

CRESYLIC ACID

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SECTION 1: IDENTIFICATION

1.1 GHS Product identifier:

CRESYLIC ACID
Synonyms: Cresols (mixed isomers); Methylphenols; Tricresol
CAS: 1319-77-3

Other means of identification:

Not relevant

1.2 Recommended use of the chemical and restrictions on use:

Relevant uses: Chemical intermediate for resins, disinfectant/solvent formulations, ore flotation (frothing) agent, wire enamel and specialty solvent manufacture. For industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3.

1.3 Supplier's details:

SURAJ CHEMICALS
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1.4 Emergency phone number:

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SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), based on the published harmonized classification for cresols (mixed isomers).

Acute Tox. 3 (oral)	Acute oral toxicity, Category 3, H301
Acute Tox. 3 (dermal)	Acute dermal toxicity, Category 3, H311
Acute Tox. 3 (inhalation)	Acute inhalation toxicity, Category 3, H331
Skin Corr. 1B	Skin corrosion, Category 1B, H314
STOT RE 1	Specific target organ toxicity, repeated exposure, Category 1, H372
Aquatic Acute 1	Hazardous to the aquatic environment, acute hazard, Category 1, H400

2.2 GHS label elements, including precautionary statements:

GHS: Danger

Hazard statements:

H301 – Toxic if swallowed.
H311 – Toxic in contact with skin.
H314 – Causes severe skin burns and eye damage.
H331 – Toxic if inhaled.
H372 – Causes damage to organs (nervous system, liver, kidneys) through prolonged or repeated exposure.
H400 – Very toxic to aquatic life.

Precautionary statements:

P260: Do not breathe dust/fume/gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P284: Wear respiratory protection.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303+P361+P353: IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314: Get medical advice/attention if you feel unwell.
P391: Collect spillage.
P501: Dispose of contents/container in accordance with local/national regulations on hazardous waste.

2.3 Other hazards which do not result in classification:

Readily absorbed through intact skin, contributing significantly to systemic toxicity; this absorption route requires particular attention during handling. Not a PBT/vPvB substance per current assessment criteria.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances:

Chemical description: Cresylic acid (mixture of ortho-, meta- and para-cresol isomers)
In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 1319-77-3	Cresols (mixed isomers) — Acute Tox. 3: H301, H311, H331; Skin Corr. 1B: H314; STOT RE 1: H372; Aquatic Acute 1: H400 – Danger	≥97% (sum of isomers)

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

3.2 Mixtures:

Supplied as a technical-grade isomer mixture; exact ortho/meta/para ratio per batch is given in the certificate of analysis – see current specification sheet.

SECTION 4: FIRST AID MEASURES

4.1 Description of necessary first-aid measures:
Request medical assistance immediately, showing the SDS of this product.

By inhalation:
Remove the person affected to fresh air immediately and keep at rest. If breathing is difficult, give oxygen; if not breathing, give artificial respiration. Obtain immediate medical attention.

By skin contact:
Remove contaminated clothing immediately. Flood affected skin with plenty of water for at least 20 minutes. Obtain immediate medical attention – toxic and corrosive via skin contact and readily absorbed systemically.

By eye contact:
Rinse immediately and thoroughly with copious water for at least 20 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Obtain immediate medical attention.

By ingestion/aspiration:
Do NOT induce vomiting (risk of aspiration and further corrosive injury). Rinse mouth with water if conscious. Obtain immediate medical attention – toxic if swallowed.

4.2 Most important symptoms/effects, acute and delayed:
Acute and delayed effects are indicated in sections 2 and 11. Systemic effects (central nervous system depression, liver/kidney damage) can occur even from skin absorption alone.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:
Treat symptomatically under medical supervision. No specific antidote known; monitor liver/kidney/CNS function as indicated.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:
Suitable: Water spray/fog, foam (alcohol-resistant), dry chemical powder, carbon dioxide.
Unsuitable: High-pressure water jet (may spread fire).

5.2 Specific hazards arising from the chemical:
Combustible liquid. Vapours may form flammable mixtures with air and travel to ignition sources. Combustion produces toxic and irritating fumes including carbon monoxide and carbon dioxide.

5.3 Special protective actions for fire-fighters:
Evacuate non-essential personnel. Wear SCBA and full chemical-protective clothing. Cool containers with water spray from a safe distance. Contain fire-fighting run-off, preventing entry into drains/watercourses.

Additional provisions:
Vapour may be heavier than air and travel along the ground; eliminate all ignition sources in the vicinity of a spill.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:
For non-emergency personnel:
Evacuate the area and ventilate well. Eliminate ignition sources. Avoid all skin/eye contact and breathing vapour. Use PPE per section 8.

For emergency responders:
Wear full chemical-protective equipment including respiratory protection. Keep unprotected persons away.

6.2 Environmental precautions:
Prevent entry into drains, watercourses and soil – very toxic to aquatic life. Notify authorities if a significant release reaches the environment.

6.3 Methods and materials for containment and cleaning up:
Contain spillage with inert absorbent material (sand, vermiculite, absorbent clay). Collect in suitable labelled, chemically compatible containers for disposal. Ventilate the area thoroughly after cleanup.

6.4 Reference to other sections:
See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:
A. General precautions for safe use:
Use only in well-ventilated areas with local exhaust ventilation. Avoid breathing vapour. Avoid all contact with skin and eyes – this substance is readily absorbed through intact skin. Use closed-transfer systems wherever possible.

B. Technical recommendations for the prevention of fires and explosions:
Keep away from heat, sparks and open flames. Use explosion-proof electrical/ventilation/lighting equipment. Bond and ground equipment during transfer operations.

C. Technical recommendations on general occupational hygiene:
Do not eat, drink or smoke while handling. Wash hands and exposed skin thoroughly after use and before breaks. Remove and launder contaminated clothing before reuse.

D. Technical recommendations to prevent environmental risks:
Avoid release to drains and watercourses. See section 6.

7.2 Conditions for safe storage, including any incompatibilities:

A. Specific storage requirements:

Minimum Temp.	10°C
Maximum Temp.	30°C
Maximum time	12 Months (unopened, original packaging)

B. General conditions for storage:
Store in a cool, dry, well-ventilated place away from heat, ignition sources and strong oxidizers. Keep containers tightly closed. Bund storage areas to contain any leaks.

7.3 Specific end use(s):
Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:
Substances whose occupational exposure limits have to be assessed in the workplace, per the Factories Act, 1948, as amended, and international reference values:

Identification	Occupational Exposure Limit Type	Value
Cresol, all isomers CAS: 1319-77-3	Time Weighted average concentration (8 hrs)	22 mg/m³ (5 ppm), skin notation (per published international guidance)
	Short-term exposure limit	Typical value – refer to current specification sheet

8.2 Appropriate engineering controls:
Use local exhaust ventilation and closed-transfer systems to keep airborne concentrations below occupational exposure limits, supplemented by PPE.

B. Respiratory protection:
Full-face respirator with organic vapour cartridge; SCBA for high concentrations, confined spaces or emergency response.

C. Specific protection for the hands:
Chemical-resistant gloves (e.g. Viton® or multi-layer laminate – verify breakthrough time, as nitrile/PVC offer limited protection against phenolics). Replace at any sign of damage.

D. Eye and face protection:
Chemical splash goggles and face shield.

- E. Bodily protection:**
Chemical-resistant apron/coveralls and boots, impervious to phenolic liquids.
- F. Additional emergency measures:**
Emergency shower and eyewash stations must be immediately available.
- Environmental exposure controls:**
Avoid environmental release of both product and container. See subsection 7.1.D.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance	
Physical state at 20°C	Liquid (may partially solidify at low ambient temperature)
Appearance	Colorless to pale yellow/pink liquid, darkens on exposure to air/light
Color	Colorless to pale yellow/pink
Odor	Strong, characteristic phenolic (tar-like) odor
Odour threshold	Typical value – refer to current specification sheet (very low; detectable sub-ppm)
Volatility	
Boiling point at atmospheric pressure	191 – 203°C (isomer range)
Vapour pressure at 20°C / 50°C	Typical value – refer to current specification sheet (low)
Evaporation rate at 20°C	Typical value – refer to current specification sheet
Product Description	
Density / Relative density at 20°C	~1.03 – 1.04
Dynamic / Kinematic viscosity	Typical value – refer to current specification sheet
Concentration	≥97% typical (sum of isomers)
pH	Weakly acidic (phenolic); typical value – refer to current specification sheet
Vapour density at 20°C	Heavier than air (>1, relative to air)
Partition coefficient n-octanol/water 20°C	log Kow ≈ 1.9 – 2.0
Solubility in water at 20°C	Moderately soluble, approx. 20 – 25 g/L
Decomposition temperature	Typical value – refer to current specification sheet
Melting point/freezing point	~11 – 35°C (isomer-dependent; mixture typically remains liquid near ambient)
Flammability	
Flash Point	~81°C (closed cup, typical)
Flammability (solid, gas)	Combustible liquid
Autoignition temperature	Typical value – refer to current specification sheet (~555°C typical for cresols)
Lower / Upper flammability limit	1.1% – 1.4% (v/v, typical)
Particle Characteristics	
Median equivalent diameter	Non-applicable (liquid)

* Not relevant due to the nature of the product, not providing information on the properties of its hazards.

9.2 Other information:

Explosive properties	Not relevant *
Oxidising properties	Not an oxidizer; not classified
Corrosive to metals	Not significantly corrosive to common metals
Heat of combustion	Typical value – refer to current specification sheet
Surface tension at 20°C	Typical value – refer to current specification sheet
Refraction index	Typical value – refer to current specification sheet

SECTION 10: STABILITY AND REACTIVITY

- 10.1 Reactivity:**
Reacts with strong oxidizing agents, sometimes violently. Reacts with strong alkalis to form phenolate salts. Corrosive to some plastics and rubber.
- 10.2 Chemical stability:**
Stable under recommended storage conditions. Darkens on prolonged exposure to air and light.

- 10.3 Possibility of hazardous reactions:**
Under the specified conditions, hazardous reactions leading to excessive temperature or pressure are not expected, provided contact with strong oxidizers is avoided.

10.4 Conditions to avoid:

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Darkens/oxidizes slowly	Avoid heat and ignition sources	Avoid prolonged exposure	No special precautions

10.5 Incompatible materials:

Strong Oxidizers	Strong Alkalis	Combustible Materials	Certain Plastics/Rubber	Metals
Avoid contact – may react violently	Avoid contact – forms phenolates	Keep segregated	May degrade some elastomers/plastics	No special precautions

- 10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide on combustion; may release irritating phenolic vapours on strong heating.

SECTION 11: TOXICOLOGICAL INFORMATION

- 11.1 Information on toxicological effects:**
In case of exposure that is repetitive, prolonged, or at concentrations higher than the recommended occupational exposure limits, adverse health effects may result depending on the means of exposure:
- A. Ingestion (acute effect):**

Toxic if swallowed. Causes severe corrosive burns to the mouth, throat and gastrointestinal tract; systemic toxicity including CNS depression.

B. Inhalation (acute effect):

Toxic if inhaled. Causes severe irritation of the respiratory tract; may cause CNS depression, headache and dizziness at high concentrations.

C. Contact with skin and eyes (acute effect):

Toxic in contact with skin – readily absorbed, causing both local corrosive injury and systemic toxicity. Causes serious eye damage.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity):

Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data.

E. Sensitizing effects:

Classification criteria for respiratory or skin sensitisation are not met based on available data.

F. Specific target organ toxicity (STOT) – single exposure:

CNS effects covered under acute toxicity classification.

G. Specific target organ toxicity (STOT) – repeated exposure:

Causes damage to organs (nervous system, liver and kidneys) through prolonged or repeated exposure (H372) – Category 1.

H. Aspiration hazard:

Classification criteria are not met based on available data.

Product-specific toxicological information:

Identification	Acute Toxicity	Genus
Cresol (mixed isomers) CAS: 1319-77-3	LD50 oral: 121 – 242 mg/kg	Rat
	LD50 dermal: 300 – 620 mg/kg	Rabbit
	LC50 inhalation: Typical value – refer to current specification sheet	Rat

SECTION 12: ECOLOGICAL INFORMATION

Very toxic to aquatic life.

12.1 Toxicity:

Identification	Acute Toxicity	Species	Genus
Cresol (mixed isomers) CAS: 1319-77-3	LC50: 4.0 – 15 mg/L (96h)	Pimephales promelas	Fish
	EC50: 5 – 20 mg/L (48h)	Daphnia magna	Crustacean

12.2 Persistence and degradability:

Readily biodegradable under aerobic conditions per published international assessments.

12.3 Bioaccumulative potential:

Low to moderate bioaccumulation potential based on log Kow.

12.4 Mobility in soil:

Koc	Henry	Dry Soil	Moist Soil
Moderate	Low	Moderate mobility	Moderate mobility

12.5 Results of PBT and vPvB assessment:

Not identified as a PBT or vPvB substance per current assessment criteria.

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

Dispose of via a licensed hazardous-waste handler in accordance with local and national regulations, typically by controlled incineration. Do not discharge to drains or watercourses. For packaging: use dedicated containers; dispose as hazardous waste.

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023):

14.1 UN number	UN2076
14.2 UN proper shipping name	CRESOLS, LIQUID
14.3 Transport hazard class(es)	6.1 (Subsidiary: 8)
14.4 Packing group	II
14.5 Environmental hazard	Yes
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by sea (IMDG 41-22):

14.1 UN number	UN2076
14.2 UN proper shipping name	CRESOLS, LIQUID
14.3 Transport hazard class(es)	6.1 (Subsidiary: 8)
14.4 Packing group	II
14.5 Marine pollutant	Yes
14.6 Special precautions for user	EmS Codes: F-A, S-B
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by air (IATA/ICAO 2024):

14.1 UN number	UN2076
14.2 UN proper shipping name	CRESOLS, LIQUID
14.3 Transport hazard class(es)	6.1 (Subsidiary: 8)
14.4 Packing group	II
14.5 Environmental hazard	Yes

14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation:

Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
Public Liability Insurance Act, 1991

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3:

H301: Toxic if swallowed.
H311: Toxic in contact with skin.
H314: Causes severe skin burns and eye damage.
H331: Toxic if inhaled.
H372: Causes damage to organs through prolonged or repeated exposure.
H400: Very toxic to aquatic life.

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training:

Personnel handling this product should receive specific training on skin-absorption risk, correct PPE use and emergency procedures, in addition to general comprehension of this safety data sheet and the product label.

Principal bibliographical sources:

United Nations GHS (Rev. 8); European Chemicals Agency (ECHA) classification and labelling inventory; publicly available chemical supplier safety data sheets for this CAS number.

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Log-POW: Octanol-water partition coefficient | Koc: Partition coefficient of organic carbon

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

END OF SAFETY DATA SHEET