

Reference number: AIL-GPS-008

Issue date: 15/10/2021

Revision date: 01/07/2025

Version: 1.1

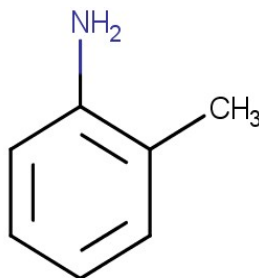
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### 1. General Statement

o-Toluidine (ortho-toluidine) is an organic compound. It is the most important of the three isomeric toluidines. It is a colorless liquid although commercial samples are often yellowish. It is a precursor to the herbicides metolachlor and acetochlor. Combustible substance, poorly flammable (flash point > 60 up to 93 °C). Vapours may form explosive mixtures with air when the substance is heated above its flash point. Sparingly soluble in water. Low or very low-volatile. Acute or chronic health hazards result from the substance. The substance is hazardous to the aquatic environment.

### 2. Chemical identity

Name : o-toluidine  
 CAS number(s) : 95-53-4  
 EC number : 202-429-0  
 Molecular formula : C<sub>7</sub>H<sub>9</sub>N  
 Structure :



### 3. Uses and Benefits not mandatory

It is used primarily in the manufacture of dyestuffs, although it is also used in the production of rubber, chemicals, and pesticides and as a curing agent for epoxy resin systems.

### 4. Physical / chemical properties

Property	Value
Physical state :	Liquid
Colour :	Colourless to light yellow. On exposure to air: yellow-brown to red-brown.
Odour :	Mild odour. Aromatic odour.
pH :	No data available

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<b>Melting point</b>	-24 to -16 °C
<b>Boiling point :</b>	200 °C (1013 hPa)
<b>Flash point :</b>	85 °C (Closed cup, 1013 hPa)
<b>Density :</b>	998 kg/m3 (20 °C)
<b>Solubility Water:</b>	1.66 g/100ml (20 °C)

## 5. Health Effects

Effect Assessment	Result
<b>Acute toxicity (Oral / inhalation / dermal )</b>	Toxic if swallowed or if inhaled.
<b>Irritation / corrosion Skin / eye/ respiratory tract</b>	Causes serious eye irritation.
<b>Respiratory or skin sensitisation</b>	NA
<b>Toxicity after repeated exposure Oral / inhalation / dermal</b>	NA
<b>Genotoxicity / Mutagenicity</b>	NA
<b>Carcinogenicity</b>	It may cause cancer.
<b>Toxicity for reproduction</b>	NA

## 6. Environmental Effects

Effect Assessment	Result
<b>Aquatic toxicity</b>	Yes
<b>Fate and behavior</b>	<b>Result</b>
<b>Persistence and degradability</b>	Readily biodegradable in water.
<b>Bioaccumulative potential</b>	Low potential for bioaccumulation (BCF < 500).

## 7. Exposure

### Human health

The substance may cause cancer and toxicity if swallowed or if inhaled. The most likely route of human exposure (workers) is through skin. In industrial settings, ingestion is not an anticipated route of

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exposure. Workers may be exposed during (un)loading, mixing, sampling, analysis or maintenance operations and particularly in case of batch processes. The exposure must be kept as minimum as possible by the use of appropriate risk management measures as suitable collective and personal protective equipment, good industrial hygiene practices and risk communication through appropriate training of workers.

Careless handling or accidental spillage of the chemical could result in exposure to potentially hazardous levels of chemicals. The substance is handled in closed systems, and it is usual for operators to wear impervious suits and self-contained breathing apparatus for operations involving the transfer of dimethyl sulfate, where there is the possibility of greater exposure. Industrial Workers should ensure that they follow the advice found in the extended safety data sheet (SDS).

### Environment

Care should be taken to avoid releases of these products to sewage, drainage systems and water bodies. Spillage shall be quickly collected in the event of an accidental release. More information about release measures and accidental release measures are available in the extended safety data sheet.

## 8. Risk Management Recommendations

### Human health measures

<b>Organizational</b>	A basic standard of occupational hygiene is recommended. Ensure operatives are well informed of the hazards and trained to minimise exposures.Ensure regular inspection and maintenance of equipment and machines.Handle and store according to the indications of the Safety Data Sheet.	
<b>Protection</b>	Eye protection:	Safety glasses
	Skin and body protection:	Wear Protective clothing
	Respiratory protection:	Full face mask with filter type A. High vapour/gas concentration: self-contained breathing apparatus
<b>Engineering controls</b>	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.Ensure good ventilation of the work station.	
<b>Environment protective measures</b>		
Products must not be released into water without pre-treatment.		

## 9. First-aid measures

**First-aid measures after inhalation** : Remove the person to fresh air and keep them comfortable for breathing. Take medical advice.

**First-aid measures after skin contact** : Wash skin with plenty of water.

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**First-aid measures after eye contact** : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**First-aid measures after ingestion** : Rinse mouth. Call a physician immediately.

### 10. Fire-fighting measures

#### **Extinguishing media**

**Suitable extinguishing media** : Water spray. Dry powder. Foam. Carbon dioxide.

**Unsuitable extinguishing media** : Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

#### **Special hazards arising from the substance or mixture**

**Hazardous decomposition products in case of fire** : On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide -Carbon dioxide)

#### **Advice for firefighters**

**Precautionary measures fire** : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.

**Firefighting instructions** : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

### 11. Accidental release measures

**Protective equipment** : Gloves (EN 374). Safety glasses (EN 166). Protective clothing (EN 14605 or EN 13034). Large spills/in enclosed spaces: self-contained breathing apparatus (EN 136 + EN 137).

**Environmental precautions** : Avoid release to the environment. Notify authorities if a product enters sewers or public waters.

**For containment** : Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leaks without risks if possible.

### 12. Disposal consideration

**Regional legislation (waste)** : Disposal must be done according to official regulations.

**Waste treatment methods** : Dispose of contents/container in accordance with licensed collector's sorting instructions.

**Sewage disposal recommendations** : Do not discharge into drains or the environment. Dispose of at authorized waste collection points. Remove waste in accordance with local and/or national regulations.

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Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals.

### 13. Handling and storage

**Precautions for safe handling :** Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle it until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product in the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

**Hygiene measures :** Separate working clothes from town clothes. Launder separately. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

## 14. Classification and Labeling

### GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H227 - Combustible liquid  
H301+H331 - Toxic if swallowed or if inhaled  
H319 - Causes serious eye irritation  
H350 - May cause cancer.  
H400 - Very toxic to aquatic life

Precautionary statements (GHS US)

: P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P261 - Avoid breathing dust, fume, gas, mist, vapours, spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P271 - Use only outdoors or in a well-ventilated area.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.  
P301+P310 - If swallowed: Immediately call a poison center or doctor.  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313 - If exposed or concerned: Get medical advice/attention.  
P311 - Call a poison center or doctor.  
P321 - Specific treatment (see supplemental first aid instruction on this label).  
P330 - Rinse mouth.  
P337+P313 - If eye irritation persists: Get medical advice or attention.  
P370+P378 - In case of fire: Use appropriate media to extinguish.  
P391 - Collect spillage.  
P403 - Store in a well-ventilated place.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P405 - Store locked up.  
P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

## 15. Conclusion

The substance may cause cancer , and toxicity if swallowed or if inhaled.Environmentally, it is readily biodegradable but toxic to aquatic life, necessitating careful containment and disposal to prevent contamination of water bodies. Care should be taken to avoid releases of these products to sewage, drainage systems and water bodies. The exposure must be kept as minimum as possible by the use of appropriate risk management measures as suitable collective and personal protective equipment, good industrial hygiene practices and risk communication through appropriate training of workers.

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### 16. Contact Information within company

#### **Manufacturer**

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This GPS safety summary is intended to give general information about the health, safety and environmental and not intended to provide in-depth details. To obtain the most accurate and current information, consult the appropriate Safety Data Sheet (SDS) prior to use of the material named herein.