

## Chemical Safety Data Sheet MSDS / SDS

**2-(4-Chloro-2-methylphenoxy)propanoic acid**Revision Date:2024-12-21 Revision Number:1

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

Product name : 2-(4-Chloro-2-methylphenoxy)propanoic acid  
CBnumber : CB4374514  
CAS : 93-65-2  
EINECS Number : 202-264-4  
Synonyms : mcpp,CMPP

**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  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

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

no data available

**Label elements****Pictogram(s)**

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Signal word : Danger

**Hazard statement(s)**

H302 Harmful if swallowed  
H311 Toxic in contact with skin  
H315 Causes skin irritation  
H318 Causes serious eye damage  
H410 Very toxic to aquatic life with long lasting effects

**Precautionary statement(s)**

P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Prevention**

no data available

**Response**

no data available

**Storage**

no data available

**Disposal**

no data available

**Other hazards**

no data available

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## SECTION 3: Composition/information on ingredients

**Substance**

Product name	: 2-(4-Chloro-2-methylphenoxy)propanoic acid
Synonyms	: mcpp,CMPP
CAS	: 93-65-2
EC number	: 202-264-4
MF	: C10H11ClO3
MW	: 214.65

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## SECTION 4: First aid measures

**Description of 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.

**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. Give a slurry of activated charcoal in water to drink. Refer for medical attention .

**Most important symptoms and effects, both acute and delayed**

no data available

**Indication of any immediate medical attention and special treatment needed**

Bath and shampoo with soap and water to remove chemicals from skin and hair. Obtain medical treatment if irritation persists. Individuals with chronic skin disease or known sensitivity to these herbicides should either avoid using them or take strict precautions to avoid contact (respirator, gloves, etc). FLUSH contaminating chemicals from eyes and copious amounts of clean water for 10-15 minutes. If irritation persists, obtain medical treatment. Chlorophenoxy compounds

## SECTION 5: Firefighting measures

### **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.

### **Advice for firefighters**

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

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## 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 plastic 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 plastic 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**

Liquid spillage should be dammed-off and pumped into containers; soak up remainder with absorbent material and dispose of in accordance with local regulations. Mecoprop-P

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## 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**

Store in an area without drain or sewer access. Separated from food and feedstuffs. Do not...store near heat or open flame. Protect from freezing. Salts of mecoprop

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## SECTION 8: Exposure controls/personal protection

### **Control parameters**

### **Occupational Exposure limit values**

no data available

#### Biological limit values

no data available

#### Exposure 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

##### Eye/face protection

Wear safety goggles.

##### Skin protection

Protective gloves.

##### Respiratory protection

Use local exhaust or breathing protection.

##### Thermal hazards

no data available

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Physical state	neat
Colour	Colorless crystals
Odour	Odorless
Melting point/freezing point	88-90°C
Boiling point or initial boiling point and boiling range	327°C
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	no data available
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	In water, 880 mg/L at 25 deg C
Partition coefficient n-octanol/water	log Kow = 3.13
Vapour pressure	1.6 mPa (1.2X10-5 mm Hg) at 25 deg C
Density and/or relative density	1.35 g/cm3
Relative vapour density	no data available
Particle characteristics	no data available

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## SECTION 10: Stability and reactivity

### Reactivity

Decomposes on heating. This produces toxic fumes including hydrogen chloride. The solution in water is a weak acid. Attacks some forms of coatings and metals in the presence of moisture.

### Chemical stability

Stable to heat, and to hydrolysis, reduction, and atmospheric oxidation.

### Possibility of hazardous reactions

PURE MECOPROP AS WELL AS COMMERCIAL PRODUCTS ARE NONFLAMMABLE. A phenoxy aryloxyalkanoic acid derivative.

### 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/.

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 Mouse oral 600 mg/kg Technical material
- 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

There is limited evidence of the carcinogenicity of mecoprop to humans. There is no data for evaluation of the carcinogenicity of mecoprop to animals. Overall evaluation: Group 2B: The agent is possibly carcinogenic to humans. Chlorophenoxy herbicides

## Reproductive toxicity

no data available

## STOT-single exposure

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

## STOT-repeated exposure

See Notes.

## Aspiration hazard

A harmful concentration of airborne particles can be reached quickly on spraying or when dispersed, especially if powdered.

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## SECTION 12: Ecological information

### Toxicity

Toxicity to fish: LC50; Species: *Lepomis macrochirus* (Bluegill); Conditions: freshwater, static; Concentration: >92000 ug/L for 96 hr /92.7% purity formulation

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: *Daphnia magna* (Water Flea) age <24 hr; Conditions: freshwater, static; Concentration: 100000 ug/L for 48 hr; Effect: intoxication, immobilization />90% purity formulation

Toxicity to algae: EC50; Species: *Scenedesmus subspicatus* (Green Algae) 1x10<sup>4</sup> cells/mL; Conditions: freshwater, renewal, 25 deg C; Concentration: 102660 ug/L for 96 hr (95% confidence interval: 97642-108678 ug/L); Effect: decreased population abundance /98% purity

Toxicity to microorganisms: no data available

### Persistence and degradability

AEROBIC: Mecoprop is decomposed in soil by microbial degradation(1). The estimated half-lives of 14C-ring-labeled mecoprop (2 ppm) in a sandy loam soil at 50% water holding capacity at 20, 10 and 5 deg C was 3, 12, and 20 days, respectively. In dry and flooded soil (25% and 200% of water holding capacity) at 20 deg C, the half-lives increased to 10 and 15 days, respectively. The half-life decreased by 43% when the concentration of mecoprop was decreased by a factor of 10. Comparing the half-lives of mecoprop in surface soil and subsurface soil, the investigators found half-lives of mecoprop in an undisturbed soil column of a coarse sandy soil to be 7 days at 0-33 cm depth, 70 days at 33-66 cm depth and 34 days at 66-99 cm depth. In these experiments when half of the mecoprop had disappeared, 12% of the 14C was recovered as CO<sub>2</sub> and when 90% of the mecoprop had disappeared, 50% of the 14C was evolved as CO<sub>2</sub>. The degradation intermediates were not identified(1). Using UV absorption, HPLC, GC-MS and other techniques to monitor the course of mecoprop biodegradation using enriched mixed culture from a soil sample, found that biodegradation was incomplete (75%) and that 4-chloro-2-methylphenol was an intermediate(2). GC-MS data also suggested that other phenolic compounds with repositioned chloro and methyl groups are formed(2). The half-lives of mecoprop in clay loam, heavy clay loam, and sandy loam soils at 20 deg C and 85% field moisture capacity were 9, 8, and 7 days, respectively(3). An earlier experiment in which the UV absorption was used to monitor the disappearance of mecoprop (50-80 ppm) with an inoculum of Mardin silt loam, Honeoye silt loam and Dunkirk silt loam; 100% degradation, as typified by the loss of the aromatic ring, was not completely obtained in 47, 124, and 205 days, respectively when incubated at 30 deg C and pH 7.2(4). Using undisturbed soil core techniques and different applications of 14C-ring labeled mecoprop, biodegradation studies were performed resulting in 14.2 to 25.07% 14CO<sub>2</sub> evolution over the 90 day study period(5). Under aerobic conditions, (S)-mecoprop degrades faster than (R)-mecoprop(6).

### Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for mecoprop(SRC), using a log Kow of 3.20(1) and a regression-derived equation(2). According

to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

### **Mobility in soil**

The soil distribution coefficient for mecoprop in three Danish agricultural soils were: sandy loam (pH 6.9), 0.12; sandy loam (pH 6.7), 0.20 and coarse sandy soil (pH 6.6), 0.07(1). The corresponding Koc values were 8.4, 13.3, and 5.3, respectively(1). Koc values for mecoprop were also reported as 5 to 43(2). According to a classification scheme(3), these Koc values suggest that mecoprop is expected to have very high mobility in soil. The pKa of mecoprop is 3.78(4), indicating that this compound will exist almost entirely in anion form in the environment and anions generally do not adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts(5). Leaching experiments were conducted in which mecoprop (2.26 kg/ha) was applied to turfgrass lysimeter (37 cm soil profile) plots (prepared with 3 common northeastern soils and irrigated with 28.5 cm of water over 71 days)(6). Leachate was collected after 30, 52 and 71 days. In all three cases the maximum concentration of mecoprop in leachate was found after 52 days which was 10, 18, and 310 ppb in Hudson silt loam (pH 6.5), Arkport fine sandy loam (pH 6.5), and sand (pH 6.7), respectively(6). The soil partition coefficient of mecoprop to 5 Dutch subsoils (6-7 m below the soil surface) was very low, 0.142 to 0.326 in three soils and zero in the other two soils(7).

### **Other adverse effects**

no data available

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## **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.

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## **SECTION 14: Transport information**

### **UN Number**

ADR/RID: UN2761 (For reference only, please check.)

IMDG: UN2761 (For reference only, please check.)

IATA: UN2761 (For reference only, please check.)

### **UN Proper Shipping Name**

ADR/RID: ORGANOCHLORINE PESTICIDE, SOLID, TOXIC (For reference only, please check.)

IMDG: ORGANOCHLORINE PESTICIDE, SOLID, TOXIC (For reference only, please check.)

IATA: ORGANOCHLORINE PESTICIDE, SOLID, TOXIC (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: I (For reference only, please check.)

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

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

### **Environmental hazards**

ADR/RID: No

IMDG: No

IATA: No

### **Special precautions for user**

no data available

### **Transport in bulk according to IMO instruments**

no data available

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## 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**

Not Listed.

#### **Vietnam National Chemical Inventory**

Listed.

#### **IECSC**

Listed.

#### **Korea Existing Chemicals List (KECL)**

Not Listed.

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## 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?pagelD=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pagelD=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

Mecoprop is a chlorophenoxy-herbicide which, as a group, has been classified by IARC (1987) as possibly carcinogenic to humans, but the data on this specific substance are inconclusive. Carrier solvents used in commercial formulations may change physical and toxicological properties. Other CAS number 7085-19-0.

### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.