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MATERIAL SAFETY DATA SHEET

ORTHO-TOLIDINE REAGENT

(Reagent For Chlorine Estimation)

MSDS CAS: 119-93-7

Section 1: Chemical Product and Company Identification

Section 1: Chemical Product

Product Name: ORTHO-TOLIDINE REAGENT

CAS#: 119-93-7

Synonym: 3,3'-Dimethylbenzidine 4,4'-Bianisidine

Chemical Name: Not available.

Chemical Formula: Not available.

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,
Navghar, Vasai (East). Palghar - 401 210.
Mumbai, Maharashtra, INDIA.
Tel: 91-250-2390989
Tel/Fax: 91-250-2390032

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Water	7732-18- 5	75 - 99%
Hydrochloric acid	7647-01- 0	10 – 15%
4,4'-bi-o-toluidine	119-93-7	0.01 – 1%

Section 3: Hazards Identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1999/45

Classification : Carc. Cat. 2; R45
Xi; R36/37/38

Hazard Class and Category Code(s), Regulation (EC) No 1272/2008 (CLP)

Health hazards : Carcinogenicity - Category 1A - Danger (CLP : Carc. 1A) H350
Skin corrosion - Category 1B - Danger (CLP : Skin Corr. 1B) H314
Eye irritation - Category 2A - Warning (CLP : Eye Irrit. 2) H319

Other hazards : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

Section 4: First Aid Measures

Description of first aid measures

Inhalation: Immediately call a POISON CENTER or doctor. Remove to fresh air and keep at rest in a position comfortable for breathing.

Skin contact: Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Immediately call a POISON CENTER or doctor.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor. Get medical advice. If eye irritation persists:

Ingestion: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Symptoms relating to use : May cause cancer. Causes severe skin burns and eye damage. Causes serious eye irritation. May cause respiratory irritation.

Indication of any immediate medical attention and special treatment needed

General information: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Section 5: Fire and Explosion Data

Extinguishing media

- Suitable extinguishing media** : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media : Do not use a heavy water stream.
Surrounding fires : Use water spray or fog for cooling exposed containers.

Special hazards arising from the substance or mixture

- Hazardous combustion products** : Under fire conditions, hazardous fumes will be present.
Thermal decomposition generates : Corrosive vapours.

Advice for fire-fighters

- Protection against fire** : Do not enter fire area without proper protective equipment,
Including respiratory protection.
Special procedures : Exercise caution when fighting any chemical fire. Avoid (reject)
Fire-fighting water to enter environment.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

- For emergency responders** : Equip cleanup crew with proper protection. Ventilate area.
For non-emergency personnel : Evacuate unnecessary personnel.

Environmental precautions:

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

Methods and materials for contain ent and cleaning up

Clean up methods: On land, sweep or shovel into suitable containers. Minimize Generation of dust. Store away from other materials.

Section 7: Handling and Storage

Precautions for safe handling

Handling: Use only outdoors or in a well-ventilated area. Wash contaminated clothing before reuse. Wash thoroughly after handling. Do not breathe dust, fume, gas, mist, vapours, spray. Obtain special instructions before use.

Technical protective measures: Provide good ventilation in process area to prevent formation of Vapor.

Section 7: Handling and Storage (Continued)

Special precautions : Avoid breathing dust, fume, gas, mist, vapours, spray.

Conditions for safe storage, including any incompatibilities

Storage : Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use.

Storage regulation : Comply with applicable regulations.

Storage - away from : Strong bases. Strong acids. Sources of ignition. Direct sunlight.

Section 8: Exposure Controls/Personal Protection

Personal protection : Avoid all unnecessary exposure.

- **Respiratory protection** : Wear approved mask.
- **Hand protection** : Wear protective gloves.
- **Skin protection** : Wear suitable protective clothing.
- **Eye protection** : Chemical goggles or safety glasses.
- **Others** : When using, do not eat, drink or smoke.

Control parameters

Occupational Exposure Limits : No data available.

Section 9: Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state at 20 °C : Liquid

Color : Light brown.

Odor : Amine like.

Odor threshold : No data available.

pH value : Not applicable.

Melting point [°C] : 128 - 131 °C

Decomposition point [°C] : N/A

Critical temperature [°C] : Not applicable.

Auto-ignition temperature [°C] : N/A

Flammability (solid, gas) : N/A

Flash point [°C] : 40 ≥ 50.

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Section 9: Physical and Chemical Properties (Continued)

Boiling point [°C]	: Not applicable.
Initial boiling point [°C]	: 200 °C at 1.013 hPa
Final boiling point [°C]	: N/A
Evaporation rate	: N/A
Vapour pressure [20°C]	: N/A
Vapour pressure mm/Hg	: N/A
Vapour density	: N/A
Density [g/cm ³]	: 1,05
Relative density, gas (air=1)	: N/A
Relative density, liquid (water=1)	: N/A
Solubility in water [% weight]	: N/A
Solubility in water	: No data available.
Log Pow octanol / water at 20°C	: N/A.
Solubility	: No data available.
Viscosity at 40°C [mm ² /s]	: N/A
Molecular Weight	: 212.29

Other information

Explosive properties	: N/A
Explosion limits - upper [%]	: No data available.
Explosion limits - lower [%]	: No data available.
Oxidizing properties	: No data available.

Section 10: Stability and Reactivity Data

Reactivity : Not established.

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions

Hazardous reactions : Not established.

Conditions to avoid : Direct sunlight. Extremely high or low temperatures, Moisture

Incompatible materials

Materials to avoid : Strong acids. Strong bases.

Section 10: Stability and Reactivity Data (Continued)

Hazardous decomposition products : Fumes. Carbon monoxide. Carbon dioxide. Thermal decomposition generates: Corrosive vapours.

Section 11: Toxicological Information

Information on toxicological effects

Toxicity information	: The product has been not fully tested. The calculated risk has been done under the requirements of the EU regulations.
Acute toxicity	
• Inhalation	: Based on available data, the classification criteria are not met.
• Dermal	: Based on available data, the classification criteria are not met.
• Ingestion	: Based on available data, the classification criteria are not met.
Corrosion	: Causes severe skin burns and eye damage.
Irritation	: Causes serious eye irritation. May cause respiratory irritation.
Sensitization	: Based on available data, the classification criteria are not met.
Mutagenicity	: Based on available data, the classification criteria are not met.
Carcinogenicity	: May cause cancer.
Toxic for reproduction	: Based on available data, the classification criteria are not met.
STOT-single exposure	: Based on available data, the classification criteria are not met.
STOT-repeated exposure	: Based on available data, the classification criteria are not met.
Aspiration hazard	: Based on available data, the classification criteria are not met.

Section 12: Ecological Information

Toxicity information: The product has been not fully tested. The calculated risk has been done under the requirements of the EU regulations.

Persistence - degradability: Biodegradable.

Bio accumulative potential: Not established.

Mobility in soil: Not established.

Section 12: Ecological Information (Continued)

Results of PBT and vPvB assessment: The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

Other adverse effects

Environmental precautions: Avoid release to the environment.

Section 13: Disposal Considerations

Waste treatment methods

General: Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations. Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Section 14: Transport Information

Land transport (ADR-RID)

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
UN N° : 3082
H.I. nr : 90
ADR - Class : 9
Labelling - Transport : 9 : Miscellaneous dangerous substances and articles.
ADR - Group : III

Sea transport (IMDG) [English only]

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
UN N° : 3082
IMO-IMDG - Class or division: 9 : Miscellaneous dangerous substances and articles.
IMO-IMDG - Packing group : III

Air transport (ICAO-IATA) [English only]

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
UN N° : 3082
IATA - Class or division: 9 : Miscellaneous dangerous substances and articles.
IATA - Packing group : III

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Section 15: Other Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture:

Ensure all national/local regulations are observed.

REACH Restrictions - Annex XVII: The components of this product are not subject to restrictions.

REACH Authorization - Annex XIV: The components of this product are not subject to authorization.

Chemical Safety Assessment

Chemical Safety Assessment: It has not been carried out.

Section 16 - Additional Information

References: Not available.

Other Special Considerations: Not available.

Disclaimer:

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