GEOLiquids
15 East Palatine Road, Suite 109
Prospect Heights, IL 60070 USA
www.geoliquids.com
P 847.215.0938
P 800.827.2411
mail@geoliquids.com

SAFETY DATA SHEET
Tetrabromoethane (TBE)

Revised April 2025

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier
Product name: Tetrabromoethane (TBE)
Product codes(s): 421133
Synonym(s): Acetylene tetrabromide; Ethane, 1,1,2,2-tetrabromo; TBE; 1,1,2,2-Tetrabromoethane
REACH Registration Number: No data available

1.2 Relevant identified uses of the substance or mixture and uses advised against
General use: For use in the polymer/polyester fiber industry and for mineral separation
Uses advised against: None known

1.3 Details of the supplier and of the safety data sheet – Manufacturer/Distributor
GeoLiquids, Inc.
15 East Palatine Road, Suite 109
Prospect Heights, IL 60070 USA
847-215-0938 | 800-827-2411

1.4 Emergency telephone number
Call INFOTRAC 1-800-535-5053 | 24 hour emergency

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture
Product definition: Substance
Classification in accordance with 29 CFR 1910 (OSHA HCS)
Eye Irritant - Category 2A [H319]
Acute Toxicity, Inhalation - Category 2 [H330] Aquatic Chronic - Category 3 [H412]

2.2 Label Elements
Hazard Symbol(s):

GH506

Signal Word:	Warning
Hazard Statement(s):	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, vapor or fumes. P264 - Wash hands and other skin areas exposed to material thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P280 + P284 - Wear protective gloves, protective clothing, eye protection and respiratory protection.
[Response]	P304 + P340 + P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or 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. P320 - Specific treatment is urgent: Seek immediate medical attention. Refer to Section 4 of this SDS. P337+ P313 - If eye irritation persists: Get medical attention.
[Storage]	P405 + P403 + P233 - Store locked up and in a well-ventilated place. Keep container tightly closed.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

% by Weight	Ingredient	CAS Number	EC Number	Index Number	GHS Classification
>98,6	Tetrabromoethane	79-27-6	201-191-5	602-016-00-9	H319. H330, H412

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to the health or the environment and hence require reporting in this section.

3.2 Mixtures
Chemical characterization
Not applicable

SECTION 4 - FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: If product mist or vapor causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. Loosen tight fitting clothing such as a collar, tie, belt or waistband. Seek immediate medical attention.

Eyes: Immediately flush eyes with large amounts of water for 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses, if present and easy to do, after the first 2 minutes and continue rinsing. Seek immediate medical attention, preferably from an ophthalmologist.

Skin: Flush skin with large amounts of water while removing contaminated clothing and continue rinsing for at least 15 minutes. Wash contaminated clothing and shoes thoroughly before reuse. If irritation persists, seek medical attention.

Ingestion: Rinse mouth with water if victim is conscious. Remove dentures, if present. Do not induce vomiting unless directed to do so by medical personnel. Give 1 - 2 cupfuls of water to drink if victim is conscious, alert and able to swallow. Never give anything by mouth to an unconscious or convulsing person. Immediately call a POISON CENTER or doctor.

4.2 Most important symptoms and effects, both acute and delayed

Potential health symptoms and effects

Eyes: Causes severe eye irritation with redness, swelling, pain and tearing. Direct eye contact may cause corneal injury.

Skin: Causes skin irritation with redness, itching, discomfort and possible blisters. May be harmful if absorbed through the skin.

Inhalation: Inhalation of mist or vapor causes irritation of the respiratory tract. Symptoms may include irritation of the nose and throat, cough and shortness of breath. Brief exposure effects may last only a few minutes. Causes headache, nausea, loss of appetite and central nervous system depression, resulting in possible respiratory depression. Kidney and severe liver damage have occurred from inhalation of this substance with symptoms such as dark urine and yellow jaundice. Breathing high vapor concentrations, especially in an enclosed area, may cause pulmonary edema and damage to the lungs. Can be fatal if inhaled. Inhalation of toxic quantities can cause narcosis, coma and respiratory paralysis.**Ingestion:** Causes irritation of the gastrointestinal tract with headache, loss of appetite, nausea, vomiting, abdominal pain and diarrhea. Causes central nervous system depression. May have a narcotic effect. Causes damage to the liver and kidneys.

Chronic: Chronic exposure to this substance can cause damage to the liver, kidneys and lungs. Can causes general deterioration of health by an accumulation in one or many human organs.

4.3 Indication of any immediate medical attention and special treatment needed

Advice to Doctor and Hospital Personnel

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishable media

Suitable methods of extinction: Use extinguishing media suitable for the surrounding fire.

Unsuitable methods of extinction: Water jets and high pressure streams may spread the fire.

5.2 Special hazards arising from the substance or mixture

Combustible liquid at high temperatures. Closed containers may explode due to the buildup of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Obtain medical attention.

Explosion hazards: Not considered to be an explosion hazard.

5.3 Advice for firefighters

Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. If possible, water contaminated by this material should be contained from being discharged to any waterway, sewer or drain to prevent environmental contamination.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate non-essential personnel. Wear all appropriate protective equipment designated in Section 8. DO NOT breathe vapors or aerosols. Ventilate the area. Do not get material on skin or clothing.

6.2 Environmental precautions

Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, sewers or waterways.

6.3 Methods and materials for containment and cleaning up

Cover drains and contain spill. Cover spill with a large quantity of inert absorbent. Do not use combustible material such as sawdust. Shovel or sweep up material and place into an approved container for proper disposal. Observe possible restrictions (Sections 7.2 and 10.5). Do not allow material or runoff from rinsing contaminated areas to enter floor drains or storm drains and ditches which lead to waterways. Dispose of according to state and federal regulations.

6.4 Reference to other sections

See Section 13 for additional waste treatment information.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling

Wear all appropriate personal protective equipment specified in Section 8. Do not get in eyes or on skin or clothing. DO NOT breathe vapors or If aerosols. If normal use of this material presents a respiratory hazard, use only adequate ventilation or wear an appropriate respirator. Wash contaminated clothing and shoes before reuse.

Advice on protection against fire and explosion: Material does not present a fire or explosion hazard.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10.5), food and drink. Transfer only to approved containers having correct labeling. Keep containers tightly closed. Protect container against physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Containers of this material may be hazardous when empty as they may retain product residues. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Do not take internally. Keep out of reach of children.

7.3 Specific end uses

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

CAS Number	Ingredient	OSHA PEL	ACGIH TLV	NIOSH
79-27-6	Tetrabromoethane	1 ppm, 14 mg/m3 TWA	0.1 ppm TWA	–

8.2 Exposure controls

Engineering Measures: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to Section 7.1 for additional data.

Individual protection measures: Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

Hygiene measures: Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking or using the lavatory.

Eye/face protection: Wear protective goggles or safety glasses with non-perforated side shields and a face shield. Refer to 29 CFR 1910.133, ANSI Z87.4 or Standard EN 166.

Hand Protection: Wear gloves recommended by glove supplier for protection against materials in Section 3. Gloves should be impermeable to chemicals and oil. Breakthrough time of gloves must be greater than the intended use period.

Other protective equipment: Protective clothing. Protective boots, if the situation requires.

Respiratory Protection: Always use an approved respirator when vapor/aerosols are generated. Where risk assessment shows air-purifying respirators are appropriate use a full-faced 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).

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Clear, colorless to pale yellow liquid
Odor	Sweet, pungent
Odor Threshold	No data available
Molecular Weight	345.65 g/mol
Chemical Formula	C2H2Br4
pH	No data available
Freezing/Melting Point, Range	0 - 2 °C (32 - 35.6 °F)
Initial Boiling Point	119 °C (246 °F) @ 15 mm Hg; 150 °C (302 °F) @ 150 mm Hg
Evaporation Rate	No data available
Flammability (solid, gas)	Not applicable
Flash Point	No data available
Autoignition Temperature	335 °C (635 °F)
Decomposition Temperature	239 °C (462 °F)
Lower Explosive Limit (LEL)	No data available
Upper Explosive Limit (UEL)	No data available
Vapor Pressure	0.04 mm Hg @ 24 °C
Vapor Density	11.92 (Air = 1)
Specific Gravity	2.96
Viscosity	No data available
Solubility in Water	0.063 g/100 ml @ 20 °C
Partition Coefficient: n-octanol/water	log Kow = 2.55 (calculated)
Volatiles by Volume @ 21 °C	No data available

9.2 Other data

No data available

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

No specific test data related to reactivity is available for this product.

10.2 Chemical stability
This product is stable under recommended storage conditions, handling and use.

10.3 Possibility of hazardous reactions
Possible risk of explosive reaction with alkali and alkaline earth metals, sodium amide and powdered metals. Hazardous polymerization does not occur.

10.4 Conditions to avoid
Temperature extremes; contact with incompatible materials; direct sunlight; avoid contact with most plastics and rubbers

10.5 Incompatible materials
Iron, rubber, various plastics, powdered metals, active metals, zinc

10.6 Hazardous decomposition products
Hazardous thermal decomposition products include hydrogen bromide, bromine and carbonyl bromide.

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Oral Toxicity
LD50, rat: 1,200 mg/kg

Acute inhalation toxicity
LC50, rat: 549 mg/m3, 4 h

Acute dermal toxicity
LD50, Rat: >5,250 mg/kg

Skin irritation/corrosion
Causes skin irritation

Eye irritation/corrosion
Causes serious eye irritation

Sensitization
No data available

Genotoxicity in vitro
No data available

Mutagenicity
No data available

Specific organ toxicity - single exposure
No data available

Specific organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Further information
This material is not listed as a carcinogen by IARC, ACGIH, NTP or OSHA. No data is available regarding the mutagenicity or teratogenicity of this material in humans, nor is there available data that indicates that it causes adverse developmental or fertility effects in humans. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity
Harmful to aquatic life with long lasting effects
Acute and prolonged toxicity to fish: LC100 - Carassius auratus (Goldfish): 20 mg/l

12.2 Persistence and degradability
Not readily biodegradable

12.3 Bioaccumulation potential
Bioaccumulation potential is low.

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
No data available

12.6 Other adverse effects
Additional ecological information
Do not allow material to run into surface waters, wastewater or soil.
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 14 - TRANSPORT INFORMATION

Note: Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

US DOT (Domestic Ground Transportation)

Proper Shipping Name:	Tetrabromoethane
Hazard Class:	6.1
UN/NA:	UN2504

Packing Group:	III
NAERG:	Guide #159
Packaging Authorization:	Non-Bulk: 49 CFR 173.203; Bulk: 173.241
Packaging Exceptions:	49 CFR 173.153

IMO/IMDG (Water Transportation)

Proper Shipping Name:	Tetrabromoethane
Hazard Class:	6.1
UN/NA:	UN2504
Packing Group:	III
Marine Pollutant:	YES
EMS Number:	F-A, S-A

ICAO/IATA (Air Transportation)

Proper Shipping Name:	Tetrabromoethane
Hazard Class:	6.1
UN/NA:	UN2504
Packing Group:	III
Quantity Limitations:	49 CFR 175.27 and 175.75 - Cargo Aircraft Only: 220 l; Passenger Aircraft/rail: 60 l

RID/ADR (Rail Transportation)

Proper Shipping Name:	Tetrabromoethane
Hazard Class:	6.1
UN/NA:	UN2504
Packing Group:	III

SECTION 15 - REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for substance or mixture

U. S. Federal Regulations

OSHA Hazard Communication Standard: This material is classified as hazardous in accordance with OSHA 29 CRF 1910.1200.
OSHA Process Safety Management Standard: This material is not regulated under OSHA PSM Standard 29 CFR 1910.119.
EPA Risk Management Planning Standard: This substance is not regulated under EPA RMP Standard (RMP) 40 CFR Part 68.
EPA Federal Insecticide, Fungicide and Rodenticide Act: This product is not a registered Pesticide under the FIFRA, 40 CFR Part 150.
TSCA Status: Tetrabromoethane (CAS #79-27-6) is listed on the TSCA Inventory. It is not subject to TSCA 12(b) Export Notification.
Superfund Amendments and Reauthorization Act (SARA)
SARA 313 Information: This substance is not subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986.
SARA Section 311/312 Hazard Categories: Acute Health Hazard, Chronic Health Hazard
SARA 302/304 Extremely Hazardous Substance: None of the chemicals in this product are subject to reporting requirements of these sections of Title III of SARA.
SARA 302/304 Emergency Planning & Notification: None of the chemicals in this product are subject to reporting requirements of these sections of Title III of SARA.
Comprehensive Response Compensation and Liability Act (CERCLA): Tetrabromoethane is not a CERCLA reportable substance.
Clean Air Act (CAA)
This product does not contain any substances that listed as Hazardous Air Pollutants (HAPs) designated in CAA Section 112 (b). This product does not contain any Class 1 Ozone depletors.
This product does not contain any Class 2 Ozone depletors.
Clean Water Act (CWA)
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.
U.S. State Regulations
California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986:
This product contains no chemical(s) known to the State of California to cause cancer, birth defects or other reproductive harm.
Other U.S. State Inventories:
Tetrabromoethane (CAS #79-27-6) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/ Air Pollutants lists: CA, ID, ME, MA, MN, NJ, PA, RI, WA.
Canada
WHMIS Hazard Symbol and Classification

D1B - Toxic material causing immediate and serious toxic effects
D2A - Very toxic material causing other toxic effects

Canadian National Pollutant Release Inventory (NPRI): Tetrabromoethane (CAS #79-27-6) is not listed on the NPRI.
European Economic Community
Labeling (67/548/EEC or 1999/45/EC)

T+ - Very toxic

Risk Phrases:
R26 - Very toxic by inhalation
R36 - Irritating to eyes.
R52/53 - Harmful to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S1/2 - Keep locked up and out of reach of children.
S23 - Avoid contact with skin.
S27 - Take off immediately all contaminated clothing.
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label or this SDS whenever possible).
S61 - Avoid release to the environment. Refer to safety data sheet.

WGK, Germany (Water danger/protection): No data available

Global Chemical Inventory Lists

Country	Inventory Name	Inventory Listing*
Canada	Domestic Substance List (DSL)	Yes
Canada	Non-Domestic Substance List (NDSL)	No
Europe	Inventory of New and Existing Chemicals (EINECS)	Yes
United States	Toxic Substance Control Act (TSCA)	Yes
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

*"Yes" indicates that all components of this product are in compliance with the inventory requirements administered by the governing country.
*"No" indicates that one or more components of this product are not on the inventory and are not exempt from listing.

15.2 Chemical safety assessment

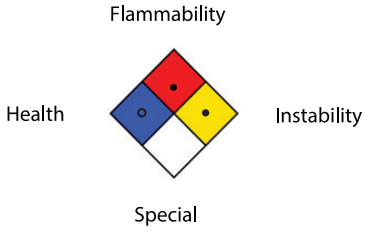
For this product a chemical safety assessment was not carried out.

SECTION 16 - OTHER INFORMATION

Hazardous Material Information System (HMIS)

HMIS & NFPA Hazard Rating Legend
* = Chronic Health Hazard
0 = INSIGNIFICANT
1 = SLIGHT
2 = MODERATE
3 = HIGH
4 = EXTREME

National Fire Protection Association (NFPA)



The information herein is given in good faith and is believed to be accurate and correct; however, no warranty, expressed or implied, is made. GeoLiquids, Inc., assumes no responsibility for personal injury or property damage that may arise from the use of this material since the conditions of handling and use are beyond our control. It is the responsibility of the user to determine the suitability of this information for the adoption of the safety precautions as may be necessary. It is the responsibility of the user to comply with all Federal, State and local laws and regulations regarding use of this product. Vendees or users assume all risks associated with the use of this material. We reserve the right to revise Safety Data Sheets from time to time as new technical information becomes available. The user has the responsibility to contact the company to make sure that the Safety Data Sheet is the latest issue.

Revised April 2025

SDS Prepared by:
GeoLiquids, Inc.
15 East Palatine Road, Suite 109
Prospect Heights, IL 60070 USA
847-215-0938 | 800-827-2411