



AccuStandard[®], Inc.

125 Market St., New Haven, CT 06513 USA

Tel: 203-786-5290 Fax: 203-786-5287

SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 - Product Identifiers

Catalog Name: B-077N

Description: 3,3',4,4'-Tetrabromobiphenyl

CAS No.: 77102-82-0

1.2 - Relevant Identified Uses of the Substance or Mixture

Laboratory Chemical Reference Material

1.3 - Supplier Details

Company: AccuStandard, Inc.
125 Market St.
New Haven, CT 06513 USA

Telephone Number: 203-786-5290

Fax: 203-786-5287

Email: edocs@accustandard.com

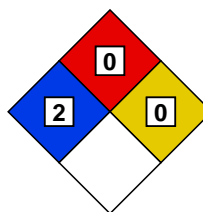
1.4 - Emergency Telephone Number

Emergency Phone #: AccuStandard, Inc.
1-203-502-7070 (USA)
+001-203-502-7070 (International)

24 hours / 7 days a week

SECTION 2 - HAZARDS IDENTIFICATION

2.1 - GHS Label Elements



2	HEALTH
0	FLAMMABILITY
0	PHYSICAL HAZARD

Signal Word: Warning

Hazard Codes:

H315 - Irritating to skin. (Skin corrosion/irritation, category 2)

H320 - Irritating to eyes. (Eye damage/irritation, category 2B)

H335 - May be irritating to mucous membrane and upper respiratory system. (Specific target organ toxicity, single exposure; Respiratory tract irritation, category 3)

H360, H350 - California Proposition 65 Warning: This product contains a component (or components) that may cause cancer and genetic effects in a concentration greater than or equal to 0.1%.

H371 - May cause kidney and liver damage. (Specific target organ toxicity, single exposure, category 2)

H413 - May cause long-term adverse effects in the aquatic environment.

Precautionary Codes:

P202 - This product should only be used by persons trained in the safe handling of hazardous chemicals.

SECTION 2 - HAZARDS IDENTIFICATION - continued**2.1 - GHS Label Elements** - continued

P233 - Store in a tightly closed container. (P404)

P260 - Do not breathe dust.

P262 - Do not get in eyes, on skin or clothing.

P264 - Wash thoroughly after handling. Do not take internally. Eye wash and safety equipment should be readily available.

P284 - Respiratory Protection: If workplace exposure limit(s) of product or any component is exceeded (see TLV/PEL), or a risk assessment shows air-purifying respirators are appropriate, use of a NIOSH/MSHA approved air supplied respirator is advised. Use a full-face respirator with multi-purpose combination (US) or type ABEK (EN14387) respirator cartridges in absence of proper environmental control. Always use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Engineering and/or administrative controls should be implemented to reduce exposure.

P338 - Eye contact: Immediately flush with plenty of water. After initial flushing, remove and contact lenses and continue flushing for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers.

P360 - Skin contact: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

2.2 - Other Hazards**2.2.1 - Symptom of Exposure Health/Environment**

May cause kidney and liver damage. (Specific target organ toxicity, single exposure, category 2)

Environmental hazard.

May cause long-term adverse effects in the aquatic environment. (H413)

2.2.2 - Potential Health Effects

Irritating to eyes. (Eye damage/irritation, category 2B)

Irritating to skin. (Skin corrosion/irritation, category 2)

May be irritating to mucous membrane and upper respiratory system. (Specific target organ toxicity, single exposure; Respiratory tract irritation, category 3)

May be harmful if absorbed through the skin. (Acute toxicity, dermal, category 5)

May be harmful if inhaled. (Acute toxicity, inhalation, category 5)

May be harmful if swallowed. (Acute toxicity, oral, category 5)

2.2.3 - Routes of Entry

Inhalation, ingestion or skin contact.

2.2.4 - Carcinogenicity

California Proposition 65 cancer hazard.

California Proposition 65 Warning: This product contains a component (or components) that may cause cancer and genetic effects in a concentration greater than or equal to 0.1%.

SECTION 3 - COMPOSITION / ANALYTES DATA

Description: 3,3',4,4'-Tetrabromobiphenyl

Synonyms: 3,3',4,4'-Tetrabromobiphenyl; 3,3',4,4'-Tetrabromo-1,1'-biphenyl

Molecular Weight: 469.79

Molecular Formula: C₁₂H₆Br₄

SECTION 3 - COMPOSITION / ANALYTES DATA - continued

Analyte	CAS #	% Concentration	ACGIH -TLV (mg/m ³)			OSHA -PEL (mg/m ³)		
			TWA	STEL	Skin	TWA	STEL	Skin
3,3',4,4'-Tetrabromobiphenyl	77102-82-0	100.000						

SECTION 4 - FIRST AID MEASURES**4.1 - First Aid Procedures - General**

Get medical assistance for all cases of overexposure.

4.2 - Eye Contact

Eye contact: Immediately flush with plenty of water. After initial flushing, remove and contact lenses and continue flushing for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. (P338)

4.3 - Skin Contact

Skin contact: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse. (P360)

4.4 - Inhalation

Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

4.5 - Ingestion

Ingestion: Drink water and induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

SECTION 5 - FIRE FIGHTING MEASURES**5.1 - Flammable Properties**

During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

5.2 - Extinguishing Media

Use alcohol foam, carbon dioxide, dry chemical, or water spray when fighting fires involving this material.

5.3 - Protection of Firefighters

As in any fire, wear self-contained breathing apparatus pressure demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6 - ACCIDENTAL RELEASE MEASURES**6.1 - Spill Response**

Wear suitable protective equipment listed under Exposure Controls / Personal Protection. Eliminate any ignition sources until the area is determined to be free from explosion or fire hazards. Contain the release and eliminate its source, if this can be done without risk. Dispose as hazardous waste. Comply with Federal, State and local regulations.

SECTION 7 - HANDLING AND STORAGE

Store in a tightly closed container. (P404)

Store in a cool area away from ignition sources and oxidizers.

Do not breathe dust. (P260)

Use with adequate ventilation.

SECTION 7 - HANDLING AND STORAGE - continued

Do not get in eyes, on skin or clothing. (P262)

Avoid prolonged or repeated exposure.

This product should only be used by persons trained in the safe handling of hazardous chemicals. (P202)

SECTION 8 - EXPOSURE CONTROLS**8.1 - Engineering Controls/PPE**

Wash thoroughly after handling. Do not take internally. Eye wash and safety equipment should be readily available. (P264)

8.2 - General Hygiene Considerations

Respiratory Protection: If workplace exposure limit(s) of product or any component is exceeded (see TLV/PEL), or a risk assessment shows air-purifying respirators are appropriate, use of a NIOSH/MSHA approved air supplied respirator is advised. Use a full-face respirator with multi-purpose combination (US) or type ABEK (EN14387) respirator cartridges in absence of proper environmental control. Always use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Engineering and/or administrative controls should be implemented to reduce exposure.

Material must be handled or transferred in an approved fume hood or with equivalent ventilation.

Compatible chemical-resistant protective gloves must be worn to prevent skin contact. Inspect gloves prior to use. Use proper glove removal technique to avoid contact with product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash hands thoroughly and dry.

Use eye protection tested and approved under the appropriate government standards such as NIOSH (US) or EN 166 (EU).

All recommendations are advisory only and must be evaluated by an industrial hygienist and/or safety officer familiar with the specific situation of anticipated use, such as concentration and amount of the substance in the workplace. Any recommendation should not be construed as offering an approval for any specific use of the product.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White crystalline solid

Odor: N/A

Odor Threshold: N/A

pH: N/A

Melting Point: 168 - 170 °C

Boiling Point: N/A

Flash Point: N/A

Evaporation Rate (Butyl Acetate=1): N/A

Flammability Class: N/A

Lower Flammability Level: N/A

Upper Flammability Level: N/A

Vapor Pressure: N/A

Vapor Density (Air = 1): N/A

Specific Gravity: N/A

Solubility in Water: Insoluble

Partition Coefficient: N/A

Autoignition Temperature: N/A

Decomposition Temperature: N/A

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES - continued

Viscosity: N/A
VOC Content: N/A
Percent Volatile: N/A

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable
Materials to Avoid: Oxidizers
Hazardous Decomposition: Carbon oxides; Hydrogen bromide
Hazardous Polymerization: Will not occur
Condition to Avoid: None indicated

SECTION 11 - TOXICOLOGICAL INFORMATION**Human Health Toxicity**

See section 2 for specific toxicological information for the ingredients of this product.

LD50 (Oral): N/A
LD50 (Dermal) : N/A
LC50 (Inhalation): N/A

Gastrointestinal absorption of PBBs varies according to the degree of bromination, the lower brominated compounds being more easily absorbed. Toxicology is affected by the number and position of the bromine atoms, as substitution in the ortho position hinders the rotation of the rings.

WARNING: This product contains chemical(s) known to the state of California to cause cancer and to cause birth defects or other reproductive harm.

No other information related to the toxicological properties of this product is available at this time.

SECTION 12 - ECOLOGICAL INFORMATION**Environmental Toxicity**

By complying with sections 6 and 7 there should be no release to the environment.

LC50 (Fish): N/A
EC50 (Aquatic Invertebrate): N/A
BCF: N/A

All available data indicate that PBBs have a marked tendency to bioaccumulate and persist.

No other information related to the ecological properties of this product is available at this time.

SECTION 13 - DISPOSAL CONSIDERATIONS

Recycle or incinerate at any EPA approved facility or dispose in compliance with Federal, State and local regulations. Empty containers must be triple-rinsed prior to disposal.

SECTION 14 - TRANSPORT INFORMATIONTransportation Information (DOT/IATA)

UN Number: UN3152
Class: 9

SECTION 14 - TRANSPORT INFORMATION - continued

Packing Group: II

Proper Shipping Name: Polyhalogenated biphenyls, solid

Poison by Inhalation: No

Marine Pollutant: No

SECTION 15 - REGULATORY INFORMATION

WARNING: This product contains chemical(s) known to the state of California to cause cancer and to cause birth defects or other reproductive harm.

The CAS number of this product is NOT listed on the TSCA Inventory.

For laboratory, research and development use only. Not for manufacturing or commercial purposes.

In addition to federal and state regulations, local regulations may apply. Check with your local regulatory authorities.

SECTION 16 - OTHER INFORMATION

This document has been designed to meet the requirements of OSHA, ANSI, GHS and CHIPs regulations. Chemicals are classified using the Globally Harmonized System for Classification and Labeling of Chemicals.

The statements contained herein are offered for informational purposes only and are based on technical data that we believe to be accurate. The manufacturer will not assume any liability for the accuracy and completeness of this information. Final determination of the suitability of the material is the responsibility of the user. Although certain hazards are described herein, the user should not presume that these are the only hazards that exist. Since conditions and manner of use are outside of the manufacturers control, we make

NO WARRANTY OF MERCHANTABILITY, EXPRESSED OR IMPLIED, AND ASSUME NO LIABILITY RESULTING FROM ITS USE.

Legend : N/A = Not Available ND = Not Determined NR = Not Regulated

Alteration of any information contained herein without written permission from the manufacturer is strictly prohibited.

HMIS/NFPA HAZARD INDEX

- 0 - Minimal
- 1 - Slight
- 2 - Moderate
- 3 - Serious
- 4 - Severe

* - Additional Hazard

GHS HAZARD INDEX

- Category 1 - Most Severe
- Category 5 - Least Severe

**** End of Document ****