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**MATERIAL SAFETY DATA SHEET (MSDS)****O-DIANISIDINE DIHYDROCHLORIDE****1 - Chemical Product**

MSDS Name: 3,3'-Dimethoxybenzidine dihydrochloride 99% Material Safety Data Sheet  
Synonym: o-Dianisidine dihydrochloride; 3,3'-dimethoxy-4,4'-Diaminobiphenyl dihydrochloride

Cas no: 20325-40-0

Product Code: D0083400100

Molecular Formula: C<sub>14</sub>H<sub>16</sub>N<sub>2</sub>O<sub>2</sub>·2HCl  
Molecular Weight: 317.20

**2 - COMPOSITION, INFORMATION ON INGREDIENTS**

CAS#	Chemical Name	content	EINECS#
20325-40-0	3,3'-Dimethoxybenzidine dihydrochlorid	99.0	243-737-5

**3 - HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW**

Harmful if swallowed. May cause cancer. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Cancer suspect agent. The toxicological properties of this material have not been fully investigated.

**Potential Health Effects**

Eye: Dust may cause mechanical 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 respiratory tract irritation. The toxicological properties of this substance have not been fully investigated. Chronic: No information found.

**4 - FIRST AID MEASURES**

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water.

Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Antidote: None reported.

**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 appropriate foam.

**6 - ACCIDENTAL RELEASE MEASURES**

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

Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Provide ventilation.

**7 - HANDLING and STORAGE**

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. 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 cool, dry, well-ventilated area away from incompatible substances. Keep containers tightly closed.

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**MATERIAL SAFETY DATA SHEET (MSDS)****O-DIANISIDINE DIHYDROCHLORIDE****8 - EXPOSURE CONTROLS, PERSONAL PROTECTION****Engineering Controls:**

Use adequate ventilation to keep airborne concentrations low.

Exposure Limits CAS# 20325-40-0: United States OSHA: (Cancer suspect agent - see 29 CFR 1910.1010) (listed under Benzidine).

France - VME: (listed as benzidine): 0.001 ppm VME; 0.008 mg/m<sup>3</sup> V Germany: (listed as benzidine): 0.001 ppm VME; 0.008 mg/m<sup>3</sup> VME 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 protective gloves to prevent skin exposure.

**Clothing:**

Wear appropriate protective clothing to prevent skin exposure.

**Respirators:**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**9 - PHYSICAL AND CHEMICAL PROPERTIES**

Physical State: Powder

Color: light purple

Odor: None reported

pH: Not available.

Vapor Pressure: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: 268 deg C

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Explosion Limits, lower: N/A

Explosion Limits, upper: N/A

Decomposition Temperature:

Solubility in water:

Specific Gravity/Density:

**10 - STABILITY AND REACTIVITY****Chemical Stability:**

Stable under normal temperatures and pressures.

**Conditions to Avoid:**

Incompatible materials, dust generation.

Incompatibilities with Other Materials:

Oxidizing agents.

Hazardous Decomposition Products:

Hydrogen chloride, nitrogen oxides, carbon monoxide, carbon dioxide, nitrogen.

Hazardous Polymerization: Has not been reported.

**11 - TOXICOLOGICAL INFORMATION****RTECS#:**

CAS# 20325-40-0: DD1050000 LD50/LC50:

Not available.

**Carcinogenicity:**

3,3'-Dimethoxybenzidine dihydrochloride - California: carcinogen, initial date 10/1/90 NTP: Known carcinogen (listed as Benzidine).

IARC: Group 1 carcinogen (listed as Benzidine).

Other:

See actual entry in RTECS for complete information.

**12 - ECOLOGICAL INFORMATION****13 - DISPOSAL CONSIDERATIONS**

Dispose of in a manner consistent with federal, state, and local regulations.

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**MATERIAL SAFETY DATA SHEET (MSDS)****O-DIANISIDINE DIHYDROCHLORIDE****14 - TRANSPORT INFORMATION**

IATA  
Shipping Name: TOXIC SOLID, ORGANIC, N.O.S.\*  
Hazard Class: 6.1  
UN Number: 2811  
Packing Group: III  
IMO  
Shipping Name: TOXIC SOLID, ORGANIC, N.O.S.  
Hazard Class: 6.1  
UN Number: 2811  
Packing Group: III  
RID/ADR  
Shipping Name: TOXIC SOLID, ORGANIC, N.O.S.  
Hazard Class: 6.1  
UN Number: 2811  
Packing group: III

**15 - REGULATORY INFORMATION**

European/International Regulations  
European Labeling in Accordance with EC Directives  
Hazard Symbols: T N  
Risk Phrases:  
R 45 May cause cancer.  
R 22 Harmful if swallowed.  
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
Safety Phrases:  
S 53 Avoid exposure - obtain special instructions before use.  
S 28A After contact with skin, wash immediately with plenty of water.S 37 Wear suitable gloves.  
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).WGK (Water Danger/Protection)  
CAS# 20325-40-0: No information available.  
Canada  
CAS# 20325-40-0 is listed on Canada's DSL List.  
CAS# 20325-40-0 is not listed on Canada's Ingredient Disclosure List.  
US FEDERAL  
TSCA  
CAS# 20325-40-0 is listed on the TSCA inventory.

**16. Other Information**

**Product Use:** Laboratory Reagent.

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

**DISCLAIMER:**

- **SUVCHEM** Products are to be used as Lab Chemicals for R&D only. Not for drug, medicinal, household or other uses.
- **SUVCHEM** shall not be responsible for any damage resulting from handling or from contact with the above product.
- **SUVCHEM** provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product.

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