


<b>MSDS</b> <b>Material Safety Data Sheet</b>		24 Hour Emergency Telephone: 908-859-2151 CHEMTREC: 1-800-424-9300
From: Mallinckrodt Baker, Inc. 222 Red School Lane Phillipsburg, NJ 08865		National Response in Canada CANUTEC: 613-996-6666
 <b>J.T. Baker</b>		Outside U.S. and Canada Chemtrec: 703-527-3887
NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.		
All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.		

## 1, 1, 2, 2-TETRABROMOETHANE

### 1. Product Identification

**Synonyms:** Tetrabromoethane; acetylene tetrabromide; TBE; Muthmanns Liquid.  
**CAS No.:** 79-27-6  
**Molecular Weight:** 345.70  
**Chemical Formula:** Br<sub>2</sub>CHCHBr<sub>2</sub>  
**Product Codes:**  
J.T. Baker: 9443, V323  
Mallinckrodt: 1957

### 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Acetylene Tetrabromide	79-27-6	90 - 100%	Yes

### 3. Hazards Identification

#### Emergency Overview

**DANGER! MAY BE FATAL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. MAY AFFECT LIVER, KIDNEYS, LUNGS AND CENTRAL NERVOUS SYSTEM.**

**SAF-T-DATA<sup>(tm)</sup>** Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Poison)  
Flammability Rating: 1 - Slight  
Reactivity Rating: 1 - Slight  
Contact Rating: 2 - Moderate (Life)  
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES  
Storage Color Code: Blue (Health)

#### Potential Health Effects

Vapors of tetrabromoethane are extremely damaging to the liver. Workers should have a preplacement and annual physical examination stressing liver function.

#### Inhalation:

Toxic. Vapors are irritating to mucous membranes and respiratory tract. May cause headache, loss of appetite, nausea, abdominal pain, kidney, liver and lung damage. Symptoms of liver damage are dark urine and jaundice. Inhalation of high concentrations may affect the central nervous system and have a narcotic effect.

#### Ingestion:

Highly toxic by ingestion. Symptoms may parallel those from inhalation.

#### Skin Contact:

Causes irritation to skin. Symptoms include redness, itching, and pain. May cause dermatitis. May be absorbed through the skin with possible systemic effects. Prolonged exposure may cause blistering especially if it gets in shoes or underneath clothes.

#### Eye Contact:

Causes irritation, redness, and pain.

#### Chronic Exposure:

Chronic exposure may affect liver, kidney, and lungs.

**Aggravation of Pre-existing Conditions:**

Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.

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## 4. First Aid Measures

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Ingestion:**

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Skin Contact:**

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse. Thoroughly clean shoes before reuse.

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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## 5. Fire Fighting Measures

**Fire:**

Autoignition temperature: 335C (635F)

Not considered to be a fire hazard.

**Explosion:**

Not considered to be an explosion hazard.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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## 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer!

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

**Airborne Exposure Limits:**

–OSHA Permissible Exposure Limit (PEL):

1 ppm (TWA)

–ACGIH Threshold Limit Value (TLV):

0.1 ppm (TWA) inhalable fraction and vapor

– NIOSH Immediately Dangerous to Life or Health (IDLH): 8 ppm

**Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

**Personal Respirators (NIOSH Approved):**

If the exposure limit is exceeded and engineering controls are not feasible, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus. Breathing air quality must meet the requirements of the OSHA respiratory protection standard (29CFR1910.134).

**Skin Protection:**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Eye Protection:**

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

**Appearance:**

Colorless to yellowish liquid.

**Odor:**

Sweet pungent odor.

**Solubility:**

Insoluble in water.

**Specific Gravity:**

2.967 @ 20C/4C

**pH:**

No information found.

**% Volatiles by volume @ 21C (70F):**

100

**Boiling Point:**

135 - 244C (275 - 471F)

**Melting Point:**

-1 - 1C (30 - 34F)

**Vapor Density (Air=1):**

11.9

**Vapor Pressure (mm Hg):**

0.02-0.1 @ 20C (68F)

**Evaporation Rate (BuAc=1):**

> 1.00

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## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage. Not combustible, but decomposes at 190C (374F) to release flammable and highly toxic vapors.

**Hazardous Decomposition Products:**

When heated, emits highly toxic fumes of bromine, hydrogen bromide and carbonyl bromide.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Incompatible with oxidizers, caustics, alkalis, hot iron, and reducing metals such as aluminum, magnesium, and zinc in the presence of steam. Softens or destroys most plastics and rubber.

**Conditions to Avoid:**

Heat, flames, ignition sources and incompatibles.

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## 11. Toxicological Information

Oral rat LD50: 1200 mg/kg; inhalation rat LC50: 549 mg/m3/4H; skin rat LD50: 5250 mg/kg; investigated as a mutagen, tumorigen.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Acetylene Tetrabromide (79-27-6)	No	No	None

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## 12. Ecological Information

**Environmental Fate:**

When released into the soil, this material may evaporate to a moderate extent. When released into water, this material is not expected to biodegrade. When released into water, this material may evaporate to a moderate extent. When released into the water, this material is expected to have a half-life of less than 1 day. This material is not expected to significantly bioaccumulate.

**Environmental Toxicity:**

No information found.

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## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and

local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

### Domestic (Land, D.O.T.)

**Proper Shipping Name:** TETRABROMOETHANE  
**Hazard Class:** 6.1  
**UN/NA:** UN2504  
**Packing Group:** III  
**Information reported for product/size:** 500ML

### International (Water, I.M.O.)

**Proper Shipping Name:** TETRABROMOETHANE  
**Hazard Class:** 6.1  
**UN/NA:** UN2504  
**Packing Group:** III  
**Information reported for product/size:** 500ML

### International (Air, I.C.A.O.)

**Proper Shipping Name:** TETRABROMOETHANE  
**Hazard Class:** 6.1  
**UN/NA:** UN2504  
**Packing Group:** III  
**Information reported for product/size:** 500ML

## 15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
Acetylene Tetrabromide (79-27-6)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----				
Ingredient	Korea	Canada DSL	NDSL	Phil.
Acetylene Tetrabromide (79-27-6)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302- RQ	TPQ	-SARA 313- List	Chemical Catg.
Acetylene Tetrabromide (79-27-6)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----			
Ingredient	CERCLA	-RCRA- 261.33	-TSCA- 8(d)
Acetylene Tetrabromide (79-27-6)	No	No	No

Chemical Weapons Convention: No    TSCA 12(b): No    CDTA: No  
SARA 311/312: Acute: Yes    Chronic: Yes    Fire: No    Pressure: No  
Reactivity: No    (Pure / Liquid)

**Australian Hazchem Code:** 2[Z]

**Poison Schedule:** None allocated.

### WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: 3    Flammability: 0    Reactivity: 1

### Label Hazard Warning:

DANGER! MAY BE FATAL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. MAY AFFECT LIVER, KIDNEYS, LUNGS AND CENTRAL NERVOUS SYSTEM.

### Label Precautions:

Do not breathe vapor.  
Avoid contact with eyes, skin and clothing.  
Keep container closed.  
Use only with adequate ventilation.  
Wash thoroughly after handling.

**Label First Aid:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In all cases get medical attention immediately.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

No Changes.

**Disclaimer:**

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