



# UNISOURCE CHEMICALS PRIVATE LIMITED

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## NITRO BLUE TETRAZOLIUM CHLORIDE

### Material Safety Data Sheet

#### **1. PRODUCT IDENTIFICATION:**

**Synonyms:** NBT (Nitroblue tetrazolium chloride); Nitro BT; 2H-(Tetrazolium, 3,3'-(3,3'-dimethoxy (1,1'-biphenyl)-4,4'diyl) bis (4-nitrophenyl)-5-(phenyl)-, dichloride.

**CAS No.:** 298-83-9.

**Molecular Weight:** 814.65.

**Chemical Formula:** C<sub>40</sub>H<sub>30</sub>Cl<sub>2</sub>N<sub>10</sub>O<sub>6</sub>

#### **2. COMPOSITION / INFORMATION ON INGREDIENTS:**

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Percent</u>	<u>Hazardous</u>
Nitroblue Tetrazolium Chloride	298-83-9	100%	No

#### **3. HAZARDS IDENTIFICATION:**

##### **Emergency Overview**

**Appearance:** Yellow crystalline powder. **WARNING! MAY BE HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN, EYES, AND RESPIRATORY TRACT.** The toxicological properties of this material have not been fully investigated.

##### **Potential Health Effects**

**Eyes:** May cause eye irritation. Contact may cause transient eye irritation.

**Skin:** May cause skin irritation.

**Ingestion:** May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated.

**Inhalation:** May cause irritation to the respiratory tract. The toxicological properties of this substance have not been fully investigated.

**Chronic:** No information found

#### **4. FIRST AID MEASURES:**

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention if irritation persists.

**Skin:** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if irritation develops or persists.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of water or milk. Do **NOT** induce vomiting. **Never** give anything by mouth to an unconscious person. Get medical attention if irritation or symptoms appear.

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

**Notes to Physician:** Treat symptomatically and supportively.

## **5. FIRE FIGHTING MEASURES:**

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH approved or equivalent, and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or chemical foam.

**Flash Point:** Not available.

**Auto-ignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 0; Instability: 0.

## **6. ACCIDENTAL RELEASE MEASURES:**

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation

## **7. HANDLING AND STORAGE:**

**Handling:** Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store at -20° C.

## **8. EXPOSURE CONTROLS / PERSONAL PROTECTION:**

### **Engineering Controls:**

Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower. Use adequate ventilation to keep airborne concentrations low.

### **Exposure Limits**

<b><u>Chemical Name</u></b>	<b><u>ACGIH</u></b>	<b><u>NOISH</u></b>	<b><u>OSHA-Final PEL's</u></b>
Nitroblue Tetrazolium Chloride	None listed	None listed	None listed

**OSHA Vacated PELs:** Nitroblue Tetrazolium Chloride: No OSHA Vacated PELs are listed for this chemical.

### **Personal Protective Equipment:**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate gloves to prevent skin exposure.

**Clothing:** Wear appropriate clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN149 must be followed whenever workplace conditions warrant respirator use.

## **9. PHYSICAL AND CHEMICAL PROPERTIES:**

**Appearance:** Yellow crystals.

**Odor:** None reported.

**Solubility:** Very slightly soluble in water.

**Specific Gravity:** Not available.

**pH:** Not available.

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

**Boiling Point:** Not available.  
**Melting Point:** 189 ° C  
**Decomposition Temperature:** > 189° C  
**Vapor Density (Air=1):** 28.1  
**Vapor Pressure (mm Hg):** Negligible.  
**Evaporation Rate (BuAc=1):** Negligible.  
**Specific Gravity/Density:** Not available.

#### **10. STABILITY AND REACTIVITY:**

**Stability:** Stable. However, may decompose if heated. Stable at room temperature in closed containers under normal storage and handling conditions.

**Conditions to Avoid:** Incompatible materials, excess heat, temperatures above 50° C (122° F).

**Incompatibilities with Other Materials:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Hydrogen chloride, carbon monoxide, oxides of nitrogen, irritating and toxic fumes and gases, carbon dioxide.

**Hazardous Polymerization:** Has not been reported.

#### **11. TOXICOLOGICAL INFORMATION:**

**RTECS#:** CAS# 298-83-9: XF8045000

**LD50/LC50:** CAS# 298-83-9 Oral, mouse: LD50= 2 gm/kg.

**Carcinogenicity:** CAS# 298-83-9: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

**Epidemiology:** No information available.

**Teratogenicity:** No information available.

**Reproductive Effects:** No information available.

**Mutagenicity:** No information available.

**Neurotoxicity:** No information available.

**Other Studies:** Not available

#### **12. ECOLOGICAL INFORMATION:**

**Environmental Fate:** No information available.

**Environmental Toxicity:** No data available.

#### **13. DISPOSAL CONSIDERATIONS:**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3.

Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U- Series:** None listed.

#### **14. TRANSPORT REGULATIONS:**

Not regulated.

#### **15. REGULATORY INFORMATION:**

##### **US FEDERAL**

**TSCA CAS# 298-83-9** is listed in the TSCA inventory.

**Health & Safety Reporting List** None of the chemicals are on the Health & Safety Reporting List.

**Chemical Test Rules** None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b** None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule** None of the chemicals in this material have a SNUR under TSCA.

**CERCLA Hazardous Substances and corresponding RQs** None of the chemical in this material have an RQ.

**SARA Section 302 Extremely Hazardous Substances** None of the chemical in this product have a TPQ.

**Section 313** No chemical are reportable under Section 313.

**Clean Air Act** This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. The material does not contain any Class 2 Ozone depletors.

**Clean Water Act** None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA** None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE CAS# 298-83-9** is not present on state lists from CA, PA, MN, MA, FL, or NJ.

**California Prop 65** California No Significant Risk Level: None of the chemicals in this product are listed.

## **EUROPEAN/INTERNATIONAL REGULATIONS**

**European Labeling in Accordance with EC Directives**

**Hazard Symbols:** XN

**Risk Phrases:** R 21/22 Harmful in contact with skin and if swallowed.

**Safety Phrases;**

S 22 Do not breathe dust.

S 25 Avoid contact with eyes.

**WGK (Water Danger/Protection).** CAS# 298-83-9: No information available.

**Canada – DSL/NDSL** CAS# 298-83-9 is listed on Canada’s DSL List/

**Canada – WHMIS** This product has a WHMIS classification of D2B.

**Canadian Ingredient Disclosure List**

## **16. DISCLAIMER INFORMATION:**

### **DISCLAIMER:**

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