



# AccuStandard<sup>®</sup>, Inc.

125 Market St., New Haven, CT 06513 USA

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

## SAFETY DATA SHEET

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### **SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

#### **1.1 - Product Identifiers**

Catalog Name: X-010

Description: 3,3',4,4'-Tetrachloroazoxybenzene

CAS No.: 21232-47-3

#### **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)  
1-203-502-7070 (International)

24 hours / 7 days a week

### **SECTION 2 - HAZARDS IDENTIFICATION**

#### **2.1 - GHS Label Elements**



**Signal Word: Warning**

#### **Hazard Codes:**

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

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

#### **Precautionary Codes:**

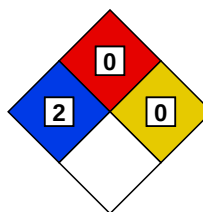
P202 - This product should only be used by persons trained in the safe handling of hazardous chemicals.

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

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.



|   |                 |
|---|-----------------|
| 2 | HEALTH          |
| 0 | FLAMMABILITY    |
| 0 | PHYSICAL HAZARD |

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

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.

P310 - Ingestion: Call a physician or poison control center immediately. If conscious, give water freely.

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.

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

Harmful.

May cause blood disorders. (Specific target organ toxicity - single exposure), Category 2

**2.2.2 - Potential Health Effects**

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

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

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

Irritating to mucous membrane and upper respiratory system.

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**

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: 3,3',4,4'-Tetrachloroazoxybenzene

Synonyms: Bis(3,4-dichlorophenyl)diazene 1-oxide; TCAOB

Molecular Weight: 336.00

Molecular Formula: C<sub>12</sub>H<sub>6</sub>Cl<sub>4</sub>N<sub>2</sub>O

| Analyte                            | CAS Number | % Concentration | ACGIH -TLV (mg/m <sup>3</sup> ) |      |      | OSHA -PEL (mg/m <sup>3</sup> ) |      |      |
|------------------------------------|------------|-----------------|---------------------------------|------|------|--------------------------------|------|------|
|                                    |            |                 | TWA                             | STEL | Skin | TWA                            | STEL | Skin |
| 3,3',4,4'-Tetrachloroazoxy benzene | 21232-47-3 | 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)

**SECTION 4 - FIRST AID MEASURES** - continued**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.

Ingestion: Call a physician or poison control center immediately. If conscious, give water freely. (P310)

**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.

Avoid inhalation.

Use with adequate ventilation.

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)

**SECTION 8 - EXPOSURE CONTROLS** - continued**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.

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: Orange powder

Odor: N/A

Odor Threshold: N/A

pH: N/A

Melting Point: 140 °C

Boiling Point: 473 °C

Flash Point: 464 °F / 240 °C

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: 1.53 g/cm<sup>3</sup>

Solubility in Water: 97.6 mg/L

Partition Coefficient: log K<sub>ow</sub>: 1.7

Autoignition Temperature: N/A

Decomposition Temperature: N/A

Viscosity: N/A

VOC Content: N/A

Percent Volatile: N/A

**SECTION 10 - STABILITY AND REACTIVITY**

Stability: Stable

Materials to Avoid: Oxidizers

Hazardous Decomposition: Oxides of carbon and nitrogen; Hydrogen chloride gas

**SECTION 10 - STABILITY AND REACTIVITY** - continued

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): N/A

LD50 (Dermal) : N/A

LC50 (Inhalation): N/A

3,3',4,4'-tetrachloroazoxybenzene caused typical dioxin-like effects, however, it is six to two orders of magnitude less potent than 2,3,7,8-tetrachlorodibenzo-p-dioxin.

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

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: NR

Class: NR

Packing Group: NR

Proper Shipping Name: Not Regulated for Transport

Poison by Inhalation: No

Marine Pollutant: No

**SECTION 15 - REGULATORY INFORMATION**

This product is NOT subject to SARA section 313 reporting requirements.

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 \*\*\*\*