

# Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 14.07.2010

Revision: 14.07.2010

## 1 Identification of substance

### Product details

Trade name

**o-Toluidine**

Stock number:

A13602, L05060

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG  
Benzstrasse 3  
D-76185 Karlsruhe / GermanyE-mail: gcat@matthey.com  
www.alfa-chemcat.com

Informing department:

Product safety department.

Emergency information:

Giftnotruf Universität Mainz / Poison Information Center Mainz  
www.giftinfo.uni-mainz.de Telefon: +49(0)6131/19240

## 2 Hazards identification

Hazard designation:



T Toxic

N Dangerous for the environment

Information pertaining to particular dangers for man and environment

R 45 May cause cancer.  
 R 23/25 Also toxic by inhalation and if swallowed.  
 R 36 Irritating to eyes.  
 R 50 Very toxic to aquatic organisms.

GHS label elements

**Danger**

H301 - Toxic if swallowed.  
 H331 - Toxic if inhaled.

**Danger**

H350 - May cause cancer.

**Warning**

H400 - Very toxic to aquatic life.

**Warning**

H319 - Causes serious eye irritation.  
 P201 Obtain special instructions before use.  
 P273 Avoid release to the environment.  
 P309 IF exposed or if you feel unwell:  
 P310 Immediately call a POISON CENTER or doctor/physician.

Prevention:

Response:

## 3 Composition/information on ingredients

Chemical characterization:

o-Toluidine (CAS# 95-53-4)

Designation: (CAS#)

Identification number(s):

202-429-0

EINECS Number:

612-091-00-X

Index number:

## 4 First aid measures

General information

Instantly remove any clothing soiled by the product.  
 Remove breathing apparatus only after soiled clothing has been completely removed.  
 In case of irregular breathing or respiratory arrest provide artificial respiration.  
 Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.  
 Seek immediate medical advice.  
 After skin contact  
 Instantly wash with water and soap and rinse thoroughly.  
 Seek immediate medical advice.  
 After eye contact  
 Rinse opened eye for several minutes under running water. Then consult doctor.  
 After swallowing  
 Do not induce vomiting; instantly call for medical help.  
 Seek immediate medical advice.

After inhalation

After skin contact

After eye contact

After swallowing

## 5 Fire fighting measures

Suitable extinguishing agents

Alcohol-resistant foam  
 Carbon dioxide  
 Fire-extinguishing powder

Special hazards caused by the material, its products of combustion or flue gases:

Can be released in case of fire:  
 Carbon monoxide and carbon dioxide  
 Nitrogen oxides (NOx)  
 Possibly Hydrogen cyanide (HCN)  
 Wear self-contained breathing apparatus.  
 Wear full protective suit.

Protective equipment:

## 6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection:

Ensure adequate ventilation  
 Do not allow material to be released to the environment without proper governmental permits.  
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
 Dispose of contaminated material as waste according to item 13.  
 Ensure adequate ventilation.

Measures for cleaning/collecting:

See Section 7 for information on safe handling  
 See section 8 for information on personal protection equipment.  
 See Section 13 for information on disposal.

Additional information:

## 7 Handling and storage

Handling

Information for safe handling:

Handle under dry protective gas.  
 Keep containers tightly sealed.  
 Store in cool, dry place in tightly closed containers.  
 Ensure good ventilation/exhaustion at the workplace.  
 Open and handle container with care.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Storage  
 Requirements to be met by storerooms and containers:

No special requirements.

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**Information about storage in one common storage facility:**

Store away from oxidizing agents.  
Store away from air.  
Store in the dark.

**Further information about storage conditions:**

Store under dry inert gas.  
Avoid contact with air / oxygen.  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.  
Protect from the effects of light.  
Store in a locked cabinet or with access restricted to technical experts or their assistants.  
This product is air sensitive.

## 8 Exposure controls and personal protection

**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Components with critical values that require monitoring at the workplace:**

o-Toluidine  
mg/m3  
ACGIH TLV 8.8, A3 (skin)  
Belgium TWA 8.8 (skin)  
Denmark TWA 9 (skin)  
Finland TWA 22; 44-STEEL (skin)  
France TWA 9  
Ireland TWA 8.8 (skin)  
Netherlands TWA 9 (skin)  
Poland TWA 3; 9-STEEL  
Russia TWA 0.5; 1-STEEL (skin)  
Switzerland TWA 0.5 (skin)  
United Kingdom TWA 9; 22-STEEL  
USA PEL 22 (skin)

**Components with critical values that require monitoring at the workplace:**  
**Additional information:**

No data

**Personal protective equipment**

**General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.  
Keep away from foodstuffs, beverages and food.  
Instantly remove any soiled and impregnated garments.  
Wash hands during breaks and at the end of the work.  
Store protective clothing separately.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.  
Use breathing protection with high concentrations.  
Face protection  
Safety glasses  
Protective work clothing.

**Breathing equipment:**

**Eye protection:**

**Body protection:**

## 9 Physical and chemical properties:

**General Information**

**Form:** Liquid  
**Colour:** Yellowish  
**Smell:** Unpleasant

**Change in condition**

**Melting point/Melting range:** -24°C  
**Boiling point/Boiling range:** 199-202°C  
**Sublimation temperature / start:** Not determined

**Flash point:** 85°C

**Ignition temperature:** 480°C

**Decomposition temperature:** Not determined

**Danger of explosion:** Product is not explosive.

**Critical values for explosion:**

**Lower:** 1.5 Vol %  
**Upper:** 7.5 Vol %

**Steam pressure at 20°C:** 0.18 hPa

**Density at 20°C** 1.004 g/cm<sup>3</sup>

**Solubility in / Miscibility with Water at 20°C:** 15 g/l

## 10 Stability and reactivity

**Thermal decomposition / conditions to be avoided:**

**Materials to be avoided:**

No decomposition if used and stored according to specifications.  
Light  
Oxidizing agents

**Dangerous reactions:**

**Dangerous products of decomposition:**

Air  
Reacts violently with nitric acid (HNO<sub>3</sub>).  
Carbon monoxide and carbon dioxide  
Nitrogen oxides (NO<sub>x</sub>)  
Possibly Hydrogen cyanide (HCN)  
Turns reddish-brown on exposure to light.

**Additional information:**

## 11 Toxicological information

**Acute toxicity:**

**LD/LC50 values that are relevant for classification:**

Oral	LD50	520 mg/kg (mouse) 670 mg/kg (rat)
Dermal	LD50	3250 µL/kg (rabbit)

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Inhalative	LC50/4H	3827 mg/m3/4H (rat)
Irritation of skin	mild	862 ppm/4H (rat)
Irritation of eyes	severe	500 mg/24H (rabbit)
		750 µg/24H (rabbit)

**Primary irritant effect:****on the skin:****on the eye:****Sensitization:****Other information (about experimental toxicology):****Additional toxicological information:**

Causes mild irritant effect.  
Irritant effect.  
No sensitizing effect known.

Carcinogenic effects have been observed on tests with laboratory animals.  
Mutagenic effects have been observed on tests with laboratory animals.  
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.  
Danger by skin resorption.  
IARC-2A: Probably carcinogenic to humans: limited human evidence; sufficient evidence in experimental animals  
NTP-2: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.  
ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) not considered relevant to worker exposure.  
Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this product.

**12 Ecological information:****Ecotoxicological effects:****Remark:****Additional ecological information:****General notes:**

Very toxic for fish

Water danger class 3 (Self-assessment): extremely hazardous for water.  
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into soil.  
Also poisonous for fish and plankton in water bodies.  
Do not allow material to be released to the environment without proper governmental permits.  
Very toxic for aquatic organisms

**13 Disposal considerations****Product:****Recommendation**

Hand over to disposers of hazardous waste.  
Must be specially treated under adherence to official regulations.  
Consult state, local or national regulations for proper disposal.

**Uncleaned packagings:****Recommendation:**

Disposal must be made according to official regulations.

**14 Transport information****Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)****ADR/RID-GGVS/E Class:**

6.1 (T1) Toxic substances.

**Kemler Number:**

60

**UN-Number:**

1708

**Packaging group:**

II

**Label**

6.1

**Special marking:**

Symbol (fish and tree)

**Designation of goods:**

1708 TOLUIDINES, LIQUID

**Limited quantities (LQ)**

LQ17

**Transport category**

2

**Tunnel restriction code**

D/E

**Maritime transport IMDG/GGVSea:****IMDG/GGVSea Class:**

6.1

**UN Number:**

1708

**Label**

6.1

**Packaging group:**

II

**Marine pollutant:**

Yes (P)

Symbol (fish and tree)

TOLUIDINES, LIQUID

**Correct technical name:****Air transport ICAO-TI and IATA-DGR:****ICAO/IATA Class:**

6.1

**UN/ID Number:**

1708

**Label**

6.1

**Packaging group:**

II

**Correct technical name:**

TOLUIDINES, LIQUID

**UN "Model Regulation":**

UN1708, TOLUIDINES, LIQUID, 6.1, II

**Environmental hazards:**

Environmentally hazardous substance, liquid; Marine Pollutant

**15 Regulatory information****Designation according to EC guidelines:****Code letter and hazard designation of product:**

T Toxic

N Dangerous for the environment

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<b>Risk phrases:</b>	45 May cause cancer. 23/25 Also toxic by inhalation and if swallowed. 36 Irritating to eyes. 50 Very toxic to aquatic organisms.
<b>Safety phrases:</b>	53 Avoid exposure - obtain special instructions before use. 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). 61 Avoid release to the environment. Refer to special instructions/safety data sheets.
<b>National regulations</b>	
<b>Information about limitation of use:</b>	Employment restrictions concerning young persons must be observed. For use only by technically qualified individuals.
<b>Water hazard class:</b>	Water danger class 3 (Self-assessment): extremely hazardous for water.

**16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing data specification sheet:** Health, Safety and Environmental Department.  
**Contact:** Zachariah Holt  
**Abbreviations and acronyms:** ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
 ICAO: International Civil Aviation Organization  
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)  
 P: Marine Pollutant  
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent

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