

Material Safety Data Sheet

m-Toluidine

ACC# 96947

Section 1 - Chemical Product and Company Identification

MSDS Name: m-Toluidine

Catalog Numbers: AC157870000, AC157870010, AC157870050

Synonyms: 1-Amino-3-methylbenzene; 3-Amino-1-methylbenzene; 3-Aminophenylmethane; 3-Methylaniline; 3-Methylbenzenamine; 3-Aminotoluene.

Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
108-44-1	m-Toluidine	99	203-583-1

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless to light yellow liquid. Flash Point: 86 deg C.

Warning! Harmful if swallowed. Causes eye, skin, and respiratory tract irritation. May be absorbed through intact skin. Methemoglobin former - can cause cyanosis. **Combustible liquid and vapor.** May cause blood abnormalities. Light sensitive. Air sensitive. May cause kidney damage.

Target Organs: Blood, kidneys, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation.

Skin: Causes skin irritation. May be absorbed through the skin. Causes symptoms similar to those of inhalation.

Ingestion: Harmful if swallowed. May cause irritation of the digestive tract. May cause kidney damage. May cause effects similar to those for inhalation exposure. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown colored blood. Exposure may cause anemia and other blood abnormalities. Overexposure may cause methemoglobinemia.

Inhalation: May cause anoxia, characterized by weakness, headache, dizziness, confusion, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), weak and irregular heart beat, collapse, unconsciousness, convulsions, coma and death.

Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown blood. Inhalation causes anoxia due to the formation of methemoglobin and hematuria. May cause methemoglobinemia.

Chronic: Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation may cause effects similar to those of acute inhalation. May cause kidney injury. Absorption into the body leads to the formation of methemoglobin which in sufficient concentrations causes cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). May cause anemia and other blood cell abnormalities.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Absorption of this product into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Moderate degrees of cyanosis need to be treated only by supportive measures: bed rest and oxygen inhalation. For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood. Cleansing of the entire contaminated area of the body is of utmost importance.

Antidote: Methylene blue, alone or in combination with oxygen is indicated as a treatment in nitrite induced methemoglobinemia.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Combustible liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: 86 deg C (186.80 deg F)

Autoignition Temperature: 482 deg C (899.60 deg F)
Explosion Limits, Lower:Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 2; Flammability: 2; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Approach spill from upwind. Control runoff and isolate discharged material for proper disposal. Use water spray to cool and disperse vapors and protect personnel.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat and flame. Avoid breathing vapor or mist.

Storage: Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from light.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
m-Toluidine	2 ppm TWA; Skin - potential significant contribution to overall exposure by the cutaneous route	none listed	none listed

OSHA Vacated PELs: m-Toluidine: 2 ppm TWA; 9 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: colorless to light yellow

Odor: aromatic odor - amine-like

pH: Not available.

Vapor Pressure: 0.303 mm Hg @ 25 deg C

Vapor Density: 3.7 (air=1)

Evaporation Rate:Not available.

Viscosity: Not available.

Boiling Point: 203-204 deg C

Freezing/Melting Point:-50 deg C

Decomposition Temperature:Not available.

Solubility: Slightly soluble.

Specific Gravity/Density: 0.9900

Molecular Formula:C₇H₉N

Molecular Weight:107.15

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Substance undergoes color change upon exposure to light and air.

Conditions to Avoid: Light, ignition sources, exposure to air, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents, acids.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 108-44-1: XU2800000

LD50/LC50:

CAS# 108-44-1:

Draize test, rabbit, eye: 20 mg/24H Moderate;
Draize test, rabbit, skin: 500 mg/24H Mild;
Oral, mouse: LD50 = 740 mg/kg;
Oral, rabbit: LD50 = 750 mg/kg;
Oral, rat: LD50 = 450 mg/kg;
Skin, rabbit: LD50 = 3250 mg/kg;

Carcinogenicity:

CAS# 108-44-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No data available.

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: No information found

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.

Environmental: Terrestrial: Will bind to the soil and probably rapidly disappear due to microbial and chemical processes. 3-Aminotoluene is readily biodegradable.

Physical: No information available.

Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	TOLUIDINES, LIQUID	TOLUIDINES, LIQUID
Hazard Class:	6.1	6.1
UN Number:	UN1708	UN1708
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 108-44-1 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 108-44-1: immediate, fire.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 108-44-1 can be found on the following state right to know lists: California, New Jersey, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T N

Risk Phrases:

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 33 Danger of cumulative effects.

R 50 Very toxic to aquatic organisms.

Safety Phrases:

S 36/37 Wear suitable protective clothing and gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 28A After contact with skin, wash immediately with plenty of water

S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 108-44-1: 2

Canada - DSL/NDSL

CAS# 108-44-1 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2B, D1B, B3.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 108-44-1 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 5/28/1999

Revision #4 Date: 2/26/2004

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.