
Bromofluoromethane Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: BROMOFLUOROMETHANE

CAS number: 373-52-4

Product code: VCBFM

Use / description of product: Feedstock, toxic volatile liquid

Company name: Valliscor LLC, 1110, NE Circle Blvd., Bldg. 11, Corvallis, OR 97330, USA

Telephone: (+1)-541-286-5082

Emergency Phone: (+1)-541-286-8436

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Compressed gas, Toxic by inhalation, Toxic by ingestion, Irritant

GHS Classification

Gases under pressure (Compressed gas)

Acute toxicity, Oral (Category 4)

Acute toxicity, Inhalation (Category 4)

Skin irritation (Category 2)

Serious eye damage (Category 1)

Specific target organ toxicity - single exposure (Category 3)

Hazardous to the ozone layer (Category 1)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H319 Causes serious eye irritation

H331 Toxic if inhaled.

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.

H420 Harms public health and the environment by destroying ozone in the upper atmosphere

Precautionary statement(s)

P261 Avoid breathing fume/ gas/ mist/ vapours/ spray.

P273 Avoid release to the environment.

P280 Wear protective gloves/ eye protection/ face protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard: 2

Flammability: 0

Physical hazards: 0

NFPA Rating

Health hazard: 2

Fire: 0

Reactivity Hazard: 0

Potential Health Effects

Toxic if inhaled. Causes respiratory tract irritation.

Skin May be harmful if absorbed through skin. Causes skin irritation.

Causes eye irritation.

Toxic if swallowed.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Synonyms: Fluoromethyl bromide

Formula: CH₂BrF

Molecular Weight: 112.93

Component	Concentration
Bromofluoromethane	99.9%
CAS No.	373-52-4
EC No.	206-770-6

4. FIRST AID MEASURES (SYMPTOMS)

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability

Not flammable or combustible.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters

Wear self contained breathing apparatus for fire-fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. – Hydrogen fluoride gas, Hydrogen bromide gas

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling requirements: Avoid direct contact with the substance. Ensure there is exhaust ventilation of the area. Avoid the formation or spread of mists in the air. Only use in fume hood

Storage conditions: Store in a cool and well ventilated area. Keep container tightly closed.
Suitable packaging: Must only be kept in original packaging.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures: Ensure there is exhaust ventilation of the area. Respiratory protection: Self-contained breathing apparatus must be available in case of emergency. Hand protection: Impermeable gloves. Eye protection: Safety glasses with side-shields. Ensure eye bath is to hand. Skin protection: Impermeable protective clothing.

Personal Protective Equipment

Respiratory Protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand Protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

Splash protection

Material: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye Protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	Liquid, clear
Color	None

Safety Data

pH	no data available
State: Boiling point range:	18-19°C
Relative density:	1.76 g/mL
MW:	112.93
Flash Point:	No data available
Ignition temperature:	No data available
Lower explosion limit:	No data available
Upper explosion limit:	No data available
Odor threshold:	No data available

10. STABILITY AND REACTIVITY

Chemical Stability:

Stable under normal conditions.

Possibility of hazardous reaction:

No data available

Conditions to avoid:

No data available

Materials to avoid:

Strong oxidizing agents, Strong bases

Hazardous decomposition products:

Hydrogen bromide, hydrogen fluoride.

11. TOXICOLOGICAL INFORMATION

RTECS

Draize test, Rabbit, eye: 100 mg/24H Moderate

Acute Toxicity:

Oral, mouse LD50 = 300 mg / kg

Oral, Rabbit LD50 = 3,200 mg / kg

Oral, Rat LD50 = 980mg / kg

Chronic toxicity:

MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION. Routes of exposure: Refer to section 4 of SDS for routes of exposure and corresponding symptoms. MAY BE HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as

probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a

carcinogen or potential carcinogen by ACGIH.

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.

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.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure

prolonged or repeated exposure can cause:, Nausea, Dizziness, Headache, narcosis, Cough, chest pain, Difficulty in breathing

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish - no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

13. DISPOSAL CONSIDERATIONS

Disposal operations: MATERIAL SHOULD BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS Disposal of packaging: Dispose of as special waste in compliance with local and national regulations Observe all federal, state and local environmental regulations. NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

14. TRANSPORT INFORMATION

ADR / RID

UN #: 2810

ADR Class: 6.1

Packing group: III

Classification code:

T1 Shipping name: TOXIC LIQUID, ORGANIC,

Hazard ID no: 60

IMDG / IMO

UN no: 2810 Class: 6.1 Packing group: III EmS: F-A,S-A Marine pollutant: . Labelling: 6.1

IATA / ICAO

UN no: 2810 Class: 6.1 Packing group: III Packing instructions: 611(P&CA); 618(CAO)
Labelling: 6.1

15. REGULATORY INFORMATION

Hazard symbols: Very toxic.

Risk phrases: R26/27/28: Very toxic by inhalation, in contact with skin and if swallowed. Safety phrases: S28: After contact with skin, wash immediately with plenty of soap and water. S36/37/39: Wear suitable protective clothing, gloves and eye / face protection. S38: In case of insufficient ventilation, wear suitable respiratory equipment. S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Note: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

17. OTHER INFORMATION

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.