

Material Safety Data Sheet

p-Cresol

ACC# 17610

Section 1 - Chemical Product and Company Identification

MSDS Name: p-Cresol

Catalog Numbers: AC405740040, O2043-4

Synonyms: 4-Cresol; p-Cresylic Acid; 1-Hydroxy-4-Methylbenzene; p-Hydroxytoluene; 4-Hydroxytoluene; p-Methylphenol.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
106-44-5	p-Cresol	>98	203-398-6

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless to light yellow solid. Flash Point: 187 deg F.

Danger! Corrosive. Causes eye and skin burns. Harmful if swallowed or absorbed through the skin. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns. May cause lung damage. Eye contact may result in permanent eye damage. May cause liver and kidney damage.

Target Organs: Kidneys, liver, respiratory system.

Potential Health Effects

Eye: Causes eye burns. May result in corneal injury. Contact with liquid is corrosive to the eyes and causes severe burns.

Skin: Causes skin burns. May be absorbed through the skin in harmful amounts.

Ingestion: May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. Causes severe digestive tract burns with abdominal pain, vomiting, and possible death. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.

Inhalation: Irritation may lead to chemical pneumonitis and pulmonary edema. May cause liver and kidney damage. May cause severe irritation of the upper respiratory tract with pain, burns, and inflammation. Causes chemical burns to the respiratory tract.

Chronic: Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin: Get medical aid immediately. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Treat symptomatically and supportively.

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. Water runoff can cause environmental damage. Dike and collect water used to fight fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May polymerize explosively when involved in a fire.

Extinguishing Media: For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.

Flash Point: 187e deg F (86.11 deg C)

Autoignition Temperature: 1038 deg F (558.89 deg C)

Explosion Limits, Lower: 1.1% @ 150C

Upper: Not available.

NFPA Rating: (estimated) Health: 3; 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. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Do not ingest or inhale. Discard contaminated shoes. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

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 ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
p-Cresol	5 ppm TWA; skin - potential for cutaneous absorption	2.3 ppm TWA; 10 mg/m ³ TWA 250 ppm IDLH	none listed

OSHA Vacated PELs: p-Cresol: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin. Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: colorless to light yellow

Odor: phenol-like

pH: Not available.

Vapor Pressure: 1 mm Hg @ 53C

Vapor Density: 3.72 (air=1)

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 396 deg F

Freezing/Melting Point: 95 deg F

Decomposition Temperature: Not available.

Solubility: 22.6g/L @ 40C.

Specific Gravity/Density: 1.03 (water=1)

Molecular Formula: C₇H₈O

Molecular Weight: 108.0554

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: High temperatures, incompatible materials.

Incompatibilities with Other Materials: Oxidizing agents, strong acids, coatings, plastics, rubber, aliphatic amines, amides (e.g. butyramide, diethyltoluamide, dimethyl formamide), chlorosulfonic acid, oleum, alkalies.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, cresol.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 106-44-5: GO6475000

LD50/LC50:

CAS# 106-44-5:

- Draize test, rabbit, eye: 103 mg Severe;
- Draize test, rabbit, skin: 517 mg/24H Severe;
- Inhalation, rat: LC50 = >710 mg/m³/1H;
- Inhalation, rat: LC50 = 29 mg/m³;
- Oral, mouse: LD50 = 344 mg/kg;
- Oral, mouse: LD50 = 160 mg/kg;
- Oral, rabbit: LD50 = 620 mg/kg;
- Oral, rat: LD50 = 207 mg/kg;
- Oral, rat: LD50 = 270 mg/kg;
- Skin, rabbit: LD50 = 301 mg/kg;
- Skin, rabbit: LD50 = 301 mg/kg;
- Skin, rat: LD50 = 750 mg/kg;
- Skin, rat: LD50 = 750 mg/kg;

Carcinogenicity:

CAS# 106-44-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.

Teratogenicity: TDLo(skin, mouse) = 2280 mg/kg/20W-I; Tumorigenic - neoplastic by RTECS criteria; Skin and Appendages - tumors.

Reproductive Effects: No information available.

Neurotoxicity: No information available.

Mutagenicity: DNA inhibition(Human Lymphocyte) = 25 umol/L.

Other Studies: Standard Draize test(skin, rabbit) = 517 mg/24H; SevereStandard Draize test (eye, rabbit) = 103 mg; Severe

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: LC50 = 19-28.6 mg/L; 96 Hr.; UnspecifiedFish: LC50 = 19-28.6 mg/L; 96 Hr.; UnspecifiedBacteria: Phytobacterium phosphoreum: EC50 = 1.6 mg/L; 15 Minutes; Microtox test No data available.

Environmental: p-Cresol is poorly adsorbed to soil and, therefore, should leach extensively. It

biodegrades rapidly in water and while there is evidence that it also biodegrades in soil, rate data is lacking. Biodegradation is predicted to be the dominant transformation process in eutrophic waters.

Physical: The photochemical half-life of p-cresol during the daytime is 10 hr while at night it is 4 min. The dominant reactions are with hydroxyl radical during daylight hours and with nitrate radicals at night.

Other: Using the log octanol-water partition coefficient of 1.94, a bioconcentration factor of 18 is estimated. Therefore p-cresol would not be expected to bioconcentrate significantly in fish.

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:	CRESOLS, LIQUID	No information available.
Hazard Class:	6.1	
UN Number:	UN2076	
Packing Group:	II	

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 106-44-5 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 106-44-5: Effective 10/4/82, Sunset 10/4/92

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

CAS# 106-44-5: 100 lb final RQ; 45.4 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 106-44-5: acute, flammable.

Section 313

This material contains p-Cresol (CAS# 106-44-5, >98%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 106-44-5 is listed as a hazardous air pollutant (HAP).
 This material does not contain any Class 1 Ozone depleters.
 This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CAS# 106-44-5 is listed as a Hazardous Substance 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# 106-44-5 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, 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:**

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Risk Phrases:

R 34 Causes burns.

R 24/25 Toxic in contact with skin and if swallowed.

Safety Phrases:

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

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

WGK (Water Danger/Protection)

CAS# 106-44-5: 2

Canada - DSL/NDSL

CAS# 106-44-5 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B3, D1A, E.

Canadian Ingredient Disclosure List

CAS# 106-44-5 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 5/05/1999

Revision #4 Date: 3/04/2004

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.