

MATERIAL SAFETY DATA SHEET

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Version 1.7

Section 1 - Product and Company Information

Product Name M-CRESOL, 99%
Product Number C85727
Brand ALDRICH

Company Sigma-Aldrich
Address 3050 Spruce Street
SAINT LOUIS MO 63103 US

Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
M-CRESOL	108-39-4	Yes

Formula C7H8O
Synonyms 3-Cresol * m-Cresol (ACGIH:OSHA) * m-Cresole *
m-Cresylic acid * 1-Hydroxy-3-methylbenzene *
m-Hydroxytoluene * 3-Hydroxytoluene * m-Kresol *
m-Methylphenol * 3-Methylphenol * m-Oxytoluene *
Phenol, 3-methyl- (9CI) * RCRA waste number U052
* m-Toluol
RTECS Number: GO6125000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Toxic.

Toxic in contact with skin and if swallowed. Causes burns.

Readily absorbed through skin. Combustible. Target organ(s):

Central nervous system. Lungs.

HMIS RATING

HEALTH: 3*

FLAMMABILITY: 2

REACTIVITY: 1

NFPA RATING

HEALTH: 3

FLAMMABILITY: 2

REACTIVITY: 1

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is

conscious. Call a physician immediately. Do not induce vomiting.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

186.8 °F 86 °C Method: closed cup

EXPLOSION LIMITS

Lower: 1.06 % Upper: 1.35 %

AUTOIGNITION TEMP

558 °C

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Combustible liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Keep away from heat and open

flame. Store in a cool dry place.
Unsuitable: May discolor on exposure to air and light.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

Other: Faceshield (8-inch minimum).

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	5 PPM
Remarks: Skin			
USA	MSHA Standard-air	TWA	5 PPM (22 MG/M3)
USA	OSHA.	PEL	8H TWA 5 PPM (22 MG/M3) (SKIN)
New Zealand OEL			
Remarks: check ACGIH TLV			
USA	NIOSH	TWA	2.3 PPM

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Liquid	
Property	Value	At Temperature or Pressure
Molecular Weight	108.14 AMU	
pH	N/A	
BP/BP Range	200.0 - 203.0 °C	
MP/MP Range	8.0 - 10.0 °C	
Freezing Point	N/A	
Vapor Pressure	< 1 mmHg	20 °C
Vapor Density	3.72 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	1.034 g/cm3	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	12.9 Pas	25 °C
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	186.8 °F 86 °C	Method: closed cup
Explosion Limits	Lower: 1.06 %	

Flammability	Upper: 1.35 %
Autoignition Temp	N/A
Refractive Index	558 °C
Optical Rotation	1.542
Miscellaneous Data	N/A
Solubility	N/A
	Other Solvents: SOLUBLE IN ACETONE, ETHANOL, MISCIBLE IN ALCOHOL, ETHER

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Oxidizing agents, Bases.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: Toxic if absorbed through skin. Readily absorbed through skin.

Eye Contact: Causes burns.

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: Toxic if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Central nervous system. Eyes. Liver. Kidneys. Lungs.

SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Exposure can cause: Damage to the eyes. Damage to the kidneys. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA

Oral

Rat

242 mg/kg

LD50

Remarks: Behavioral: Somnolence (general depressed activity).

Behavioral: Convulsions or effect on seizure threshold.

Gastrointestinal: Peritonitis.

Inhalation

Rat

> 710 mg/m3
LC50

Skin
Rat
1100 mg/kg
LD50

Oral
Mouse
828 mg/kg
LD50

Intraperitoneal
Mouse
168 MG/KG
LD50

Skin
Rabbit
2050 mg/kg
LD50

Remarks: Behavioral:Convulsions or effect on seizure threshold.
Sense Organs and Special Senses (Nose, Eye, Ear, and
Taste):Eye:Lacrimation. Gastrointestinal:Changes in structure or
function of salivary glands.

IRRITATION DATA

Skin
Rabbit
517 mg
24H
Remarks: Severe irritation effect

Eyes
Rabbit
103 mg
Remarks: Severe irritation effect

CHRONIC EXPOSURE - CARCINOGEN

Species: Mouse
Route of Application: Skin
Dose: 2280 MG/KG
Exposure Time: 20W
Frequency: I
Result: Tumorigenic:Neoplastic by RTECS criteria. Skin and
Appendages: Other: Tumors.

CHRONIC EXPOSURE - TERATOGEN

Species: Rabbit
Dose: 134 GM/KG
Route of Application: Subcutaneous
Exposure Time: (6-18D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death,
e.g., stunted fetus).

CHRONIC EXPOSURE - MUTAGEN

Species: Human

Dose: 10 UMOL/L
Exposure Time: 4H
Cell Type: HeLa cell
Mutation test: DNA inhibition

Section 12 - Ecological Information

ACUTE ECOTOXICITY TESTS

Test Type: EC50 Algae
Time: 24 h
Value: 110 mg/l

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 24 h
Value: 25 mg/l

Test Type: LC50 Fish
Species: Leuciscus idus
Time: 48 h
Value: 17.0 - 19.0 mg/l

Test Type: LC50 Fish
Species: Onchorhynchus mykiss (Rainbow trout)
Time: 96 h
Value: 8.9 mg/l

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Cresols
UN#: 2076
Class: 6.1
Packing Group: Packing Group II
Hazard Label: Toxic substances.
Hazard Label: Corrosive
PIH: Not PIH

IATA

Proper Shipping Name: Cresols, liquid (o-, m-, p-)
IATA UN Number: 2076
Hazard Class: 6.1
Packing Group: II

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: T
Indication of Danger: Toxic.
R: 24/25-34
Risk Statements: Toxic in contact with skin and if swallowed.
Causes burns.
S: 36/37/39-45
Safety Statements: Wear suitable protective clothing, gloves,