Chemical Safety Data Sheet MSDS / SDS

Chlorocresol SDS

Revision Date:2024-04-25 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: Chlorocresol

CAS: 59-50-7

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

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SECTION 2: Hazards identification

Classification of the substance or mixture

Acute toxicity - Category 4, Oral
Skin corrosion, Sub-category 1C

Serious eye damage, Category 1
Skin sensitization, Sub-category 1B
Specific target organ toxicity – single exposure, Category 3
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 3

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger

Hazard statement(s)

H410 Very toxic to aquatic life with long lasting effects
H302 Harmful if swallowed
H314 Causes severe skin burns and eye damage
H317 May cause an allergic skin reaction
H335 May cause respiratory irritation

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.

Response

P301+P317 IF SWALLOWED: Get medical help.
P330 Rinse mouth.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P316 Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P317 Get medical help.
P302+P352 IF ON SKIN: Wash with plenty of water/...
P333+P317 If skin irritation or rash occurs: Get medical help.
P362+P364 Take off contaminated clothing and wash it before reuse.
P319 Get medical help if you feel unwell.
P391 Collect spillage.

Storage

P405 Store locked up.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	Chlorocresol
Common names and synonyms:	Chlorocresol
CAS number:	59-50-7
EC number:	200-431-6
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention .

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Refer for medical attention .

Most important symptoms/effects, acute and delayed

Excerpt from ERG Guide 152 [Substances - Toxic (Combustible)]: Highly toxic, may be fatal if inhaled, swallowed or absorbed through skin. Contact with molten substance may cause severe burns to skin and eyes. Avoid any skin contact. Effects of contact or inhalation may be delayed. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. (ERG, 2016)

Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Phenols and related compounds

SECTION 5: Firefighting measures

Suitable extinguishing media

Excerpt from ERG Guide 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from

venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2016)

Specific hazards arising from the chemical

Excerpt from ERG Guide 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2016)

Special protective actions for fire-fighters

Use water spray, powder.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Then store and dispose of according to local regulations.

Environmental precautions

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Then store and dispose of according to local regulations.

Methods and materials for containment and cleaning up

Activated carbon is a good method for removing chlorophenols from water. Competitive adsorption occurs between chlorophenols and humic substances present in nearly all municipal water supplies. This competition decreases the capacity of carbon for chlorophenols. Chlorophenols

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Separated from food and feedstuffs. Dry.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

MAK sensitization of skin (SH)

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear safety goggles or eye protection in combination with breathing protection.

Skin protection

Protective gloves.

Respiratory protection

Use local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Chlorocresol is a pinkish to white crystalline solid with a phenolic odor. Melting point 64-66°C. Shipped as a solid or in a liquid carrier. Soluble in aqueous base. Toxic by ingestion, inhalation or skin absorption. Used as an external germicide. Used as a preservative in paints and inks.
Colour:	Dimorphous crystals ... aqueous solutions turn yellow on exposure to light and air
Odour:	Said to be odorless when very pure, but usually a phenolic odor persists
Melting point/freezing point:	-96°C(lit.)
Boiling point or initial boiling point and boiling range:	178°C
Flammability:	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	45°C(lit.)
Auto-ignition temperature:	590°C
Decomposition temperature:	no data available
pH:	pH = 5.6 in saturated aqueous solution
Kinematic viscosity:	no data available
Solubility:	less than 1 mg/mL at 68° F (NTP, 1992)
Partition coefficient n-octanol/water:	log Kow = 3.10
Vapour pressure:	5.00X10-2 mm Hg at 20 deg C
Density and/or relative density:	0.9 at 77° F (NTP, 1992)

Relative vapour density:	no data available
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on burning. This produces toxic and corrosive fumes including hydrogen chloride and phosgene.

Chemical stability

Aq solns turn yellow on exposure to light and air.

Possibility of hazardous reactions

CHLOROCRESOLS are incompatible with bases, acid chlorides, acid anhydrides, and oxidizing agents. Corrodes steel, brass, copper and copper alloys (NTP, 1992).

Conditions to avoid

no data available

Incompatible materials

p-Chloro-m-cresol is corrosive to metals and forms complex compounds with transition metal ions. Slow discoloration of the chemical occurs in the presence of sunlight.

Hazardous decomposition products

When heated to decomposition it emits toxic fumes of phosgene /and hydrogen chloride/.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat oral 1,360 - 1,610 mg/kg bw

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

Cancer Classification: Group D Not Classifiable as to Human Carcinogenicity

Reproductive toxicity

no data available

STOT-single exposure

The substance is irritating to the eyes, skin and respiratory tract.

STOT-repeated exposure

Repeated or prolonged contact may cause skin sensitization.

Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50; Species: Pimephales promelas (fathead minnow) 31 day old; Conditions: flow through, pH 7.24, 25.2 deg C, hardness 45.6 mg/L CaCO3; Concentration: 7.38 mg/L for 96 hr (confidence limit 6.26-8.71 mg/L)

Toxicity to daphnia and other aquatic invertebrates: LC50; Species: Daphnia magna (Water Flea); Concentration: 2.3 ppm for 48 hr (99.97% a.i.) /Conditions of bioassay not specified

Toxicity to algae: EC50; Species: Chlorella pyrenoidosa (Green Algae) 2x10+6 cells/mL; Conditions: freshwater, static, 22 deg C, pH 7.4; Concentration: 15000 ug/L for 72 hr (95% confidence interval: 12000-18000 ug/L); Effect: decreased population growth rate /99% purity

Toxicity to microorganisms: no data available

Persistence and degradability

Adapted mixed cultures, isolated by enrichment techniques from garden soil, compost, river mud, and the sediment of a petroleum refinery waste lagoon, were shown to be capable of partially degrading p-chloro-m-cresol. It is questionable, however, whether these studies can be extrapolated to the environment of ambient surface waters since the concn of the substrate chemical employed for enrichment of an organism and for obtaining a reasonable amount of cell growth is far above the concn generally found in nature.

Bioaccumulative potential

BCF values of 5.5 to 11 and 6.7 to 13 were measured using initial 3-methyl-4-chlorophenol concentrations of 2 ug/L and 20 ug/L, respectively(1). Tests were conducted in a continuous flow system with six weeks exposure using carp having an average lipid content of 4.9%(1). According to a classification scheme(2), these BCF ranges suggest that bioconcentration in aquatic organisms is low(SRC).

Mobility in soil

The Koc of 3-methyl-4-chlorophenol is 490(1). According to a classification scheme(2), this Koc value suggests that 3-methyl-4-chlorophenol is expected to have moderate mobility in soil. The pKa of 3-methyl-4-chlorophenol is 9.55(3), indicating that this compound will exist partially in the anion form in the environment and anions generally do not adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts(4). The chemical was found to be mobile in an activated carbon-sand filter system; this was considered to be indicative of a low adsorption potential in soil systems(5). 3-Methyl-4-chlorophenol concentration balance was 0.167 ug/L influent, not detected effluent from Steinhaeule, Neu-Ulmin, a major municipal sewage plant in Germany, sampled on March 11, 1998(6).

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: UN3437 (For reference only, please check.)
IMDG: UN3437 (For reference only, please check.)
IATA: UN3437 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: CHLOROCRESOLS, SOLID (For reference only, please check.)
IMDG: CHLOROCRESOLS, SOLID (For reference only, please check.)
IATA: CHLOROCRESOLS, SOLID (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.)
IMDG: 6.1 (For reference only, please check.)
IATA: 6.1 (For reference only, please check.)

Packing group, if applicable

ADR/RID: II (For reference only, please check.)

IMDG: II (For reference only, please check.)
IATA: II (For reference only, please check.)

Environmental hazards

ADR/RID: Yes
IMDG: Yes
IATA: Yes

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

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

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/