OXFORD LAB FINE CHEM LLP

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Oxford
Range of
Laboratory Chemicals

MATERIAL SAFETY DATA SHEET

Ortho-PHENYLENEDIAMINE 98%
(For Synthesis)
MSDS CAS: 95-54-5

Section 1: Chemical Product and Company Identification

Section 1: Chemical Product
Product Name: Ortho-PHENYLENEDIAMINE
CAS#: 95-54-5
Synonym: 1,2-Benzenediamine
Chemical Name: Ortho-Phenylenediamine
Chemical Formula: $C_6H_8N_2$

Brand: OXFORD

Details Of The Supplier Of The Safety Data Sheet:

Company identification: OXFORD LAB FINE CHEM LLP
Unit. No. 12, 1st Floor, Neminath Industrial Estate No. 6,
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Section 2: Composition and Information on Ingredients

Composition:

Substance name	CAS #	% by Weight
{O-}Phenylenediamine	95-54-5	100

Toxicological Data on Ingredients:
O-Phenylenediamine: ORAL (LD50): Acute: 510 mg/kg [Rat]. 366 mg/kg [Mouse]. VAPOR (LC50): Acute: 2648.8 ppm 4 hour(s) [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:
Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant), of eye contact (irritant).

Potential Chronic Health Effects:
Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation. CARCINOGENIC EFFECTS: Classified A2 (Suspected for human.) by ACGIH. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to blood, lungs, the nervous system. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact: **Check for and remove any contact lenses. Do not use an eye ointment. Seek medical attention.**

Skin Contact:
After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation: **Allow the victim to rest in a well ventilated area. Seek immediate medical attention.**

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek medical attention.

Ingestion:
Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: **Not available.**

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: CLOSED CUP: 156°C (312.8°F).

Flammable Limits: LOWER: 1.5%

Products of Combustion: These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...).

Fire Hazards in Presence of Various Substances: Not available.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:
Use a shovel to put the material into a convenient waste disposal container. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust.

Section 7: Handling and Storage (Continued)

Wear suitable protective clothing if ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

Storage:

Keep container dry. Keep in a cool place. Ground all equipment containing material. Carcinogenic, teratogenic or mutagenic materials should be stored in a separate locked safety storage cabinet or room.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: **TWA: 0.1 (mg/m3) from ACGIH Consult local authorities for acceptable exposure limits.**

Section 9: Physical and Chemical Properties

Physical state and appearance:	**Solid. (Crystals solid.)**
Odor	**: Not available.**
Taste	**: Not available.**
Molecular Weight	**: 108.14 g/mole**
Color	**: Yellowish-brown.**
pH (1% soln/water)	**: Not available.**
Boiling Point	**: 257°C (494.6°F)**
Melting Point	**: 103.5°C (218.3°F)**
Critical Temperature	**: Not available.**

Section 9: Physical and Chemical Properties (Continued)

Specific Gravity	**: Not available.**
Vapor Pressure	**: Not applicable.**
Vapor Density	**: 3.7 (Air = 1)**
Volatility	**: Not available.**
Odor Threshold	**: Not available.**
Water/Oil Dist. Coeff.	**: Not available.**
Ionicity (in Water)	**: Not available.**
Dispersion Properties	**: Not available.**
Solubility	**: Not available.**

Section 10: Stability and Reactivity Data

Stability: **The product is stable.**

Instability Temperature: **Not available.**

Conditions of Instability: **Not available.**

Incompatibility with various substances: **Not available.**

Corrosivity: **Non-corrosive in presence of glass.**

Special Remarks on Reactivity: **Not available.**

Special Remarks on Corrosivity: **Not available.**

Polymerization: **No**

Section 11: Toxicological Information

Routes of Entry: **Eye contact. Ingestion.**

Toxicity to Animals:

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 366 mg/kg [Mouse]. Acute toxicity of the vapor (LC50): 2648.8 ppm 4 hour(s) [Mouse].

Section 11: Toxicological Information (Continued)

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: Classified A2 (Suspected for human.) by ACGIH. The substance is toxic to blood, lungs, the nervous system.

Other Toxic Effects on Humans:
Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant).

Special Remarks on Toxicity to Animals: **Not available.**

Special Remarks on Chronic Effects on Humans: **Not available.**

Special Remarks on other Toxic Effects on Humans: **Not available.**

Section 12: Ecological Information

Ecotoxicity: **Not available.**

BOD5 and COD: **Not available.**

Products of Biodegradation: **Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.**

Toxicity of the Products of Biodegradation: **The products of degradation are more toxic.**

Special Remarks on the Products of Biodegradation: **Not available.**

Section 13: Disposal Considerations

Waste Disposal

Section 14: Transport Information

Land transport (ADR-RID)
Proper shipping name: **PHENYLENEDIAMINES (o-, m-, p-)**
UN N°: 1673

Section 14: Transport Information (Continued)

H.I. nr: 60
ADR - Class: 6.1
Labelling - Transport: 6.1: Toxic substances.
ADR - Group: III

Sea transport (IMDG) [English only]
Proper shipping name: PHENYLENEDIAMINES (o-, m-, p-)
UN N°: 1673
IMO-IMDG - Class or division: 6.1: Toxic substances.
IMO-IMDG - Packing group: III

Air transport (ICAO-IATA) [English only]
Proper shipping name: PHENYLENEDIAMINES (o-, m-, p-)
UN N°: 1673
IATA - Class or division: 6.1 : Toxic substances.
IATA - Packing group: III

Section 15: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: O-Phenylenediamine SARA 313 toxic chemical notification and release reporting: O-Phenylenediamine

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:
WHMIS (Canada): CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).
DSCL (EEC): R36/38- Irritating to eyes and skin. R45- May cause cancer. R48/22- Harmful: danger of serious damage to health by prolonged exposure if swallowed.

HMIS (U.S.A.):
Health Hazard: 2
Fire Hazard: 1
Reactivity: 0
Personal Protection: E

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Section 15: Other Regulatory Information (Continued)

National Fire Protection Association (U.S.A.):
Health: 2
Flammability: 1
Reactivity: 0
Specific hazard:

Protective Equipment:
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16 - Additional Information

References: Not available.

Other Special Considerations: Not available.

Disclaimer:

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