

# SAFETY DATA SHEET

according to the OSHA  
Hazard Communication Standard

Version 6.8  
Revision Date 08/12/2026  
Print Date 08/12/2026

## SECTION 1. IDENTIFICATION

### 1.1 Product identifiers

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

Product Number : 86760  
Brand : Sigma-Aldrich  
Index-No. : 602-016-00-9  
CAS-No. : 79-27-6

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

Restrictions on use : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.  
SPRUCE ST 3050  
63103 St. Louis

Telephone : (314) 771-5765  
Telefax: (800) 325-5052

### 1.4 Emergency telephone number

Emergency Phone # : 800 424 9300 (CHEMTREC) 24/7  
+1 703 527 3887 (CHEMTREC) 24/7

## SECTION 2. HAZARDS IDENTIFICATION

### GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

#### Hazards for the product as supplied

|                                    |               |
|------------------------------------|---------------|
| Acute toxicity (Oral)              | : Category 4  |
| Acute toxicity (Inhalation)        | : Category 2  |
| Skin irritation                    | : Category 2  |
| Eye irritation                     | : Category 2A |
| Short-term (acute) aquatic hazard  | : Category 3  |
| Long-term (chronic) aquatic hazard | : Category 3  |

#### Other hazards

None known.

#### GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H330 Fatal if inhaled.  
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P260 Do not breathe mist or vapours.  
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 protective gloves/ eye protection/ face protection.  
P284 Wear respiratory protection.

#### **Response:**

P301 + P312 + P330 IF SWALLOWED: Call a POISON

CENTER/ doctor if you feel unwell. Rinse mouth.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Immediately call a POISON CENTER/ doctor.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.

**Storage:**

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.

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### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

CAS-No. : 79-27-6

**Components**

| Chemical name            | CAS No./Unique ID | Concentration (% w/w) | Trade secret |
|--------------------------|-------------------|-----------------------|--------------|
| 1,1,2,2-tetrabromoethane | 79-27-6*          | >= 90 - <= 100        | -            |

\* Indicates that the identifier is a CAS No.

Actual concentration is withheld as a trade secret

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### SECTION 4. FIRST AID MEASURES

General advice : First aiders need to protect themselves.  
Show this safety data sheet to the doctor in attendance.

If inhaled : After inhalation: fresh air. Immediately call in physician.  
If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

|                                                             |                                                                                                                                        |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| In case of skin contact                                     | : In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.                              |
| In case of eye contact                                      | : After eye contact: rinse out with plenty of water.<br>Call in ophthalmologist.<br>Remove contact lenses.                             |
| If swallowed                                                | : After swallowing: immediately make victim drink water (two glasses at most).<br>Consult a physician.                                 |
| Most important symptoms and effects, both acute and delayed | : The most important known symptoms and effects are described in the labelling (see section 2 GHS label elements) and/or in section 11 |
| Protection of first-aiders                                  | : For personal protection see section 8.                                                                                               |
| Notes to physician                                          | : No data available                                                                                                                    |

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## SECTION 5. FIREFIGHTING MEASURES

|                                       |                                                                                                                            |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Suitable extinguishing media          | : Water<br>Foam<br>Carbon dioxide (CO <sub>2</sub> )<br>Dry powder                                                         |
| Unsuitable extinguishing media        | : For this substance/mixture no limitations of extinguishing agents are given.                                             |
| Specific hazards during fire fighting | : Combustible.<br><br>Development of hazardous combustion gases or vapours possible in the event of fire.                  |
| Hazardous combustion products         | : Carbon oxides<br><br>Hydrogen bromide gas                                                                                |
| Specific extinguishing methods        | : No data available                                                                                                        |
| Further information                   | : Suppress (knock down) gases/vapours/mists with a water spray jet.<br>Prevent fire extinguishing water from contaminating |

surface water or the ground water system.

Special protective equipment for fire-fighters : Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Advice for non-emergency personnel:  
Do not breathe vapours, aerosols.  
Avoid substance contact.  
Ensure adequate ventilation.  
Evacuate the danger area, observe emergency procedures, consult an expert.  
Advice for emergency responders:  
Wear appropriate personal protective equipment, as indicated in Section 8.

Environmental precautions : Do not let product enter drains.

Methods and materials for containment and cleaning up : Cover drains. Collect, bind, and pump off spills.  
Observe possible material restrictions (see sections 7 and 10).  
Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

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## SECTION 7. HANDLING AND STORAGE

For precautions see section 2 GHS label elements

Advice on safe handling : Work under hood. Do not inhale substance/mixture.  
Avoid generation of vapours/aerosols.

Further information on storage conditions : Tightly closed.  
Keep in a well-ventilated place.  
Keep locked up or in an area accessible only to qualified or authorised persons.

Storage class : 6.1A, Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

Recommended storage temperature : Recommended storage temperature if relevant, see product label.

Further information on storage stability : Light sensitive.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Ingredients with workplace control parameters

| Components               | CAS-No. | Value type<br>(Form of exposure) | Control parameters /<br>Permissible concentration | Basis    |
|--------------------------|---------|----------------------------------|---------------------------------------------------|----------|
| 1,1,2,2-tetrabromoethane | 79-27-6 | TWA                              | 0.1 ppm                                           | ACGIH    |
|                          |         | TWA                              | 1 ppm<br>14 mg/m <sup>3</sup>                     | OSHA Z-1 |

**Engineering measures** : No data available

### Personal protective equipment

Respiratory protection : required when vapours/aerosols are generated.  
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: : Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

#### Hand protection

Material : Viton®  
Break through time : 480 min  
Glove thickness : 0.7 mm  
Protective index : Full contact  
Manufacturer : Vitoject® (KCL 890 / Aldrich Z677698, Size M)

Material : butyl-rubber  
Break through time : 30 min  
Glove thickness : 0.7 mm  
Protective index : Splash contact  
Manufacturer : Butoject® (KCL 898)

Remarks : This recommendation applies only to the product

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stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

- Eye protection : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).  
Safety glasses
- Skin and body protection : protective clothing
- Hygiene measures : Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Colour : colourless
- Odour : No data available
- Odour Threshold : No data available  
pH : No data available
- Melting point/ range : 30 - 34 °F / -1 - 1 °C  
Method: lit.
- Boiling point/boiling range : 246 °F / 119 °C (20 hPa)  
Method: lit.
- Flash point : No data available
- Evaporation rate : No data available
- Flammability (solid, gas) : No data available
- Flammability (liquids) : No data available
- Burning rate : No data available
- Upper explosion limit /  
Upper flammability limit : No data available

|                                                     |                                              |
|-----------------------------------------------------|----------------------------------------------|
| Lower explosion limit /<br>Lower flammability limit | : No data available                          |
| Vapour pressure                                     | : 0.1 hPa (68 °F / 20 °C)                    |
| Relative vapour density                             | : 11.93<br>(Air = 1.0)                       |
| Relative density                                    | : No data available                          |
| Density                                             | : 2.967 g/mL (77 °F / 25 °C)<br>Method: lit. |
| Water solubility                                    | : No data available                          |
| Partition coefficient: n-<br>octanol/water          | : log Pow: 1.98                              |
| Autoignition temperature                            | : 635 °F / 335 °C                            |
| Decomposition<br>temperature                        | : No data available                          |
| Viscosity, dynamic                                  | : No data available                          |
| Viscosity, kinematic                                | : No data available                          |
| Flow time                                           | : No data available                          |
| Explosive properties                                | : No data available                          |
| Oxidizing properties                                | : No data available                          |
| Molecular weight                                    | : 345.65 g/mol                               |
| Particle characteristics<br>Particle size           | : No data available                          |

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## SECTION 10. STABILITY AND REACTIVITY

|                                       |                                                                                                                         |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Reactivity                            | : No data available                                                                                                     |
| Chemical stability                    | : The product is chemically stable under standard<br>ambient conditions (room temperature) .                            |
| Possibility of hazardous<br>reactions | : Violent reactions possible with:<br>Risk of explosion with:<br>Alkali metals<br>Alkaline earth metals<br>sodium amide |

Powdered metals

Conditions to avoid : no information available

Incompatible materials : Iron  
rubber  
various plastics  
Light metals  
various metals  
Zinc

Hazardous decomposition products : For Hazardous combustion products in the event of fire: see section 5

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## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 1,200 mg/kg

LC50 Inhalation - Rat - 4 h - 549 mg/m<sup>3</sup> - vapour

LD50 Dermal - Rat - 5,250 mg/kg

No data available

#### Skin corrosion/irritation

Skin - Rabbit

Result: Skin irritation - 24 h

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Mild eye irritation

#### Respiratory or skin sensitization

No data available

#### Germ cell mutagenicity

Test Type: Hamster

Test system: ovary

Remarks: Sister chromatid exchange

#### 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.

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 on OSHA's list of regulated carcinogens.

#### Reproductive toxicity

No data available

No data available

#### Specific target organ toxicity - single exposure

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No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Additional Information**

RTECS: KI8225000

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

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

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**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Components:**

**1,1,2,2-tetrabromoethane:**

Toxicity to fish : LC50 : 19.0 mg/l  
Exposure time: 96.0 h

Remarks: No data available

**Persistence and degradability**

**Components:**

**1,1,2,2-tetrabromoethane:**

Biodegradability : Remarks: No data available

**Bioaccumulative potential**

**Components:**

**1,1,2,2-tetrabromoethane:**

Bioaccumulation : Remarks: No data available

Partition coefficient: n- : log Pow: 1.98  
octanol/water

**Mobility in soil**

**Components:**

**1,1,2,2-tetrabromoethane:**

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Stability in soil : Remarks: No data available

**Other adverse effects**

No data available

**Endocrine disrupting properties**

No data available

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**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods**

Waste from residues : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

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**SECTION 14. TRANSPORT INFORMATION**

**International Regulations**

**IATA-DGR**

UN/ID No. : UN 2504  
Proper shipping name : Tetrabromoethane  
Class : 6.1  
Packing group : III  
Labels : Division 6.1 - Toxic substances  
Packing instruction (cargo : 663  
aircraft)  
Packing instruction : 655  
(passenger aircraft)

**IMDG-Code**

UN number : UN 2504  
Proper shipping name : TETRABROMOETHANE  
  
Class : 6.1  
Packing group : III  
Labels : 6.1  
EmS Code : F-A, S-A  
Marine pollutant : yes

**Transport in bulk according to IMO instruments**

Not applicable for product as supplied.

**National Regulations**

**49 CFR**

UN/ID/NA number : UN 2504  
Proper shipping name : Tetrabromoethane  
  
Class : 6.1

Packing group : III  
Labels : Division 6.1 - Toxic substances  
ERG Code : 159  
Marine pollutant : yes  
Poison Inhalation Hazard : No

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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## SECTION 15. REGULATORY INFORMATION

### CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

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

**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.

### US State Regulations

#### Massachusetts Right To Know

1,1,2,2-tetrabromoethane 79-27-6

#### Pennsylvania Right To Know

1,1,2,2-tetrabromoethane 79-27-6

#### Maine Chemicals of High Concern

Product does not contain any listed chemicals

#### Vermont Chemicals of High Concern

Product does not contain any listed chemicals

#### Washington Chemicals of High Concern

Product does not contain any listed chemicals

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

US TSCA : All substances listed as active on the TSCA inventory

## TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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## SECTION 16. OTHER INFORMATION

### Full text of other abbreviations

|                |   |                                                                                  |
|----------------|---|----------------------------------------------------------------------------------|
| ACGIH          | : | USA. ACGIH Threshold Limit Values (TLV)                                          |
| OSHA Z-1       | : | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| ACGIH / TWA    | : | 8-hour, time-weighted average                                                    |
| OSHA Z-1 / TWA | : | 8-hour time weighted average                                                     |

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); LSPN - List of Hazardous Notified Substances (Chile); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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