

Chemical Safety Data Sheet MSDS / SDS

3-chlorophenol SDS

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

Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8
Section 9	Section 10	Section 11	Section 12	Section 13	Section 14	Section 15	Section 16

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

Product name: 3-chlorophenol
CAS: 108-43-0

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
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SECTION 2: Hazards identification**Classification of the substance or mixture**

Acute toxicity - Category 4, Oral
Acute toxicity - Category 4, Dermal

Acute toxicity - Category 4, Inhalation
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Warning

Hazard statement(s)

H302 Harmful if swallowed
H312 Harmful in contact with skin
H332 Harmful if inhaled
H411 Toxic to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
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.
P302+P352 IF ON SKIN: Wash with plenty of water/...
P317 Get medical help.
P321 Specific treatment (see ... on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P391 Collect spillage.

Storage

none

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: 3-chlorophenol

Common names and synonyms: 3-chlorophenol

CAS number: 108-43-0

EC number: 203-582-6

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 and then wash skin with water and soap. 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. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention .

Most important symptoms/effects, acute and delayed

SYMPTOMS: Symptoms of exposure to this compound include irritation, burns and corrosion of the eyes, skin, mucous membranes and upper respiratory tract. It may also cause restlessness, increase in rate of respiration, motor weakness, tremors, clonic convulsions, dyspnea, coma and death. **ACUTE/CHRONIC HAZARDS:** This compound is toxic by inhalation, ingestion and skin absorption. When heated to decomposition it emits toxic fumes of carbon monoxide, carbon dioxide and hydrogen chloride gas. This compound may be corrosive. (NTP, 1992)

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

Use dry chemical, carbon dioxide, or foam extinguishers. Vapors are heavier than air and will collect in low areas. ...Vapors in confined areas may explode when exposed to fire. Containers may explode in fire. Storage containers and parts of containers may rocket great distances, in many directions. ...From a secure, explosion-proof location, use water spray to cool exposed containers. If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors, or shows any signs of deforming), withdraw immediately to a secure position. Monochlorophenols

Specific hazards arising from the chemical

This chemical is probably combustible. (NTP, 1992)

Special protective actions for fire-fighters

Use water spray, foam, powder, carbon dioxide.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical

enter the environment. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

Methods and materials for containment and cleaning up

Phenolic compd in wastewater are oxidized with hydrogen peroxide catalyzed by iron(3+)-iron(2+). When the wt ratio of phenol:hydrogen peroxide is 1:3 and iron 5-100 ppm, more than 95% of the phenols are removed in 30 min from a 500 ppm phenol soln at pH 5-6 and 25-50 deg C. Phenolic compd

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 strong oxidants and food and feedstuffs. Well closed. Store in tightly closed containers in a cool, well ventilated area. Metal containers involving the transfer of this chemical should be grounded and bonded. Where possible, automatically pump liquid from drums or other storage containers to process containers. Drums must be equipped with self-closing valves, pressure vacuum bungs, and flame arresters. Use only non-sparking tools and equipment, especially when opening and closing containers of this chemical. Sources of ignition such as smoking and open flames, are prohibited where this chemical is used, handled, or stored in a manner that could create a potential fire or explosion hazard. Monochlorophenols

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

Component	3-chlorophenol	
CAS No.	108-43-0	
	Limit value - Eight hours	Limit value - Short term

	ppm	mg/m ³	ppm	mg/m ³
Denmark	?	0,5	?	1,0
	Remarks			

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.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use local exhaust.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state: PHYSICAL DESCRIPTION: White crystals with an odor of phenol. Sinks in and slowly dissolves in water. (NTP, 1992)

Colour: Needles

Odour: Odor similar to phenol

Melting point/freezing point: -33°C(lit.)

Boiling point or initial boiling point and boiling range:	159°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:	30°C(lit.)
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	11.55 cP at 25 deg C
Solubility:	10 to 50 mg/mL at 59° F (NTP, 1992)
Partition coefficient n-octanol/water:	2.47/2.52
Vapour pressure:	0.109mmHg at 25°C
Density and/or relative density:	1.218
Relative vapour density:	no data available
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on heating. This produces toxic and corrosive fumes of hydrogen chloride (see ICSC 0163) and chlorine (see ICSC

0126). Reacts with oxidants.

Chemical stability

Discolors on exposure to air.

Possibility of hazardous reactions

M-CHLOROPHENOL is incompatible with acid chlorides, acid anhydrides and oxidizing agents (NTP, 1992).

Conditions to avoid

no data available

Incompatible materials

no data available

Hazardous decomposition products

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

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat oral 0.56 mL/kg

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

no data available

Reproductive toxicity

no data available

STOT-single exposure

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

STOT-repeated exposure

no data available

Aspiration hazard

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached on evaporation at 20°C.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50; Species: *Oncorhynchus mykiss* (Rainbow trout); Conditions: freshwater, renewal, 14.5-15.5 deg C, pH 8.0, dissolved oxygen 9.5-10.4 mg/L; Concentration: 10,000 ug/L for 48 hr /formulated product

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: *Daphnia magna* (Water flea, age <72 hr) Conditions: freshwater, static, 20 deg C, pH 7.8-8.2, hardness 200 mg/L CaCO₃, dissolved oxygen > or = 2.27 mg/L; Concentration: 15780 ug/L for 24 hr (95% confidence interval: 13800-17750 ug/L); Effect: intoxication, immobilization />95% purity

Toxicity to algae: EC50; Species: Pseudokirchneriella subcapitata (Green algae, exponential growth phase, 50000 cells/mL); Conditions: freshwater, static, 21 deg C; Concentration: 29000 ug/L for 96 hr; Effect: growth, general /formulated product

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: Biological degradation of chlorophenols in activated sludge ... 3-chlorophenol was found at a level of 100 mg/L, and was completely degraded in three days with 100% ring degradation.

Bioaccumulative potential

Carp exposed to 40 ug/L of 3-chlorophenol for a period of 6 weeks had BCF values in the range of 5.1-10 and carp exposed to 4 ug/L of 3-chlorophenol for a period of 6 weeks had BCF values in the range of 7.0-16(1). A BCF value of 20.0 (logBCF = 1.30) for 3-chlorophenol was reported(2). According to a classification scheme(3), these BCF values suggest that the potential for bioconcentration in aquatic organisms is low(SRC).

Mobility in soil

The Koc of 3-chlorophenol in soil was reported as 350(1). According to a classification scheme(2), this Koc value suggests that 3-chlorophenol is expected to have moderate mobility in soil(SRC). The pKa of 3-chlorophenol is 9.12(3), indicating that this compound will partially exist 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). Chlorophenols can be irreversibly immobilized by covalent bonding to soil organic matter (SOM). Irreversible binding increased with the addition of hydrogen peroxide and under anoxic conditions(5).

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: UN2020 (For reference only, please check.)

IMDG: UN2020 (For reference only, please check.)

IATA: UN2020 (For reference only, please check.)

UN Proper Shipping Name

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

IMDG: CHLOROPHENOLS, SOLID (For reference only, please check.)

IATA: CHLOROPHENOLS, 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: III (For reference only, please check.)

IMDG: III (For reference only, please check.)

IATA: III (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/>

Other Information

Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken. See ICSCs 0849 and 0850.

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any