

Chemical Safety Data Sheet MSDS / SDS

MECOPROP

Revision Date:2024-07-13 Revision Number:1

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

Product identifier

Product name : MECOPROP
CBnumber : CB1374513
CAS : 7085-19-0
EINECS Number : 230-386-8
Synonyms : mecoprop,MCPP

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

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

Label elements

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

no data available

SECTION 3: Composition/information on ingredients

Substance

Product name	: MECOPROP
Synonyms	: mecoprop, MCPP
CAS	: 7085-19-0
EC number	: 230-386-8
MF	: C ₁₀ H ₁₁ ClO ₃
MW	: 214.65

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

no data available

Advice for firefighters

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

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

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

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 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

Information on basic physicochemical properties

Physical state	Solid. Flakes.
Colour	The colour determined by the Munsell colour system was determined to be 10 YR 7/4.
Odour	Odorless
Melting point/freezing point	$\geq 90.3 - \leq 90.5$ °C.
Boiling point or initial boiling point and	$\geq 269.7 - \leq 270.9$ °C. Atm. press.: Ca. 760 mm Hg.

boiling range

Flammability	Not combustible. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.
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Lower and upper explosion limit/flammability limit	no data available
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Flash point	$\geq 190.1 - \leq 193.9$ °C. Atm. press.: $\geq 99.93 - \leq 103.3$ kPa.
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Auto-ignition temperature	no data available
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Decomposition temperature	no data available
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pH	3.22.;3.07.
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Kinematic viscosity	no data available
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Solubility	In water, 880 mg/L at 25 deg C
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Partition coefficient n-octanol/water	log Pow = 1.17. Temperature:23 °C.
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Vapour pressure	Ca. 0.001 mm Hg. Temperature:Ca. 22.5 °C.
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Density and/or relative density	Ca. 1.314 g/cm ³ . Temperature:20 °C.
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Relative vapour density	no data available
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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/.

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 - rat (female) - $> 300 - \leq 2\,000$ mg/kg bw.

- Inhalation: no data available
- Dermal: LD50 - rat (male/female) - > 2 000 mg/kg bw.

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

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

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 - *Daphnia magna* - > 100 mg/L - 48 h.

Toxicity to algae: EC50; Species: *Scenedesmus subspicatus* (Green Algae) 1x10+4 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 ^{14}C was recovered as CO_2 and when 90% of the mecoprop had disappeared, 50% of the ^{14}C was evolved as CO_2 . 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 ^{14}C -ring labeled mecoprop, biodegradation studies were performed resulting in 14.2 to 25.07% $^{14}\text{CO}_2$ 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

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

Not Listed.

China Catalog of Hazardous chemicals 2015

Not Listed.

New Zealand Inventory of Chemicals (NZIoC)

Not Listed.

PICCS

Not Listed.

Vietnam National Chemical Inventory

Listed.

IECSC

Not 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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