

CHAITANYA CHS, 2nd FLOOR, OFFICE # 206, SIDDHARTH NAGAR, S.V.ROAD, GOREGAON (W), MUMBAI 400062, MH, INDIA.
 CONTACT: +9122 28725393 /94/ 95 | EMAILID: CARE@SUVCHEM.COM

MATERIAL SAFETY DATA SHEET (MSDS)
ORTHO-TOLIDINE AR (FOR SYNTHESIS) (3-3' DIMETHYL BENZIDINE)
1: Chemical Product and Company Identification

Product Name: ortho-Toluidine

CAS#: 119-93-7

Product Coad: T0208000100

Synonym: 2-Aminotoluene

Chemical Name: 2-Methyl-1-aminobenzene

Chemical Formula: CH₃C₆H₄NH₂

2: Composition and Information on Ingredients Composition:

Name	CAS #	% by Weight
{ortho-}Toluidine	119-93-7	

Toxicological Data on Ingredients: ortho-Toluidine: ORAL (LD50): Acute: 670 mg/kg [Rat.]. DERMAL (LD50): Acute: 3245 mg/kg [Rabbit].

3: Hazards Identification Potential Acute Health Effects:

Very hazardous in case of skin contact (permeator), of ingestion, of inhalation. Hazardous in case of skin contact (irritant), of eye contact (irritant).

Potential Chronic Health Effects:

Very hazardous in case of eye contact (irritant). CARCINOGENIC EFFECTS: Classified + (PROVEN) by OSHA. Classified 2B (Possible for human.) by IARC. Classified A2 (Suspected for human.) by ACGIH, 2 (Reasonably anticipated.) by NTP. MUTAGENIC EFFECTS: Classified SUSPECTED for human. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: PROVEN The substance is toxic to blood, kidneys, the nervous system, the reproductive system, liver, mucous

membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

4: First Aid Measures Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Finish by rinsing thoroughly with running water to avoid a possible infection. Cold water may be used.

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. 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.

5: Fire and Explosion Data

Flammability of the Product: Combustible.

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Auto-Ignition Temperature: 481.67°C (899°F)

Flash Points: CLOSED CUP: 85°C (185°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: Highly flammable in presence of open flames and sparks, of heat. Flammable in presence of moisture.

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: Store under nitrogen.

Special Remarks on Explosion Hazards: Not available.

6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill: Combustible material. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

7: Handling and Storage Precautions:

Keep locked up Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapour/spray. Wear suitable protective clothing In case of insufficient ventilation, wear suitable respiratory equipment If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes Keep away from incompatibles such as oxidizing agents, acids.

Storage: Alkalis may be stored in heavy duty gauge steel containers. Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. Keep container dry. Keep in a cool place.

8: Exposure Controls/Personal Protection Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection: Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor 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: 2 (ppm) from ACGIH (TLV) [1995] TWA: 8.8 (mg/m³) from ACGIH [1995] Consult local authorities for acceptable exposure limits.

9: Physical and Chemical Properties

Physical state and appearance: Liquid. (Liquid.)

Odor: Not available.

Taste: Not available.

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Molecular Weight: 107.15 g/mole

Color: Colorless to light yellow.

pH (1% soln/water): 9 [Basic.]

Boiling Point: 200.2°C (392.4°F)

Melting Point: -14.7°C (5.5°F)

Critical Temperature: Not available.

Specific Gravity: 1 (Water = 1)

Vapor Pressure: 0.26 mm of Hg (@ 20°C)

Vapor Density: 3.69 (Air = 1)

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, methanol, diethyl ether.

Solubility: Soluble in methanol, diethyl ether. Very slightly soluble in cold water, hot water.

10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Reactive with oxidizing agents, acids.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Air and light sensitive.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

11: Toxicological Information

Routes of Entry: Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

Acute oral toxicity (LD50): 670 mg/kg [Rat.]. Acute dermal toxicity (LD50): 3245 mg/kg [Rabbit].

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Chronic Effects on Humans:

CARCINOGENIC EFFECTS: Classified + (PROVEN) by OSHA. Classified 2B (Possible for human.) by IARC. Classified A2 (Suspected for human.) by ACGIH, 2 (Reasonably anticipated.) by NTP. MUTAGENIC EFFECTS: Classified SUSPECTED for human. DEVELOPMENTAL TOXICITY: PROVEN
 The substance is toxic to blood, kidneys, the nervous system, the reproductive system, liver, mucous membranes.

Other Toxic Effects on Humans: Very hazardous in case of skin contact (permeator), of ingestion, of inhalation. 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: Material is irritating to mucous membranes and upper respiratory tract.

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 as toxic as the original product.

Special Remarks on the Products of Biodegradation: Not available.

13: Disposal Considerations

Waste Disposal:

14: Transport Information

NON HAZARDOUS FOR AIR, ROAD AND SEA TRANSPORT

15: Other Regulatory Information Federal and State Regulations:

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: ortho-Toluidine
 California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: ortho-Toluidine
 Pennsylvania RTK: ortho-Toluidine
 Massachusetts RTK: ortho-Toluidine

TSCA 8(b) inventory: ortho-Toluidine
 SARA 313 toxic chemical notification and release reporting: ortho-Toluidine
 CERCLA: Hazardous substances.: ortho-Toluidine

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

Other Classifications:

WHMIS (Canada): CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

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DSCL (EEC): R36/38- Irritating to eyes and skin. R45- May cause cancer. R46- May cause heritable genetic damage.

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 2

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 3Flammability: 2

Reactivity: 0

Specific hazard:

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

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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