

# Material Safety Data Sheet

## 1,1,2,2-Tetrabromoethane, 98%

ACC# 00057

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** 1,1,2,2-Tetrabromoethane, 98%

**Catalog Numbers:** AC180870000, AC180870010, AC180872500

**Synonyms:** Acetylene tetrabromide; TBE.

**Company Identification:**

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

**For information in North America, call:** 800-ACROS-01

**For emergencies in the US, call CHEMTREC:** 800-424-9300

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
79-27-6	1,1,2,2-Tetrabromoethane	98	201-191-5

**Hazard Symbols:** T+

**Risk Phrases:** 26 36 52/53

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: colorless clear liquid. Possible risks of irreversible effects. **Warning!** Causes digestive and respiratory tract irritation. May cause severe skin irritation and possible burns. May cause severe eye irritation and possible injury. May be absorbed through intact skin. May cause liver and kidney damage. May be harmful if swallowed.

**Target Organs:** Kidneys, liver, respiratory system, eyes, nervous system, skin.

#### Potential Health Effects

**Eye:** Contact with eyes may cause severe irritation, and possible eye burns.

**Skin:** Causes moderate skin irritation. May be absorbed through damaged or abraded skin in harmful amounts. Causes symptoms similar to those of inhalation.

**Ingestion:** Harmful if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver and kidney damage.

**Inhalation:** May be fatal if inhaled. Causes respiratory tract irritation. May cause liver and kidney damage. May cause lung damage. May cause drowsiness, unconsciousness, and central nervous system depression. May cause headache, loss of appetite, nausea, fatigue, abdominal pain, darkened urine and jaundice. May cause headache, loss of appetite, nausea, vomiting, fatigue, abdominal pain, darkened urine and jaundice. May cause bilirubinuria, monocytosis, pulmonary edema. Symptoms of overexposure may include anorexia and yellowing of the skin.

**Chronic:** May cause liver and kidney damage. Prolonged or repeated exposure may cause nausea, dizziness, and headache.

### Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Notes to Physician:** Monitor liver function closely.

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated. Runoff from fire control or dilution water may cause pollution.

**Extinguishing Media:** Use water spray to cool fire-exposed containers. Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

**Flash Point:** Not applicable.

**Autoignition Temperature:** 335 deg C ( 635.00 deg F)

**Explosion Limits, Lower:**Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 3; Flammability: 0; Instability: 1

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Use with adequate ventilation. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Use only in a chemical fume hood.

**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from metals. Poison room locked. Store away from alkalies. Separate from oxidizing materials.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
1,1,2,2-Tetrabromoethane	1 ppm TWA	8 ppm IDLH	1 ppm TWA; 14 mg/m <sup>3</sup> TWA

**OSHA Vacated PELs:** 1,1,2,2-Tetrabromoethane: 1 ppm TWA; 14 mg/m<sup>3</sup> TWA

### Personal Protective Equipment

**Eyes:** Wear chemical goggles.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

## Section 9 - Physical and Chemical Properties

**Physical State:** Clear liquid

**Appearance:** colorless

**Odor:** camphor - characteristic odor

**pH:** Not available.

**Vapor Pressure:** < 0.1 mm Hg @ 2

**Vapor Density:** 11.9 (air=1)

**Evaporation Rate:** >100 (ether=1)

**Viscosity:** Not available.

**Boiling Point:** 236 - 238 deg C @ 7

**Freezing/Melting Point:** -1 deg C

**Decomposition Temperature:** > 239 deg C

**Solubility:** Insoluble.

**Specific Gravity/Density:** 2.9670g/cm<sup>3</sup>

**Molecular Formula:** Br<sub>2</sub>CHCHBr<sub>2</sub>

**Molecular Weight:** 345.64

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable.

**Conditions to Avoid:** High temperatures, incompatible materials, excess heat, strong oxidants.

**Incompatibilities with Other Materials:** Strong oxidizers, strong bases, and metals such as aluminum, magnesium, and zinc in the presence of steam. Will attack some forms of plastics, rubber, and coatings.

**Hazardous Decomposition Products:** Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, hydrogen bromide, bromine fumes, carbonyl bromide.

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

### RTECS#:

**CAS#** 79-27-6: KI8225000

### LD50/LC50:

**CAS#** 79-27-6:

Draize test, rabbit, eye: 100 mg Mild;

Draize test, rabbit, skin: 500 mg/24H Moderate;

Inhalation, rat: LC50 = 549 mg/m<sup>3</sup>/4H;

Oral, mouse: LD50 = 269 mg/kg;

Oral, rabbit: LD50 = 400 mg/kg;

Oral, rat: LD50 = 1200 mg/kg;

Skin, rat: LD50 = 5250 mg/kg;

**Carcinogenicity:**

CAS# 79-27-6: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

**Epidemiology:** No information found.

**Teratogenicity:** No information found.

**Reproductive Effects:** No information found.

**Neurotoxicity:** No information found.

**Mutagenicity:** Mutagenic effects have occurred in experimental animals.

**Other Studies:** See actual entry in RTECS for complete information.

## Section 12 - Ecological Information

**Ecotoxicity:** No data available. No information available.

**Environmental:** In water, substance will evaporate. In soil, it will slowly evaporate.

**Physical:** No information available.

**Other:** No information available.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
<b>Shipping Name:</b>	TETRABROMOETHANE				TETRABROMOETHANE
<b>Hazard Class:</b>	6.1				6.1
<b>UN Number:</b>	UN2504				UN2504
<b>Packing Group:</b>	III				III

## Section 15 - Regulatory Information

### US FEDERAL

**TSCA**

CAS# 79-27-6 is listed on the TSCA inventory.

**Health & Safety Reporting List**

None of the chemicals are on the Health & Safety Reporting List.

**Chemical Test Rules**

None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b**

None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**

None of the chemicals in this material have a SNUR under TSCA.

**SARA**

**CERCLA Hazardous Substances and corresponding RQs**

None of the chemicals in this material have an RQ.

**SARA Section 302 Extremely Hazardous Substances**

None of the chemicals in this product have a TPQ.

**SARA Codes**

CAS # 79-27-6: acute, chronic.

**Section 313**

No chemicals are reportable under Section 313.

**Clean Air Act:**

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

**Clean Water Act:**

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**

CAS# 79-27-6 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California No Significant Risk Level: None of the chemicals in this product are listed.

### European/International Regulations

**European Labeling in Accordance with EC Directives**

**Hazard Symbols:**

T+

**Risk Phrases:**

R 26 Very toxic by inhalation.

R 36 Irritating to eyes.  
R 52/53 Harmful to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

**Safety Phrases:**

S 24 Avoid contact with skin.  
S 27 Take off immediately all contaminated clothing.  
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

**WGK (Water Danger/Protection)**

CAS# 79-27-6: No information available.

**Canada - DSL/NDSL**

CAS# 79-27-6 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of D1B, D2B.

**Canadian Ingredient Disclosure List**

CAS# 79-27-6 is listed on the Canadian Ingredient Disclosure List.

**Exposure Limits**

CAS# 79-27-6: OEL-AUSTRALIA:TWA 1 ppm (15 mg/m3) OEL-AUSTRIA:TWA 1 ppm (14 mg/m3) OEL-BELGIUM:TWA 1 ppm (14 mg/m3) OEL-DENMARK:TWA 1 ppm (14 mg/m3) OEL-FINLAND:TWA 1 ppm (14 mg/m3);STEL 3 ppm (42 mg/m3) OEL-FRANCE:TWA 1 ppm (15 mg/m3) OEL-GERMANY:TWA 1 ppm (14 mg/m3) OEL-THE NETHERLANDS:TWA 1 ppm (14 mg/m3) OEL-THE PHILIPPINES:TWA 1 ppm (14 mg/m3) OEL-SWITZERLAND:TWA 1 ppm (14 mg/m3);STEL 2 ppm (28 mg/m3) OEL-TURKEY:TWA 1 ppm (14 mg/m3) OEL-UNITED KINGDOM:TWA 0.5 ppm (7 mg/m3);Skin OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

## Section 16 - Additional Information

**MSDS Creation Date:** 9/02/1997

**Revision #5 Date:** 12/03/2002

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.*