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THE POWER OF THREE³
PHARMCO-AAPER
AND COMMERCIAL ALCOHOLS

Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300

MATERIAL SAFETY DATA SHEETS

Manufacturer: PHARMCO-AAPER
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1,1,2,2-Tetrabromoethane

1. CHEMICAL PRODUCT IDENTIFICATION

Product Name: 1,1,2,2-Tetrabromoethane
Synonyms: Tetrabromoethane; Acetylene Tetrabromide;TBE; Muthmanns Liquid.
Molecular Formula: $\text{Br}_2\text{CHCHBr}_2$
Molecular Weight: 345.67

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No	Percent	Hazardous
1,1,2,2-Tetrabromoethane	79-27-6	99 - 100%	Yes

3. HAZARDS IDENTIFICATION

WARNING! 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.

Risk of cancer depends on level and duration of exposure.

NFPA Hazard Ratings: Health - 3, Flammability - 0, Reactivity - 1

NOTE: NFPA ratings involve data and interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

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.

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.

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.

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!

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL): 1 ppm (TWA)

-ACGIH Threshold Limit Value (TLV): 1 ppm (TWA)

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, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus.

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.

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

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.

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.

Ingredient	-----NTP Carcinogen-----		
	Known	Anticipated	IARC Category
1,1,2,2-Tetrabromoethane (79-27-6)	No	No	None

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 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.

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

International (Water, I.M.O.)
Proper Shipping Name: TETRABROMOETHANE

