



SAFETY DATA SHEET

Methyl Bromide (MUP)

Version: 1.0

Revision Date: 05/14/2015

Print Date: 06/07/2016

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Methyl Bromide (MUP)

Product Use Description: EPA Registered Pesticide

Synonyms: Methyl Bromide

Company: Chemtura Corporation
199 Benson Road
Middlebury, CT
06749
United States of America

Telephone: (US) +1 866-430-2775

Emergency telephone number: CHEMTREC: (24 hours) 800-424-9300
:
Chemtura Corporation Emergency Response: CHEMTURA : 800-292-5898

For additional emergency telephone numbers see section 16 of the Safety Data Sheet.

Prepared by Product Safety Department
(US) +1 866-430-2775

MSDSRequest@chemtura.com

Recommended use of the chemical and restrictions on use

Recommended use : EPA Registered Pesticide

SECTION 2. HAZARDS IDENTIFICATION

Form	gas
Colour	colourless
Odour	odourless

GHS Classification

Flammable gases : Category 1
Acute toxicity (Oral) : Category 3
Acute toxicity (Inhalation) : Category 3
Skin irritation : Category 2
Eye irritation : Category 2A
Germ cell mutagenicity : Category 2
Specific target organ toxicity - single exposure : Category 3 (Respiratory system)
Specific target organ toxicity - repeated exposure : Category 2



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Acute aquatic toxicity : Category 1

GHS Label element

Signal word : **Danger**

Hazard pictograms :



Hazard statements : H220 Extremely flammable gas.
H301 + H331 Toxic if swallowed or if inhaled
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.

Other hazards : None

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.
P281 Use personal protective equipment as required.
Response:
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P311 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/



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attention.
P362 Take off contaminated clothing and wash before reuse.
P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 Eliminate all ignition sources if safe to do so.
P391 Collect spillage.

Storage:

P403 Store in a well-ventilated place.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:

IARC

Group 3: Not classifiable as to its carcinogenicity to humans

bromomethane 74-83-9

chloromethane 74-87-3

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Environmental Effects

Environmental Effects : Dangerous for the environment

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
bromomethane	74-83-9	>= 90 - <= 100 %
chloromethane	74-87-3	>= 0.1 - < 1 %

SECTION 4. FIRST AID MEASURES

If inhaled : Get medical attention immediately.
If breathed in, move person into fresh air.
Give oxygen or artificial respiration if needed.

In case of skin contact : Get medical attention immediately.
Take off contaminated clothing and shoes immediately.
Wash off immediately with plenty of water for at least 15 minutes.
Wash contaminated clothing before re-use.
Destroy contaminated shoes.



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- In case of eye contact : Get medical attention immediately.
Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- If swallowed : Call a physician or poison control centre immediately.
If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.
Rinse mouth with water.
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : irritant effects
mutagenic effects
Gastrointestinal disturbance
Nausea
Vomiting
Respiratory disorder
Unconsciousness
Inhalation may provoke the following symptoms:
Fatality
- Notes to physician : For specialist advice physicians should contact the Poisons Information Service.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Keep containers and surroundings cool with water spray.
- Specific hazards during firefighting : Burning produces noxious and toxic fumes.
Thermal decomposition can lead to release of irritating gases and vapours.
Container may explode if heated.
- Specific extinguishing methods : In the event of fire, wear self-contained breathing apparatus.
Wear personal protective equipment.
- Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : For personal protection see section 8.



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- Environmental precautions : Toxic to aquatic life.
Do not contaminate ponds, waterways or ditches with chemical or used container.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Inform the responsible authorities in case of gas leakage, or of entry into waterways, soil or drains.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Methyl bromide has no odor at dangerous levels and is extremely hazardous.
Use personal protective equipment as required.
Do not contaminate water, food or feed by storage or disposal.
Avoid contact with skin, eyes and clothing.
Do not breathe vapours or spray mist.
Persons moving or handling containers should wear protective clothing. Open container only in a well-ventilated area wearing protective clothing and respiratory protection if necessary.
Cylinders should not be subjected to rough handling or mechanical shock such as dropping, bumping, dragging, or sliding. Do not use rope slings, hooks, tongs, or similar devices to unload cylinders. Transport cylinders using hand truck, fork truck or other device to which the cylinder can be firmly secured. Do not remove valve protection bonnet and safety cap until immediately before use. Replace safety cap and valve protection bonnet when cylinder is not in use.
When cylinder is empty close, valve, screw safety cap onto valve outlet, and replace protection bonnet before returning to shipper. Only a registrant is authorized to refill cylinders. Do not use cylinders for any other purpose.
- Conditions for safe storage : Store in upright position only.
Keep in a dry, cool and well-ventilated place.
Store locked up.
Post as a pesticide storage area.
Store cylinders upright, secured to a rack or wall to prevent tipping.
Keep away from flames and sparks.
Keep away from heat and sources of ignition.
Keep container tightly closed.
- Materials to avoid : Aluminium, Magnesium, Zinc, Alkali metals, Strong bases

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters



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Components	CAS-No.	Form of exposure	Permissible concentration	Basis
bromomethane	74-83-9	TWA	1 ppm	ACGIH
		C	20 ppm 80 mg/m ³	OSHA Z-1
		TWA	5 ppm 20 mg/m ³	OSHA P0
chloromethane	74-87-3	TWA	50 ppm	ACGIH
		STEL	100 ppm	ACGIH
		TWA	100 ppm	OSHA Z-2
		CEIL	200 ppm	OSHA Z-2
		Peak	300 ppm	OSHA Z-2
		TWA	50 ppm 105 mg/m ³	OSHA P0
		STEL	100 ppm 205 mg/m ³	OSHA P0

Engineering measures : Use local ventilation to keep levels below established threshold values.
Adequate general ventilation is recommended when handling to control airborne levels.
Do not use in areas without adequate ventilation.
Use mechanical ventilation for general area control.

Personal protective equipment

Respiratory protection : Use a direct reading detection device for determining methyl bromide air concentrations. Detection devices must have a sensitivity of at least 1 ppm for methyl bromide. Device manufacturers instructions must be followed.
For protection from concentrations greater than 50 times the PEL, wear a NIOSH/MSHA approved self contained breathing apparatus (SCBA). All persons entering the affected area must wear a NIOSH/MSHA approved SCBA if the air concentrations of methyl bromide is unknown, or, if the methyl bromide air concentrations is measured at greater than 1ppm. In emergencies such as a spill or leak, or when corrective action is needed to reduce air concentrations to acceptable levels, wear a SCBA and PPE required for potential contact with fumigant liquid.
Consult the OSHA respiratory protection information located at 29CFR1910.134 and the American National Standard Institute's Practices of Respiratory Protection Z88.2.

Eye protection : Full face shield or safety glasses with brow and temple shields. Do NOT wear goggles.
If full face respiratory protection is not required, wear full-face shield when handling liquid fumigant.

Skin and body protection : Loose-fitting or well ventilated long-sleeved shirt and pants. Shoes and socks. Do NOT wear jewelry, gloves, tight clothing, rubber protective clothing, or rubber boots when handling.



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Hygiene measures : Wash thoroughly after handling.
For personal hygiene purposes, use adequate clothing to prevent skin contact.
Make sure piping is empty before doing maintenance work.
All persons working with methyl bromide should be trained in the hazards, use of required respirator equipment, emergency procedures and in the proper use of methyl bromide as a fumigant where applicable.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : gas

Color : colourless

Odor : odourless

Odour Threshold : No data available

pH : No data available

Melting point/range :
Not applicable

Boiling point/boiling range : 3.56 °C Methyl bromide

Evaporation rate : Not applicable

Flash point :
Not applicable

Upper explosion limit : ca. 15 %(V)
Methyl bromide

Lower explosion limit : ca. 10 %(V)
Methyl bromide

Vapour pressure : 1,900 hPa (20 °C)
1420 mm Hg Methyl bromide

Relative vapour density : ca. 3.27 Methyl bromide

Relative density : No data available

Bulk Density : No data available

Density : No data available

Solubility(ies)

Water solubility : ca. 17.5 g/l Methyl bromide (20 °C)

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : No data available



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Thermal decomposition : No data available

Viscosity

Viscosity, kinematic : No data available
Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : Will not occur.

Conditions to avoid : None known.

Incompatible materials : Aluminium
Magnesium
Zinc
Alkali metals
Strong bases

Hazardous decomposition products : Carbon oxides
Hydrogen halides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity (Product) : Acute toxicity estimate: 214 mg/kg
Method: Calculation method

Acute inhalation toxicity (Product) : Acute toxicity estimate: Exposure time: 4 h
Method: Calculation method

Skin irritation (Product) : Remarks: Irritating to skin.

Eye irritation (Product) : Remarks: Irritating to eyes.

Aspiration toxicity (Product) : No aspiration toxicity classification



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Further information (Product) : Acute Health Hazard

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish (Product) : Remarks:
No data available

Elimination information (persistence and degradability)

Bioaccumulation (Product) : Remarks:
No data available

Mobility (Product) : Remarks:
No data available

Biodegradability (Product) : Result: No data available

Further information on ecology

Ecotoxicology Assessment

Results of PBT assessment (Product)

This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).

Additional ecological information (Product) : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

These products are toxic to fish and wildlife. Keep out of lakes, streams and ponds. Do not contaminate water by cleaning of equipment or disposal of wastes.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of as hazardous waste in compliance with local and national regulations.
Dispose of wastes in an approved waste disposal facility.
Do not contaminate ponds, waterways or ditches with chemical or used container.

SECTION 14. TRANSPORT INFORMATION



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DOT

UN number : 1062
Description of the goods : Methyl bromide
Class : 2.3
Environmentally hazardous : no
Poison Inhalation Hazard - Zone C

IATA

UN number : 1062
Class : 2.3
Not permitted for transport

IMDG

UN number : 1062
Description of the goods : METHYL BROMIDE
Class : 2.3
EmS Number 1 : F-C
EmS Number 2 : S-U
Marine pollutant : no

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
bromomethane	74-83-9	1000	1000

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
bromomethane	74-83-9	1000	1000

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 302 : The following components are subject to reporting levels established by SARA Title III, Section 302:
bromomethane 74-83-9



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SARA 313 : bromomethane 74-83-9
: The following components are subject to reporting levels established by SARA Title III, Section 313:
bromomethane 74-83-9

California Prop 65 WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

bromomethane 74-83-9
chloromethane 74-87-3

The components of this product are reported in the following inventories:

US.TSCA On TSCA Inventory
DSL All components of this product are on the Canadian DSL.
AICS On the inventory, or in compliance with the inventory
NZIoC Not in compliance with the inventory
ENCS On the inventory, or in compliance with the inventory
KECI On the inventory, or in compliance with the inventory
PICCS On the inventory, or in compliance with the inventory
IECSC On the inventory, or in compliance with the inventory
CH INV The formulation contains substances listed on the Swiss Inventory

SECTION 16. OTHER INFORMATION

Further information

Other Emergency Phone Number

<u>Latin America:</u>	Brazil	+55 113 711 9144
	All other countries	+44 (0) 1235 239 670
<u>Mexico:</u>		+52 555 004 8763

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.