

SIGMA-ALDRICH**Material Safety Data Sheet**Version 3.1
Revision Date 01/09/2009
Print Date 07/27/2010**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : 1,1,2,2-Tetrabromoethane

Product Number : 86760
Brand : Fluka

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +18003255832
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Acetylene tetrabromide
Muthmanns liquid

Formula : C₂H₂Br₄
Molecular Weight : 345.65 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
1,1,2,2-Tetrabromoethane			
79-27-6	201-191-5	602-016-00-9	-

3. HAZARDS IDENTIFICATION**Emergency Overview****OSHA Hazards**

Target Organ Effect, Toxic by inhalation., Harmful by ingestion., Irritant

Target Organs

Nerves., Liver, Kidney

HMIS Classification

Health Hazard: 3
Chronic Health Hazard: *
Flammability: 0
Physical hazards: 0

NFPA Rating

Health Hazard: 4
Fire: 0
Reactivity Hazard: 0

Potential Health Effects

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

4. FIRST AID MEASURES

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. FIRE-FIGHTING MEASURES

Flammable properties

Flash point no data available

Ignition temperature 335 °C (635 °F) -

Suitable extinguishing media

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

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods for 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

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Normal measures for preventive fire protection.

Storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Light sensitive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
1,1,2,2-Tetrabromoethane	79-27-6	TWA	0.1 ppm	2005-12-09	US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004:Committees on Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs)
		TWA	1 ppm 14 mg/m ³	1989-03-01	US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A
		TWA	1 ppm 14 mg/m ³	1993-06-30	US. Department of Labor - Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL) 29 CFR 1910.1000 Air Contaminants.

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 ABEK (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.

Eye protection

Safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form clear, liquid

Colour colourless

Safety data

pH no data available
Melting point -1 - 1 °C (30 - 34 °F)
Boiling point 119 °C (246 °F) at 20 hPa (15 mmHg)
Flash point no data available
Ignition temperature 335 °C (635 °F) -
Lower explosion limit no data available
Upper explosion limit no data available
Vapour pressure 0.1 hPa (0.1 mmHg) at 20 °C (68 °F)
Density 2.967 g/mL at 25 °C (77 °F)
Water solubility no data available
Partition coefficient: log Pow: 1.98
n-octanol/water
Relative vapour density 11.93
- (Air = 1.0)

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

Materials to avoid

Strong bases, Strong oxidizing agents, Chemically active metals, Aluminum, Magnesium, Zinc

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen bromide gas

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 1,200 mg/kg

LC50 Inhalation - rat - 4 h - 549 mg/m³

LD50 Dermal - rat - 5,250 mg/kg

Irritation and corrosion

Skin - rabbit - Skin irritation - 24 h

Eyes - rabbit - Mild eye irritation

Sensitisation

no data available

Chronic exposure

Carcinogenicity - mouse - Skin

Tumorigenic: Neoplastic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors. Skin and Appendages: Other: Tumors.

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.

Genotoxicity in vitro - Hamster - ovary
Sister chromatid exchange

Signs and Symptoms of Exposure

Nausea, Dizziness, Headache, Anorexia., Cholestatic jaundice., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

Inhalation	Toxic if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin irritation. May be fatal if absorbed through skin.
Eyes	Causes eye irritation.
Ingestion	Harmful if swallowed.
Target Organs	Nerves., Liver, Kidney,

Additional Information
RTECS: KI8225000

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

no data available

Further information on ecology

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN-Number: 2504 Class: 6.1 Packing group: III

Proper shipping name: Tetrabromoethane

Marine pollutant: Marine pollutant

Poison Inhalation Hazard: No

IMDG

UN-Number: 2504 Class: 6.1 Packing group: III EMS-No: F-A, S-A
 Proper shipping name: TETRABROMOETHANE
 Marine pollutant: Marine pollutant

IATA

UN-Number: 2504 Class: 6.1 Packing group: III
 Proper shipping name: Tetrabromoethane

15. REGULATORY INFORMATION**OSHA Hazards**

Target Organ Effect, Toxic by inhalation., Harmful by ingestion., Irritant

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

1,1,2,2-Tetrabromoethane	CAS-No. 79-27-6	Revision Date 1991-07-01
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Pennsylvania Right To Know Components

1,1,2,2-Tetrabromoethane	CAS-No. 79-27-6	Revision Date 1991-07-01
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New Jersey Right To Know Components

1,1,2,2-Tetrabromoethane	CAS-No. 79-27-6	Revision Date 1991-07-01
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California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION**Further information**

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