



AccuStandard[®], Inc.

125 Market St., New Haven, CT 06513 USA

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

Emergency Contact Information:

AccuStandard, Inc.

1-203-786-5290

Hours: Monday to Friday 8:00am to 5:00pm EST

SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 - Product Identifiers

Catalog Name: P-150N

Description: DEF 6

CAS No.: 78-48-8

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

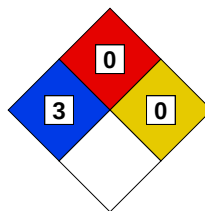
Email: edocs@accustandard.com

1.4 - Emergency Telephone Number

Emergency Phone #: AccuStandard, Inc.
1-203-786-5290
Hours: Monday to Friday 8:00am to 5:00pm EST

SECTION 2 - HAZARDS IDENTIFICATION

2.1 - GHS Label Elements



3	HEALTH
0	FLAMMABILITY
0	PHYSICAL HAZARD

Signal Word: Danger

Hazard Codes:

- H301 - Toxic if swallowed. (Acute toxicity, oral, category 3)
- H311 - Toxic if absorbed through skin. (Acute toxicity, dermal, category 3)
- H315 - Irritating to skin. (Skin corrosion/irritation, category 2)
- H319 - Causes severe eye irritation. (Eye damage/irritation, category 2A)
- H332 - Harmful if inhaled. (Acute toxicity, inhalation, category 4)
- H401 - Toxic to fish and other water organisms.
- 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.
- P235 - Store in a cool dry place.
- P260 - Do not breathe vapor.

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

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.

P280 - Protective gloves must be worn to prevent skin contact.

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.

P404 - Store in a tightly closed container.

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

May cause headache, dizziness, nausea, vomiting, general malaise, muscle twitching, and convulsions.

Cholinesterase inhibitor. Can cause heavy salivation and secretion in the lungs, lachrymation, blurred vision, involuntary defecation, diarrhea, tremor, ataxia, sweating, hypothermia, lowered heart rate and/or a fall in blood pressure.

Symptoms of neurotoxicity may include weakness, tremors, staggered walk or paralysis.

Bioaccumulation of this chemical may occur. It is strongly advised that this substance does not enter the environment.

Toxic to fish and other water organisms. (H401)

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

2.2.2 - Potential Health Effects

Causes severe eye irritation. (Eye damage/irritation, category 2A)

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

Toxic if absorbed through skin. (Acute toxicity, dermal, category 3)

Irritating to mucous membrane and upper respiratory system.

Harmful if inhaled. (Acute toxicity, inhalation, category 4)

Toxic if swallowed. (Acute toxicity, oral, category 3)

2.2.3 - Routes of Entry

Inhalation, ingestion or skin contact.

2.2.4 - Carcinogenicity

This product is or contains a component that is not listed (ACGIH, IARC, NTP, OSHA) as a cancer causing agent.

SECTION 3 - COMPOSITION / ANALYTES DATA

Description: DEF 6

Synonyms: S,S,S-tributyl phosphorotrithioate

Molecular Weight: 314.54

Molecular Formula: C12H27OPS3

SECTION 3 - COMPOSITION / ANALYTES DATA - continued

EC#: 201-120-8

Analyte	CAS Number	% Concentration	ACGIH -TLV (mg/m ³)			OSHA -PEL (mg/m ³)		
			TWA	STEL	Skin	TWA	STEL	Skin
DEF 6	78-48-8	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: Call a physician or poison control center immediately. ONLY induce vomiting at the instructions of a physician. Never give anything by mouth to an unconscious person.

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 dry place. (P235)

Do not breathe vapor. (P260)

Use with adequate ventilation. (P271)

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 should be handled or transferred in an approved fume hood or with adequate ventilation.

Protective gloves must be worn to prevent skin contact. (P280)

(Butyl, viton or equivalent)

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: Colorless to pale yellow liquid

Odor: Mercaptan-like odor

Odor Threshold: N/A

pH: N/A

Melting Point: <-25 °C

Boiling Point: 410 °F / 210 °C

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: 0.35 mPa (20 °C)

Vapor Density (Air = 1): N/A

Specific Gravity: 1.057 g/cm³

Solubility in Water: 2.3 mg/L

Partition Coefficient: log K_{ow}: 3.23

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: Bases
Oxidizers

Hazardous Decomposition: Oxides of carbon, phosphorous and sulfur; Hydrogen sulfide

Hazardous Polymerization: Will not occur

Condition to Avoid: Excessive heat

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

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

LD50 (Oral): Rat - 234 mg/kg

LD50 (Dermal) : Rat - 850 mg/kg

LC50 (Inhalation): Rat - 2.46 mg/L

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): 0.31 mg/L - 96H

EC50 (Aquatic Invertebrate): 0.007 mg/L - 48H

BCF: 1084 - Threshold for concern
Moderate potential to bioaccumulate

Marine pollutant

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 INFORMATION**Transportation Information (DOT/IATA)**

UN Number: UN2810

UN Shipping Class: 6.1

UN Packing Group: III

UN Proper Shipping Name: Toxic liquid, organic, n.o.s. (1,2,4-Tributylphosphorotrithioate)

Poison by Inhalation: No

SECTION 14 - TRANSPORT INFORMATION - continued

Marine Pollutant: Yes

SECTION 15 - REGULATORY INFORMATION

The CAS number of this product is listed on the TSCA Inventory.

This product is subject to SARA section 313 reporting requirements.

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.

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 ****