1. PRODUCT AND COMPANY IDENTIFICATION

Product name: p-Cresol

Product Number: W233706

Brand: Aldrich

Supplier: Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone: +1 800-325-5832
Fax: +1 800-325-5052

Emergency Phone #: (314) 776-6555

Preparation Information: Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Highly toxic by inhalation, Toxic by ingestion, Toxic by skin absorption

Target Organs
Central nervous system, Lungs, Eyes, Liver, Kidney

GHS Classification
Acute toxicity, Oral (Category 3)
Acute toxicity, Inhalation (Category 2)
Acute toxicity, Dermal (Category 3)
Acute aquatic toxicity (Category 2)

GHS Label elements, including precautionary statements

Pictogram

Signal word: Danger

Hazard statement(s)
H301 + H311 Toxic if swallowed or in contact with skin
H330 Fatal if inhaled.
H401 Toxic to aquatic life.

Precautionary statement(s)
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ protective clothing.
P284 Wear respiratory protection.
P310 Immediately call a POISON CENTER or doctor/ physician.

HMIS Classification
Health hazard: 3
Flammability: 0
Physical hazards: 0
NFPA Rating
Health hazard: 3
Fire: 2
Reactivity Hazard: 0

Potential Health Effects
Inhalation: May be fatal if inhaled. May cause respiratory tract irritation.
Skin: Toxic if absorbed through skin. May cause skin irritation.
Eyes: May cause eye irritation.
Ingestion: Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS
Synonyms: 4-Methylphenol
Formula: C₇H₈O
Molecular Weight: 108.14 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>p-Cresol</td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>106-44-5</td>
</tr>
<tr>
<td>EC-No.</td>
<td>203-398-6</td>
</tr>
<tr>
<td>Index-No.</td>
<td>604-004-00-9</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability
Not flammable or combustible.

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Carbon oxides

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
7. HANDLING AND STORAGE

**Precautions for safe handling**
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

**Conditions for safe storage**
Keep container tightly closed in a dry and well-ventilated place. hygroscopic Air and light sensitive. Handle and store under inert gas.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>p-Cresol</td>
<td>106-44-5</td>
<td>TWA 5 ppm</td>
<td>22 mg/m³</td>
<td>USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants</td>
</tr>
</tbody>
</table>

Remarks: Skin contact does contribute to exposure.

|          | TWA 5 ppm | 22 mg/m³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |

Skin contact does contribute to exposure.

|          | TWA 5 ppm | 22 mg/m³ | USA. ACGIH Threshold Limit Values (TLV) |

Skin contact does contribute to exposure.

|          | TWA 2.3 ppm | 10 mg/m³ | USA. NIOSH Recommended Exposure Limits |
|          | TWA 20 mg/m³ |       | USA. ACGIH Threshold Limit Values (TLV) |

Upper Respiratory Tract irritation 2010 Adoption Not classifiable as a human carcinogen Danger of cutaneous absorption

**Personal protective equipment**

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Immersion protection**
Material: Nitrile rubber
Minimum layer thickness: 0.4 mm
Break through time: > 480 min
Material tested: Camatril® (Aldrich Z677442, Size M)

**Splash protection**
Material: Nitrile rubber
Minimum layer thickness: 0.2 mm
Break through time: > 30 min
Material tested: Dermatril® P (Aldrich Z677388, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Eye protection**
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
- **Form**: crystalline
- **Colour**: colourless

**Safety data**
- **pH**: no data available
- **Melting point/freezing point**: Melting point/range: 31 - 37°C (88 - 99°F)
  
  Melting point/range: 32 - 34°C (90 - 93°F) - lit.
- **Boiling point**: 202°C (396°F) - lit.
- **Flash point**: 85.0°C (185.0°F) - closed cup
- **Ignition temperature**: 559°C (1,038°F)
- **Autoignition temperature**: 559.0°C (1,038.2°F)
- **Lower explosion limit**: 1.1%(V)
- **Vapour pressure**: 1.3 hPa (1.0 mmHg) at 20.0°C (68.0°F)
- **Density**: 1.034 g/cm³ at 25°C (77°F)
- **Water solubility**: no data available
- **Partition coefficient: n-octanol/water**: log Pow: 1.94
- **Relative vapour density**: no data available
- **Odour**: no data available
- **Odour Threshold**: no data available
- **Evaporation rate**: no data available

### 10. STABILITY AND REACTIVITY

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of hazardous reactions**
no data available
Conditions to avoid
no data available

Materials to avoid
Oxidizing agents, Bases

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
LD50 Oral - rat - 207.0 mg/kg

Inhalation LC50
LC50 Inhalation - rat - 1 h - > 710 mg/m3

Dermal LD50
LD50 Dermal - rabbit - 301.0 mg/kg

Other information on acute toxicity
no data available

Skin corrosion/irritation
Skin - rabbit - Severe skin irritation - 24 h

Serious eye damage/eye irritation
Eyes - rabbit - Severe eye irritation

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Teratogenicity
no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available
Aspiration hazard
no data available

Potential health effects

<table>
<thead>
<tr>
<th>Component</th>
<th>Effect</th>
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<tr>
<td>Inhalation</td>
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<td>May cause eye irritation.</td>
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Signs and Symptoms of Exposure
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, laryngitis, Dizziness, Cardiovascular effects., Muscle cramps/spasms., Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

Synergistic effects
no data available

Additional Information
RTECS: GO6475000

12. ECOLOGICAL INFORMATION

Toxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>LC50 - other fish - 16.00 - 24.00 mg/l - 24 h</td>
</tr>
<tr>
<td></td>
<td>LC50 - Oncorhynchus mykiss (rainbow trout) - 7.9 mg/l - 96 h</td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>LC50 - Daphnia magna (Water flea) - 1.4 mg/l - 48 h</td>
</tr>
</tbody>
</table>

Persistence and degradability
no data available

Bioaccumulative potential
Does not bioaccumulate.

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life.
no data available

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 3455 Class: 6.1 (8) Packing group: II
Proper shipping name: Cresols, solid Reportable Quantity (RQ): 100 lbs Marine pollutant: No
Poison Inhalation Hazard: No

**IMDG**
- UN number: 3455  
- Class: 6.1 (8)  
- Packing group: II  
- EMS-No: F-A, S-B  
- Proper shipping name: CRESOLS, SOLID  
- Marine pollutant: No

**IATA**
- UN number: 3455  
- Class: 6.1 (8)  
- Packing group: II  
- Proper shipping name: Cresols, solid

### 15. REGULATORY INFORMATION

**OSHA Hazards**
- Highly toxic by inhalation, Toxic by ingestion, Toxic by skin absorption

**SARA 302 Components**
- SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**
The following components are subject to reporting levels established by SARA Title III, Section 313:

<table>
<thead>
<tr>
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<td>p-Cresol</td>
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<td>2007-07-01</td>
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**SARA 311/312 Hazards**
- Acute Health Hazard

**Massachusetts Right To Know Components**
- p-Cresol  
  - CAS-No.: 106-44-5  
  - Revision Date: 2007-07-01

**Pennsylvania Right To Know Components**
- p-Cresol  
  - CAS-No.: 106-44-5  
  - Revision Date: 2007-07-01

**New Jersey Right To Know Components**
- p-Cresol  
  - CAS-No.: 106-44-5  
  - Revision Date: 2007-07-01

**California Prop. 65 Components**
- This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

### 16. OTHER INFORMATION

**Further information**
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