

## Chemical Safety Data Sheet MSDS / SDS

## 5-chloro-o-toluidine SDS

Revision Date:2024-04-25 Revision Number:1

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name: 5-chloro-o-toluidine  
CAS: 95-79-4

**Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.  
Uses advised against: none

**Company Identification**

Company: Chemicalbook.in  
Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090  
Telephone: +91 9550333722

**SECTION 2: Hazards identification****Classification of the substance or mixture**

Acute toxicity - Category 4, Oral  
Skin irritation, Category 2

Eye irritation, Category 2  
Specific target organ toxicity - single exposure, Category 3

### GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Warning

### Hazard statement(s)

H302 Harmful if swallowed  
H315 Causes skin irritation  
H319 Causes serious eye irritation  
H335 May cause respiratory irritation

### Precautionary statement(s)

### Prevention

P264 Wash ... thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P271 Use only outdoors or in a well-ventilated area.

### Response

P301+P317 IF SWALLOWED: Get medical help.  
P330 Rinse mouth.  
P302+P352 IF ON SKIN: Wash with plenty of water/...  
P321 Specific treatment (see ... on this label).  
P332+P317 If skin irritation occurs: Get medical help.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P319 Get medical help if you feel unwell.

### Storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

### **Disposal**

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### **Other hazards which do not result in classification**

no data available

## **SECTION 3: Composition/information on ingredients**

### **Substance**

Chemical name: 5-chloro-o-toluidine

Common names and synonyms: 5-chloro-o-toluidine

CAS number: 95-79-4

EC number: 202-452-6

Concentration: 100%

## **SECTION 4: First aid measures**

### **Description of necessary first-aid measures**

#### **If inhaled**

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

#### **Following skin contact**

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

#### **Following eye contact**

Rinse with pure water for at least 15 minutes. Consult a doctor.

#### **Following ingestion**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

**Most important symptoms/effects, acute and delayed**

no data available

**Indication of immediate medical attention and special treatment needed, if necessary**

If methemoglobinemia occurs & is severe, then treat with methylene blue & oxygen.

**SECTION 5: Firefighting measures**

**Suitable extinguishing media**

Use dry chemical, carbon dioxide or alcohol-resistant foam.

**Specific hazards arising from the chemical**

no data available

**Special protective actions for fire-fighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Environmental precautions**

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### **Methods and materials for containment and cleaning up**

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

## **SECTION 7: Handling and storage**

### **Precautions for safe handling**

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### **Conditions for safe storage, including any incompatibilities**

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

## **SECTION 8: Exposure controls/personal protection**

### **Control parameters**

#### **Occupational Exposure limit values**

no data available

#### **Biological limit values**

no data available

### **Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### **Individual protection measures, such as personal protective equipment (PPE)**

#### **Eye/face protection**

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

### Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

### Thermal hazards

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Solid. Crystalline mass, may be partly liquid at room temperature.
Colour:	Colourless to orange/reddish or braun.
Odour:	no data available
Melting point/freezing point:	26 °C.
Boiling point or initial boiling point and boiling range:	$\geq 242$ - $\leq 245$ °C. Atm. press.: 1 013 mBar.
Flammability:	no data available
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	160 °C.
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available

Kinematic viscosity:	cP = 1.988. Temperature:60.0 °C.;cP = 0.851. Temperature:120.0 °C.
Solubility:	SOL IN HOT ALCOHOL
Partition coefficient n-octanol/water:	log Pow = 2.26. Temperature:25 °C. Remarks:PH value not considered because of calculation.
Vapour pressure:	38 Torr. Temperature:140 °C.;722 Torr. Temperature:237 °C.
Density and/or relative density:	1.18 g/cm <sup>3</sup> . Temperature:22 °C.;Ca. 1.144 g/cm <sup>3</sup> . Temperature:60 °C.;Ca. 1.1 g/cm <sup>3</sup> . Temperature:120 °C.
Relative vapour density:	no data available
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

no data available

### Chemical stability

no data available

### Possibility of hazardous reactions

no data available

### Conditions to avoid

no data available

### Incompatible materials

no data available

## **Hazardous decomposition products**

no data available

## **SECTION 11: Toxicological information**

### **Acute toxicity**

Oral: LD50 - rat (female) - 716 mg/kg bw.

Inhalation: no data available

Dermal: 100 % mortality after 4 days - cat (female) - 1 667 mg/kg bw.

### **Skin corrosion/irritation**

no data available

### **Serious eye damage/irritation**

no data available

### **Respiratory or skin sensitization**

no data available

### **Germ cell mutagenicity**

no data available

### **Carcinogenicity**

no data available

### **Reproductive toxicity**

no data available

### **STOT-single exposure**

no data available



### STOT-repeated exposure

no data available

### Aspiration hazard

no data available

## SECTION 12: Ecological information

### Toxicity

Toxicity to fish: LC50 - Danio rerio (previous name: Brachydanio rerio) -  $\geq 10$  -  $\leq 22$  mg/L - 96 h.

Toxicity to daphnia and other aquatic invertebrates: LC0 - Daphnia magna - 3.2 mg/L - 48 h.

Toxicity to algae: no data available

Toxicity to microorganisms: EC50 - non activated sludge of domestic water treatment plant - 44 mg/L - 3 h. Remarks:Respiration rate.

### Persistence and degradability

A partially purified enzyme of the soil fungus *Geotrichum candidum* converted 5-chloro-o-toluidine to 4,4-dichloro-2,2'-dimethylazobenzene(2). The same compound was isolated when 5-chloro-o-toluidine (obtained from hydrolysis of chlordimeform) was incubated in soil for 90 days(1). In addition, three other oxidation products were detected(1). The rate of loss of 5-chloro-o-toluidine in soil as a result of these reactions was not measured(1).

### Bioaccumulative potential

Using an estimation method(2), a log Kow value of 2.58 has been estimated for 5-chloro-o-toluidine. Based on this log Kow and a recommended regression equation(1), the bioconcentration factor for 5-chloro-o-toluidine has been estimated to be 54(SRC). Therefore, bioconcentration of 5-chloro-o-toluidine in aquatic organisms should not be important.

### Mobility in soil

Based on an estimated log Kow of 2.58 and a recommended regression equation(1), a log Koc of 2.37 has been estimated for 5-chloro-o-toluidine(SRC). This value indicates that 5-chloro-o-toluidine may be moderately mobile in soil(2). However, primary aromatic amines can react with humic matter in soil forming an irreversible complex and as a result may be immobilized in soil(3-4). With the increase in humic matter in soil, the tendency of irreversible complex formation may increase and 5-chloro-o-toluidine may become increasingly immobilized. In sandy soil containing a marginal amount of humic matter, 5-chloro-o-toluidine

may be mobile(5, SRC).

**Other adverse effects**

no data available

**SECTION 13: Disposal considerations**

**Disposal methods**

**Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

**Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

**SECTION 14: Transport information**

**UN Number**

ADR/RID: UN2239 (For reference only, please check.)

IMDG: UN2239 (For reference only, please check.)

IATA: UN2239 (For reference only, please check.)

**UN Proper Shipping Name**

ADR/RID: CHLOROTOLUIDINES, SOLID (For reference only, please check.)

IMDG: CHLOROTOLUIDINES, SOLID (For reference only, please check.)

IATA: CHLOROTOLUIDINES, SOLID (For reference only, please check.)

**Transport hazard class(es)**

ADR/RID: 6.1 (For reference only, please check.)

IMDG: 6.1 (For reference only, please check.)

IATA: 6.1 (For reference only, please check.)

**Packing group, if applicable**

ADR/RID: III (For reference only, please check.)

IMDG: III (For reference only, please check.)

IATA: III (For reference only, please check.)

**Environmental hazards**

ADR/RID: No

IMDG: No

IATA: No

**Special precautions for user**

no data available

**Transport in bulk according to IMO instruments**

no data available

**SECTION 15: Regulatory information**

**Safety, health and environmental regulations specific for the product in question**

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

**EC Inventory**

Listed.

**United States Toxic Substances Control Act (TSCA) Inventory**

Listed.

**China Catalog of Hazardous chemicals 2015**

Listed.

**New Zealand Inventory of Chemicals (NZIoC)**

Listed.

**(PICCS)**

Listed.

**Vietnam National Chemical Inventory**

Listed.

**IECSC)**

Listed.

**Korea Existing Chemicals List (KECL)**

Not Listed.

## **SECTION 16: Other information**

### **Abbreviations and acronyms**

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### **References**

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:  
<http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

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