

Chemical Safety Data Sheet MSDS / SDS

Clorofene SDS

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

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

Product name: Clorofene
CAS: 120-32-1

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**

Skin irritation, Category 2
Serious eye damage, Category 1

Skin sensitization, Category 1
Acute toxicity - Category 4, Inhalation
Carcinogenicity, Category 2
Specific target organ toxicity - repeated exposure, Category 2
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1
Reproductive toxicity, Category 2

GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s)

H315 Causes skin irritation
H318 Causes serious eye damage
H317 May cause an allergic skin reaction
H332 Harmful if inhaled
H351 Suspected of causing cancer
H373 May cause damage to organs through prolonged or repeated exposure
H410 Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.
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.
P203 Obtain, read and follow all safety instructions before use.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.

Response

P302+P352 IF ON SKIN: Wash with plenty of water/...
P321 Specific treatment (see ... on this label).

P332+P317 If skin irritation occurs: Get medical help.
P362+P364 Take off contaminated clothing and wash it before reuse.
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.
P333+P317 If skin irritation or rash occurs: Get medical help.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P318 IF exposed or concerned, get medical advice.
P319 Get medical help if you feel unwell.
P391 Collect spillage.

Storage

P405 Store locked up.

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:	Clorofene
Common names and synonyms:	Clorofene
CAS number:	120-32-1
EC number:	204-385-8
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

Most important symptoms/effects, acute and delayed

SYMPTOMS: Symptoms of exposure to this compound in humans include drowsiness, loss of consciousness, irregular pulse and cyanosis. It may also cause irritation of the skin and mucous membranes. It is corrosive to the eyes, and extremely corrosive to the mouth and throat. Swallowing dusts or solids causes severe and rapid burning of the mouth, throat and digestive tract accompanied by severe pain, vomiting and collapse. It has also caused severe porphyria cutanea tarda. **ACUTE/CHRONIC HAZARDS:** This compound is a highly toxic irritant. It is irritating to the skin and respiratory tract, and corrosive to the eyes. It is also extremely corrosive to the mouth and throat. When heated to decomposition it emits toxic fumes of carbon monoxide, carbon dioxide, chlorine or hydrogen chloride, and other unidentified organic compounds in black smoke. (NTP, 1992)

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

Basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary . Monitor for shock and treat if necessary . Anticipate seizures and treat if necessary . For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport . Administer activated charcoal . Do not use emetics. Cover skin burns with dry, sterile dressings after decontamination . Maintain body temperature. Phenols and related compounds

SECTION 5: Firefighting measures**Suitable extinguishing media**

Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may

also be used. (NTP, 1992)

Specific hazards arising from the chemical

This chemical is combustible. (NTP, 1992)

Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

If a spill occurs, clean it up promptly. Don't wash it away. Instead, sprinkle the spill with sawdust, vermiculite, or kitty litter. Sweep it into a plastic garbage bag, and dispose of it as directed on the pesticide product label.

SECTION 7: Handling and storage

Precautions for safe handling

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

Safe Storage of Pesticides. Always store pesticides in their original containers, complete with labels that list ingredients, directions for use, and first aid steps in case of accidental poisoning. Never store pesticides in cabinets with or near food, animal feed, or

medical supplies. Do not store pesticides in places where flooding is possible or in places where they might spill or leak into wells, drains, ground water, or surface water.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

no data available

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 tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	PHYSICAL DESCRIPTION: White to light tan or pink flakes or white crystals. Insoluble in water. Slight phenolic odor. (NTP, 1992)
Colour:	White to light tan or pink flakes
Odour:	White to light tan or pink flakes
Melting point/freezing point:	207°C(lit.)
Boiling point or initial boiling point and boiling range:	162°C/3.5mmHg(lit.)
Flammability:	no data available
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	84°C(lit.)
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	less than 1 mg/mL at 61° F (NTP, 1992)
Partition coefficient n-octanol/water:	log Kow = 3.6
Vapour pressure:	0.1 mm Hg at 68° F (NTP, 1992)
Density and/or relative density:	1.188
Relative vapour density:	no data available

Particle characteristics: no data available

SECTION 10: Stability and reactivity

Reactivity

no data available

Chemical stability

no data available

Possibility of hazardous reactions

Combustible ORTHO-BENZYL-PARA-CHLOROPHENOL is incompatible with acids and oxidizing agents (NTP, 1992). Is sensitive to light. Stable at temperatures up to 77°F when protected from light, but storage at 140° F causes decomposition.

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 1700 mg/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

Cancer Classification: Group C Possible Human Carcinogen

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

SECTION 12: Ecological information**Toxicity**

Toxicity to fish: LC50 *Lepomis macrochirus* (Bluegill) 0.33 ppm/96 hr (95% confidence limit: 0.2-0.4 ppm); static /formulated product

Toxicity to daphnia and other aquatic invertebrates: EC50 *Daphnia magna* (Water flea; intoxication, immobilization) 0.59 ppm/48 hr (95% confidence limit: 0.46-0.76 ppm); static /formulated product

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: Biodegradation rate constants and half-lives of 0.21 to 1.04/days and <1 to 3 days, respectively, were reported in river die away studies using unacclimated river water containing 0.1 mg/L o-benzyl-p-chlorophenol(1). The biodegradation half-life of o-benzyl-p-chlorophenol at an initial concentration of 0.5 mg/L was 1 to 2 days, in a sewage sludge(1). Activated sludge with an initial concentration of 0.5 mg/L o-benzyl-p-chlorophenol had a biodegradation rate constant of 3.88/days and a half life of 0.18 days as measured by DOC loss(1). Ultimate biodegradation to CO₂ and H₂O using acclimated sewage and 20-30 mg/L o-benzyl-p-chlorophenol, took slightly longer with a half-life of 7 to 23 days(1). o-Benzyl-p-chlorophenol undergoes rapid biodegradation after a short acclimation period in river water; o-benzyl-p-chlorophenol at a concentration of 0.1 mg/L was 78% degraded aerobically after 8 days; first re-spike (0.1 mg/L) on day 8 with 90% removal after 2 days; second re-spike of 0.1 mg/L on day 10 with 100% removal by day 13(2). o-Benzyl-p-chlorophenol, 0.5 mg/L, added to natural domestic sewage was substantially degraded within one day; re-spiked (1.0 mg/L) with nearly 100% removal within one day(2). Acclimated activated sludge mixed liquor in a semicontinuous activated sludge unit (o-benzyl-p-chlorophenol concentration, 2.0 mg/L) gave complete removal of DOC (dissolved organic carbon) in 24 hours. Sludge from a semicontinuous activated sludge unit was used as inoculum (o-benzyl-p-chlorophenol, 20 mg/L); there was a one week lag period followed by CO₂ evolution at 60% of the theoretical within 27 days(2). CO₂ evolution was used as a test method in this experiment to ensure that degradation was due to microbial action(2).

Bioaccumulative potential

A BCF value of 75 was measured for bluegill sunfish(1). Bluegill sunfish (*Lepomis macrochirus*) were exposed to 0.057 mg/L o-benzyl-p-chlorophenol for a period of 96 hours followed by a depuration period of 96 hours to determine the ability of the fish to metabolize and eliminate o-benzyl-p-chlorophenol. Depuration rate constants were from 4.67 to 6.94/days with a half-life of 0.14 days(1). The rate constant of o-benzyl-p-chlorophenol uptake in fish ranged from 11.8 to 13.8/days with a half-life of 0.06 days. According to a classification scheme(2), this BCF value suggests that bioconcentration in aquatic organisms is moderate(SRC).

Mobility in soil

An experimentally determined Koc of 2050 was obtained by equilibrating aqueous solutions of o-benzyl-p-chlorophenol (at concentrations ranging from 0.5 to 10 mg/L) with four different soils, with organic carbon contents ranging from 0.41 to 1.97%, and then analyzing both soil and water phases for o-benzyl-p-chlorophenol(1). According to a suggested classification scheme(2), this Koc value indicates that o-benzyl-p-chlorophenol is expected to have slight mobility in soil(SRC).

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: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (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

Not 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/>

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