

Chemical Safety Data Sheet MSDS / SDS

(4-chloro-2-methylphenoxy)acetic acid 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: (4-chloro-2-methylphenoxy)acetic acid

CAS: 94-74-6

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 irritation, Category 2

Serious eye damage, Category 1

Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1

Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1

GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s)

H302 Harmful if swallowed

H315 Causes skin irritation

H318 Causes serious eye damage

H410 Very 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/...

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/...

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.

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: (4-chloro-2-methylphenoxy)acetic acid

Common names and synonyms: (4-chloro-2-methylphenoxy)acetic acid

CAS number: 94-74-6

EC number: 202-360-6

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

Rinse with plenty of water (remove contact lenses if easily possible). Refer immediately for medical attention.

Following ingestion

Rinse mouth. Give one or two glasses of water to drink. Refer immediately for medical attention.

Most important symptoms/effects, acute and delayed

no data available

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

Treatment is symptomatic and supportive. Oils should not be used as either cathartics or dermal cleansing agents, as they increase absorption. Gastric lavage and use of activated charcoal and sodium sulfate are indicated for ingestion. If dermal exposure occurred, contaminated clothes should be removed, and the skin should be thoroughly cleansed with soap and water. Management of seizures in both children and adults is with Valium or phenobarbital. Respiratory depression and even respiratory arrest especially with concomitant use of Valium and phenobarbital in children, may occur. These drugs preferably should be used only in critical care areas where emergency endotracheal intubation can be performed. ... Epinephrine can not be utilized in patients with organochlorine poisoning, as the organochlorines induce myocardial irritability and ventricular arrhythmias may occur. However, dopamine may be necessary in the event of hypotension unresponsive to fluid administration, and epinephrin may be necessary in the event of cardiopulmonary arrest. ... In a critically ill patient with unknown insecticide exposure, ... Atropine must be used with caution, as it can cause ventricular irritability, especially when a myocardial irritant such as an organochlorine is present. ... Hematologic, hepatic (especially with endrin, which is markedly hepatotoxic), and renal studies as well as cardiopulmonary monitoring should be carried out in acute intoxication from lindane or other organochlorines for at least 48 to 72 hr. Long term hematologic follow-up is necessary for the patient with lindane intoxication. As the carrier for these agents may be xylene or a petroleum distillate, management also must include observation and treatment for these entities. Organochlorine pesticides

SECTION 5: Firefighting measures

Suitable extinguishing media

In case of fire in the surroundings, use appropriate extinguishing media.

Specific hazards arising from the chemical

Not combustible. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire. Risk of fire and explosion if formulations contain flammable/explosive solvents.

Special protective actions for fire-fighters

In case of fire in the surroundings, use appropriate extinguishing media.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

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

Environmental precautions

Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into sealable 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

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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

Provision to contain effluent from fire extinguishing. Separated from strong bases and food and feedstuffs. Store in an area without drain or sewer access. Cool. Keep in well-ventilated area.

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 safety goggles or eye protection in combination with breathing protection if powder.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	WHITE CRYSTALLINE POWDER WITH CHARACTERISTIC ODOUR.
Colour:	White to light brown solid flakes, crystal powder or liquid.
Odour:	no data available
Melting point/freezing point:	114-118°C
Boiling point or initial boiling point and boiling range:	327°C at 760 mmHg
Flammability:	Not combustible. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.

Lower and upper explosion limit/flammability limit:	no data available
Flash point:	151.6 °C
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	INSOL IN CARBON DISULFIDE; SOLUBILITY (G/100 ML): ETHER 77, ETHANOL 153, N-HEPTANE 0.5, TOLUENE 6.2, XYLENE 4.9
Partition coefficient n-octanol/water:	log Kow = 3.25
Vapour pressure:	5.90X10 ⁻⁶ mm Hg
Density and/or relative density:	1.313 g/cm ³
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 including hydrogen chloride and phosgene. The substance is a weak acid. Attacks many metals in the presence of water.

Chemical stability

NONVOLATILE

Possibility of hazardous reactions

Nonflammable

Conditions to avoid

no data available

Incompatible materials

Reacts with alkalis to form salts

Hazardous decomposition products

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

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat male oral 700 mg/kg

Inhalation: no data available

Dermal: LD50 Rat percutaneous >1000 mg/kg

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: Not Likely to be Carcinogenic to Humans

Reproductive toxicity

no data available

STOT-single exposure

The substance is irritating to the skin and respiratory tract. The substance is corrosive to the eyes. The substance may cause effects on the nervous system and heart when ingested in large amounts.

STOT-repeated exposure

no data available

Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying or when dispersed, especially if powdered.

SECTION 12: Ecological information**Toxicity**

Toxicity to fish: LC50 *Salmo gairdneri* (Rainbow trout) 232 mg/l/96 hr /Conditions of bioassay not specified

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: Microbial degradation of MCPA in soil was followed by measuring radiolabeled ¹⁴C-CO₂ evolution(1); in non-acclimated soil, CO₂ evolution reached 40-50% after 78 days of incubation(1). At an initial MCPA concn of 5 mg/kg, CO₂ evolution increased

markedly after a 2-3 week lag period indicating that microbial adaptation will increase the degradation rate(1); optimum degradation occurred in soil with a moisture content of 0.6 to 1.2 field capacity(1) while degradation in dry soil was negligible(1). The importance of acclimation was demonstrated in soil degradation tests in which degradation in unacclimated soil required 46-82 days, but only 5-14.5 days were required for a subsequent degradation in the same soil(2); sterilization tests (via sodium azide) indicated that all soil degradation was microbial in nature(2). The results of laboratory studies indicated that ¹⁴C-labeled MCPA would degrade faster in soils that had received previous applications than in untreated soils(3). Microbial degradation in soil is probably due to hydroxylation with cleavage of the ether linkage (4). The dechlorination of MCPA was indicated as an acid-yielding reaction and was observed to reduce the pH in a mixed culture medium; no degradation occurred in cultures above pH 8.5 and degradation was slower at higher concns(5). In samples of sandy clay soil (pH 5.2, organic matter 6.3%) at field capacity moisture content (18.2%) and incubated at 23 deg C for up to 32 weeks, MCPA, at initial concns of 10, 100, 200 and 500 ppm, degraded more rapidly at the lower concns(6). Respective losses of 40%, 60% and 90% were observed at 2, 8 and 32 weeks; the degradates were identified as 4-chloro-o-cresol, 5-chloro-3-methylcatechol, and 2,6-dimethoxyphenol(6).

Bioaccumulative potential

A BCF of 1 was determined for trout at MCPA aqueous concns of 10-100 mg/l and using an exposure period of 10-28 day(1). In a model aquatic ecosystem study, BCFs of <1 were measured in fish and snails for the sodium salt of 2-methyl-4-chlorophenoxyacetic acid(2,3). According to a classification scheme(3), these BCF values suggest the potential for bioconcentration in aquatic organisms is low. MCPA is absorbed through leaves or roots and is readily translocated in plants(4).

Mobility in soil

MCPA adsorption coefficients (Kd) of 0.7 to 1.0 were measured in three soils (loamy sand and sandy loam types)(1); based upon humus contents of 2.4-3.0%(1), the Koc values of the three soils are approximately 60, 52 and 50, respectively. A similar Kd value of 0.4 was observed in a garden soil(2). Using soil thin-layer chromatography, Rf values of 0.6-1.0 were measured for Chillum silt loam (3.1% organic matter), Lakeland sand loam (0.9% organic matter) and Hagerstown silty clay loam (1.4% organic matter)(3,4); these Rf values classify MCPA as mobile in soil(3,4). When MCPA was applied to a rice field, an observed 70% decrease in MCPA was attributed to losses through soil percolation(5). In a laboratory study of leaching columns with either turf grass soil or two subsoils, most of the applied MCPA (95.4-99.0%) eluted with the first 100-ml fraction of leaching water applied to the columns, indicating that MCPA did not bind to the soils(6). According to a classification scheme(7), these Koc values suggest that MCPA is expected to have high mobility in soil.

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: UN3077 (For reference only, please check.)

IMDG: UN3077 (For reference only, please check.)

IATA: UN3077 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 9 (For reference only, please check.)

IMDG: 9 (For reference only, please check.)

IATA: 9 (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

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/>

Other Information

MCPA is a chlorophenoxy-herbicide which, as a group, has been classified as possibly carcinogenic to humans. Depending on the degree of exposure, periodic medical examination is suggested. Carrier solvents used in commercial formulations may change physical and toxicological properties.

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