use water spray to disperse vapors and protect persons attempting to stop leak.

**Special Firefighting Procedures:** Evacuate personnel. Wear self contained breathing apparatus (SCBA) and full protective equipment. Keep containers cool. Containers build pressure under fire conditions causing violent bursting and dangerous propelling of container. Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge.

## 6. Accidental Release Measures

**Spill or Leak:** Evacuate area, absorb spilled liquid with commercial, nonflammable absorbent i.e. sand, vermiculite. Remove unprotected personnel. Protected personnel should remove ignition sources and shut off fire sources. Provide ventilation. Shovel (spark proof) absorbent material into drums and close. Do not flush to sewer.

## 7. Handling and Storage

Do not breathe vapors or mist. Keep containers closed. Use only with adequate ventilation. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Do not store in direct sunlight. Store in cool dry place, away from heat, sparks or flames which may generate toxic decomposition products. Vapors are heavy and may concentrate in low poorly ventilated areas.

## 8. Exposure Controls/Personal Protection

**Respiratory Protection:** Use only with adequate ventilation. Keep container tightly closed. Use approved NIOSH self-contained or supplied air respirators for emergencies and in situations where misting or vapors occur which allow airborne exposures to exceed established threshold values.

**MicroCare MSDS: Bromothane R Solvent (#M2S-BRD, #M2S-BR2D, #M2S-BRP, #M2S-BR2P, #M2S-BRG, #M2S-BR2G, #M2S-BRL, #M2S-BR2L)**

**Eye Protection:** Use chemical protective safety glasses.

**Protective Clothing:** Where there is potential for skin contact, use impervious butyl rubber gloves, apron, pants and jacket.

**Exposure Guidelines:** Applicable Exposure Limits.

**n-Propyl Bromide:**

PEL (OSHA)	none established
TLV (ACGIH)	10 ppm (50 mg/m <sup>3</sup> )(ACGIH TLV TWA)
WEL (Great Lakes)	10 ppm 8 hour TWA
REL (US EPA)	25 ppm TWA

**1,2-Epoxybutane**

PEL (OSHA)	None Established
TLV (ACGIH)	None Established

**2-Methyl-2-Propanol**

PEL (OSHA)	100 ppm TWA
TLV (ACGIH)	100 ppm TWA, A4

**2-Propanol**

PEL (OSHA)	400 ppm TWA
TLV (ACGIH)	400 ppm TWA

**Dimethoxymethane**

PEL (OSHA)	1000 ppm TWA
TLV (ACGIH)	1000 ppm TWA

**NFPA, NPCA-HIMIS RATING:**

Health	2
Flammability	1
Reactivity	0

Personal Protection rating to be supplied by user depending on use conditions.

**9. Physical and Chemical Properties**

**Physical Form:** Colorless to pale yellow liquid

**Odor:** Strong characteristic odor

**Boiling Point:** 68° C / 154° F

**pH:** Not available

**Solubility in Water:** Slightly soluble

**Specific Gravity:** Not determined

**% Volatile by Weight:** 100

**Vapor Pressure:** Not determined

**Vapor Density (air=1):** >1.00

**10. Reactivity**

**Chemical Stability:** Material is stable under normal conditions.

**Hazardous Polymerization:** Will not occur.

**Incompatibilities:** Avoid strong oxidizers, strong acids, strong bases, organic and inorganic acid chlorides, acid anhydrides, aluminum, halogens.

**Decomposition Products:** Burning may produce carbon oxides, halogen bromide and/or bromine.

**11. Toxicological Information****Carcinogenicity:**

NTP:	No
IARC:	Yes
OSHA:	No
ACGIH:	No
Other:	No

NOTE: 1,2 Epoxybutane has been classified as a Group 2B material by IARC. An IRAC Group 3 material exhibits limited evidence for carcinogenicity in experimental animals and no human data.

**n-Propyl Bromide:** This component is irritating to the skin, eyes,

mucous membranes and upper respiratory tract, possibly resulting in chemical burns. Chronic overexposure to this component by ingestion, inhalation or dermal absorption may be harmful. Long term exposure may cause lung, liver, kidney, central nervous system, developmental and reproductive effects. The acute inhalation LD50 or LC50 is 253 g/m<sup>3</sup>/30 minutes (rat).

In a 13 week whole body inhalation study using rats with exposure to vapors for 6 hours each day for 5 days per week at chamber concentrations between 0.5 and 3.0 mg/L, no clinical observations were produced. At concentrations of 2.0 and 3.0 mg/L, histopathological lesions were found in the liver. The No Effect Level was established at 1.0 mg/L.

Other acute/chronic health hazards, as well as target organs, are not known.

**Dimethoxymethane:** The acute inhalation LD50 or LC50 is 57 g/m<sup>3</sup>/7H (mouse); 15,000 ppm (rat). The acute oral LC50 or LD50 is 5,708 mg/kg (rabbit). Determined to cause eye, skin and respiratory tract irritation.

**2-Methyl-2-Propanol:** This material has been determined to be severely irritating to the eyes and irritating to the skin. Overexposures may result in liver, kidney, blood, nervous system and fertility effects.

**1,2-Epoxybutane:** Contact may irritate or burn skin, eyes, mucous membrane and the upper respiratory tract. This component was not found to be a skin sensitizer in guinea pigs.

**12. Ecological Information**

**Aquatic Toxicity:** Avoid runoff into storm drains and streams which lead to waterways. Water runoff can cause environmental damage.

**13. Disposal Considerations**

**Waste Disposal:** Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial and Local regulations.

**14. Transportation Information**

**Ground Transport:** Not Hazardous, Not Regulated

**Air Transport:** Not Hazardous, Not Regulated

**15. Regulatory Information**

**Section 313 Supplier Information:** This material contains the following toxic chemicals subject to the emergency reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40 CFR 372:

CAS#	Chemical Name	% by Weight
106-88-7	1,2 Epoxybutane	(de minimis) 1%
75-65-0	2-Methyl-2-propanol	(de minimis) 1%

*This information must be included in all MSDSs that are copied and distributed for this material.*

**Title III Hazard Communications Sections 311, 312**

Acute	Yes
Chronic	Yes
Fire	No
Reactivity	No
Pressure	No

**16. Other Information**

For additional information, contact Tech Support at Micro Care: Telephone (860) 827-0626 or email: techsupport@microcare.com