Material Safety Data Sheet

1. Product and Company Identification

Product name : **Methyl Bromide**

Chemical formula : CH3Br

Synonyms : Bromomethane; MBX; Methyl bromide, liquid; Monobromomethane; Methogas; Rotox; Bromogas; Celfume; Dow fume; Dowfume MC-2; Metafume; Embafume; Iscobrome; Pestmaster; Profume; Zytox; Halon 1001; UN 1062

Company : Specialty Gases of America, Inc
6055 Brent Dr.
Toledo, OH 43611

Telephone : 419-729-7732

Emergency : 800-424-9300

2. Composition/Information on Ingredients

Components	CAS Number	% Volume
Methyl Bromide	74-83-9	100%

3. Hazards Identification

Emergency Overview

Harmful if inhaled or swallowed, skin irritation, central nervous system depression.
Containers may rupture or explode if exposed to heat.

Potential Health Effects

Inhalation : Nausea, vomiting, stomach pain, chest pain, difficulty breathing, headache, symptoms of drunkenness, hyperactivity or drowsiness, tingling sensation, visual disturbances, bluish skin color, paralysis, convulsions, coma. May cause fainting, blurred vision, nerve damage, brain damage in long term exposure.

Eye contact : Irritation, eye damage.

Skin contact : Irritation (possibly severe), itching.

Ingestion : Nausea, vomiting, stomach pain, chest pain, difficulty breathing, headache, symptoms of drunkenness, hyperactivity or drowsiness, tingling sensation, visual disturbances, bluish skin color, paralysis, convulsions, coma.

Chronic Health Hazard : None known.

4. First Aid Measures

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Skin contact : Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Ingestion : If swallowed, drink plenty of water. DO NOT INDUCE VOMITING. Get

immediate medical attention. Induce vomiting only at the instructions of a physician. Do not give anything by mouth to unconscious or convulsive person.

Inhalation : If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Note to physicians : For ingestion, consider gastric lavage.

5. Fire-Fighting Measures

Suitable extinguishing media : Carbon dioxide, regular dry chemical.
Large fires: Use regular foam or flood with fine water spray.

Specific hazards : Slight fire hazard. Containers may rupture or explode if exposed to heat.

Fire fighting : Move container from fire area if it can be done without risk. Fight large fires from a protected location or safe distance. Stay away from the ends of tanks. Dike for later disposal. Do not scatter spilled material with high-pressure water streams. Do not attempt to extinguish fire unless flow of material can be stopped first. Use extinguishing agents appropriate for surrounding fire. Flood with fine water spray. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Consider downwind evacuation if material is leaking.

6. Accidental Release Measures

Water release : Subject to California Safe Drinking Water and Toxin Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

Occupational spill/release : Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Small dry spills: Move containers away from spill to a safe area. Large spills: Dike for later disposal. Keep unnecessary people away. Isolate hazard area and deny entry. Ventilate closed spaces before entering. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

Additional advice : None.

7. Handling and Storage

Handling

Subject to handling regulations: U.S. OSHA 29 CFR 1910.119.

Storage

Store in accordance with all current regulations and standards. Notify State Emergency Response Commission for storage or use at amounts greater than or equal to TPQ (U.S. EPA SARA Section 302). SARA Section 303 requires facilities storing a material with a TPQ to participate in local emergency response planning (U.S. EPA 40 CFR 355 Part B). Protect from physical damage. Store in a cool, dry place. Store outside or in a detached building. Store in a well-ventilated area. Keep in the dark. Avoid exposure to low temperatures or freezing. Keep separated from incompatible substances.

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH : 1 ppm TWA
Skin – potential significant contribution to overall exposure by the cutaneous

route.

OSHA (final)	:	20 ppm Ceiling; 80 mg/m3 Ceiling Prevent or reduce skin absorption
OSHA (vacated)	:	5 ppm TWA; 20 mg/m3 TWA Prevent or reduce skin absorption

IDLH

250 ppm

Engineering measures/Ventilation

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal protective equipment

Respiratory protection	:	The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA. At any detectable concentration – Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Escape – Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister. Any appropriate escape-type, self-contained breathing apparatus. For unknown concentrations or Immediately Dangerous to Life or Health – Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.
Hand protection	:	Wear appropriate chemical resistant gloves.
Eye protection	:	Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Skin and body protection	:	Protective clothing is not required.

9. Physical and Chemical Properties

Form	:	Volatile liquid gas.
Color	:	Colorless.
Odor	:	Sweet odor.
Molecular weight	:	95
Vapor pressure	:	1250 mmHg @ 20°C
Vapor density	:	3.3 (air = 1)
Specific gravity	:	1.7 @ 0°C (water = 1)
Boiling point	:	4°C
Melting point	:	-93°C
Water solubility	:	1.75% @ 20°C
Solvent solubility	:	Soluble: alcohol, chloroform, ether, benzene, carbon disulfide, carbon tetrachloride

10. Stability and Reactivity

Stability	:	Stable under normal conditions.
Conditions to avoid	:	Avoid heat, flames, sparks or other sources of ignition. Containers may rupture or explode if exposed to heat.
Materials to avoid	:	Metals, oxidizing materials, combustible materials.
Hazardous decomposition products	:	Thermal decomposition products: oxides of carbon, acid halides, halides.

11. Toxicological Information

The components of this material have been reviewed in various sources and the following endpoints are published:

METHYL BROMIDE (74-83-9)	:	Inhalation LC50 Rat: 302 ppm/8H; Oral LD50 Rat: 214 mg/kg

Acute Toxicity Level

METHYL BROMIDE (74-83-9)	:	Toxic: Inhalation, ingestion

Component Carcinogenicity

ACHIG	:	A4 – Not Classifiable As A Human Carcinogen.
IARC	:	Monograph 71 [1999]; Supplement 7 [1987]; Monograph 41 [1986] (Group 3 (not classifiable))
DFG	:	Category 3B (could be carcinogenic for man)

Local Effects

METHYL BROMIDE (74-83-9)	:	Irritant: Skin

Target Organs

METHYL BROMIDE (74-83-9)	:	Central nervous system

Additional Data

Stimulants such as epinephrine may induce ventricular fibrillation.

12. Ecological Information

Aquatic Toxicity

METHYL BROMIDE (74-83-9)	:	Fish: 96 Hr LC50 Lepomis macrochirus: 11 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 0.8 mg/L [semi-static]; 96 Hr LC50 Oryzias latipes: 0.7 mg/L [semi-static] Algae: 48 Hr EC50 Scenedesmus quadricauda: 3.2 mg/L Invertebrate: 48 Hr EC50 Daphnia magna: 2 mg/L; 48 Hr EC50 Daphnia magna: 1.7 mg/L [static]

13. Disposal Considerations

Waste from residues / unused products	:	Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U029.
Contaminated packaging	:	Return cylinder to supplier.
Component Waste Numbers	:	RCRA: waste_number U029

14. Transport Information

DOT (US only)

Proper shipping name	:	Methyl bromide
Class	:	2.3
UN/ID No.	:	UN1062
Labeling	:	Poison Gas
Additional Info	:	Toxic-Inhalation Hazard Zone C

15. Regulatory Information

U.S. Federal Regulations

This material contains one or more of the following chemicals required under SARA Section 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

METHYL BROMIDE (74-83-9)	:	SARA 302: 1000 lb TPQ 1000 lb final RQ; 454 kg final RQ SARA 313: 1.0% de minimis concentration CERCLA: 1000 lb final RQ; 454 kg final RQ OSHA (safety): 2500 lb TQ

SARA 311/312

Acute: Yes
Chronic: No
Fire: No
Reactive: No
Pressure: Yes

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
METHYL BROMIDE	74-83-9	Yes	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects.

16. Other Information

Prepared by : Specialty Gases of America, Inc.

For additional information, please visit our website at www.americangasgroup.com.