



Material Safety Data Sheet

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Section 1 - Product and Company Information

Product Name o-Dianisidine dihydrochloride
Product Number D3252
Brand Sigma-Aldrich

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

<u>Substance Name</u>	<u>CAS #</u>	<u>SARA 313</u>	<u>EC no</u>	<u>Annex I Index Number</u>
3,3-DIMETHOXYBENZIDINE DIHYDROCHLORIDE	20325-40-0	Yes	243-737-5	612-037-00-5

Formula C₁₄H₁₆N₂O₂ · 2HCl
Synonyms (1,1'-Biphenyl)-4,4'-diamine, 3,3-dimethoxy-, dihydrochloride (9CI), C I Disperse Black 6 dihydrochloride, o-Dianisidine dihydrochloride, 3,3'-Dimethoxy-4,4'-diaminobiphenyl dihydrochloride, 3,3'-Dimethoxybenzidine dihydrochloride, 3,3'-Dimethoxy-(1,1'-biphenyl)-4,4'-diamine dihydrochloride, Fast Blue B o-dianisidine dihydrochloride

Section 3 - Hazards Identification

Emergency Overview

Toxic.
May cause cancer. Harmful if swallowed. Irritating to eyes, respiratory system and skin.
Sternulator. Target organ(s) Bladder. Probable Carcinogen (US) Calif. Prop 65 carcinogen

HMS Rating
Health: 2* Flammability: 0 Reactivity: 0

NFPA Rating
Health: 2 Flammability: 0 Reactivity: 0

*additional chronic hazards present

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Eye Exposure

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Extinguishing Media

Suitable
Water spray, Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting

Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)

Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area.

Procedure(s) of Personal Precaution(s)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed. Store at 2-8 C.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment

Respiratory

Government approved respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

Exposure Limits, RTECS

Country USA Source NIOSH

Value
LOWEST
FEASIBLE
CONC

Section 9 - Physical/Chemical Properties

Appearance

Physical State
Solid

Molecular Weight: 317.21 AMU

pH 2.8 - 3.2
BP/BP Range N/A
MP/MP Range 268 °C
Freezing Point N/A
Vapor Pressure N/A
Vapor Density N/A
Saturated Vapor Conc. N/A
SG/Density N/A
Bulk Density N/A
Odor Threshold N/A
Volatile% N/A
VOC Content N/A
Water Content N/A
Solvent Content N/A
Evaporation Rate N/A
Viscosity N/A
Partition Coefficient N/A
Decomposition Temp. N/A
Flash Point °F N/A
Flash Point °C N/A
Explosion Limits N/A

Flammability N/A
Autoignition Temp N/A
Solubility

Solubility In Water: 1 tablet in 10 ml H₂O, clear, colorless

N/A = not available

Section 10 - Stability and Reactivity

Stability

Stable
Stable.

Materials to Avoid

Oxidizing agents.

Hazardous Decomposition Products

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide, Nitrogen oxides, Hydrogen chloride gas

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

Causes skin irritation.

Skin Absorption

May be harmful if absorbed through the skin

Eye Contact

Causes eye irritation.

Inhalation

May be harmful if inhaled.

Ingestion

Harmful if swallowed.

Target Organ(s) or System(s)

Bladder.

Signs and Symptoms of Exposure

The chemical, physical, and toxicological properties of this product have not been thoroughly investigated.

Conditions Aggravated by Exposure

Causes sneezing Do not inhale.

RTECS Number: DD1050000

Chronic Exposure - Carcinogen

Result: This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Rat - Oral: 1040 MG/KG 1Y I

Result: Tumorigenic Carcinogenic by RTECS criteria. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste) Ear Tumors. Tumorigenic Effects: Testicular tumors.

Mouse - Oral: 5760 MG/KG 2Y I

Result: Tumorigenic Equivocal tumorigenic agent by RTECS criteria. Liver:Tumors. Skin and Appendages: Other: Tumors.

Mouse - Subcutaneous: 1152 MG/KG 2Y I

Result: Tumorigenic Equivocal tumorigenic agent by RTECS criteria. Liver:Tumors. Tumorigenic Effects: Uterine tumors

Rat - Oral: 11 GM/KG 51W I

Result: Tumorigenic Carcinogenic by RTECS criteria. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste) Ear Tumors. Skin and Appendages: Other: Tumors.

Rat - Oral: 6497 MG/KG 91W C

Result: Tumorigenic Carcinogenic by RTECS criteria. Gastrointestinal:Tumors. Liver:Tumors.

NTP Carcinogen List

Rating

Clear evidence.

Species

Rat

Route

Gavage

Chronic Exposure - Mutagen

Species

Mouse

Dose

50 MG/L (+S9)

Cell Type

lymphocyte

Mutation test

Mutation in microorganisms

Mouse

33 MG/L

lymphocyte

Mutation in mammalian somatic cells.

Hamster

500 UG/L

ovary

Cytogenetic analysis

Hamster

50 MG/L

ovary

Sister chromatid exchange

Section 12 - Ecological Information

No data available

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU Directives Classification

Symbol of Danger: T

Indication of Danger

Toxic

Risk Statements R: 45 22

May cause cancer. Also harmful if swallowed.

Safety Statements S: 53 45

Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Classification and Label Text

Indication of Danger

Toxic

Risk Statements

May cause cancer. Harmful if swallowed. Irritating to eyes, respiratory system and skin.

Safety Statements

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. Do not breathe dust.

US Statements

Stemulator Target organ(s): Bladder Probable Carcinogen (US) Calif Prop 65 carcinogen

United States Regulatory Information

SARA Listed: Yes

Notes: This product is subject to SARA section 313 reporting requirements.

TSCA Inventory Item: Yes

United States - State Regulatory Information

California Prop - 65

This product is or contains chemical(s) known to the state of California to cause cancer.

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2006 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.