

Chemical Safety Data Sheet MSDS / SDS

Dichlorprop

Revision Date:2025-02-01 Revision Number:1

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

Product identifier

Product name : Dichlorprop
CBnumber : CB7179789
CAS : 120-36-5
EINECS Number : 204-390-5
Synonyms : dichlorprop,2, 4-DP

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
Acute toxicity - Category 4, Dermal
Skin irritation, Category 2
Serious eye damage, Category 1

Label elements**Pictogram(s)**

☐

Signal word : Danger

Hazard statement(s)

H302 Harmful if swallowed
H312 Harmful in contact with skin
H315 Causes skin irritation
H318 Causes serious eye damage

Precautionary statement(s)

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

P321 Specific treatment (see ... on this label).

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continuerinsing.

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/...

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.

P332+P317 If skin irritation occurs: Get medical help.

P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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	: Dichlorprop
Synonyms	: dichlorprop,2, 4-DP
CAS	: 120-36-5
EC number	: 204-390-5
MF	: C ₉ H ₈ Cl ₂ O ₃
MW	: 235.06

SECTION 4: First aid measures

Description of first aid measures

If inhaled

Fresh air, rest. Seek medical attention if you feel unwell.

Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention if skin irritation occurs.

Following eye contact

Rinse with plenty of water for several minutes (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 and effects, both acute and delayed

no data available

Indication of any immediate medical attention and special treatment needed

Absorption, Distribution and Excretion

Dermal absorption can occur on prolonged contact of the soln with the skin .

SECTION 5: Firefighting measures

Extinguishing media

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

Specific Hazards Arising from the Chemical

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.

NFPA 704



■ HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

■ FIRE 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

■ REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,[N2](#))

□ SPEC.

□ HAZ.

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 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: particulate filter respirator 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

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA. Dichlorprop-p

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames. NO contact with hot surfaces. 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. Store in an area without drain or sewer access. Separated from food and feedstuffs. If stored below freezing, /it/ may be necessary to warm to 40 deg F and agitate before using.

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 or eye protection in combination with breathing protection if powder.

Skin protection

Protective gloves.

Respiratory protection

Use local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Physical state	neat
Colour	Off-White to Pale Beige
Odour	ODORLESS
Melting point/freezing point	110-112°C
Boiling point or initial boiling point and boiling range	348.3°C at 760mmHg
Flammability	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	164.5°C
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	Chloroform (Slightly), Methanol (Slightly)
Partition coefficient n-octanol/water	log Kow = 3.43
Vapour pressure	1.9E-05mmHg at 25°C
Density and/or relative density	1.421g/cm ³
Relative vapour density	no data available
Particle characteristics	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on heating or on burning and on contact with hot surfaces. This produces toxic and corrosive gases including phosgene (see ICSC 0007) and hydrogen chloride (see ICSC 0163). The solution is a weak acid. Attacks many metals in the presence of water.

Chemical stability

Stable to heat, & resistant to reduction, hydrolysis & atmospheric oxidation.

Possibility of hazardous reactions

2,4-DP is an organic acid. Neutralizes bases in exothermic reactions.

Conditions to avoid

no data available

Incompatible materials

no data available

Hazardous decomposition products

When heated to decomposition it emits toxic chloride fumes.

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 Rat oral 800 mg/kg
- Inhalation: LC50 Rat inhalation >0.65 mg/l air/4 hr
- Dermal: LD50 Mouse percutaneous 1400 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

no data available

Reproductive toxicity

no data available

STOT-single exposure

The substance is corrosive to the eyes. The substance is irritating to the skin.

STOT-repeated exposure

The substance may have effects on the kidneys. This may result in tissue lesions.

Aspiration hazard

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

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50 /Lepomis macrochirus/ (Bluegill sunfish) 165 mg/L/48 hr /Conditions of bioassay not specified/ /Dichlorprop dimethylammonium salt

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water flea, age <24 hr); Conditions: freshwater, static; Concentration: 5400 ug/L for 48 hr (confidence interval: 4400-6800 ug/L); Effect: intoxication, immobilization /purity 23.6%

Toxicity to algae: EC50; Species: Pseudokirchneriella subcapitata (Green algae, free culture, age 5 days, 1X10⁴ cells/mL); Conditions: freshwater, static, 22 deg C; Concentration: 190 mg/L for 4 days; Effect: decreased population growth rate

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: Using a soil inoculum in a laboratory experiment, the time to complete disappearance under the influence of UV at 283 mu was greater than 205 days using concentrations of 50, 50, and 80 ppm dichlorprop added to 3 soils(1). Dichlorprop had half-lives of 10, 38, and 4 days in soil from Hole (sandy loam), Kroer (loam), and Froland (highly decomposed organic), Norway, respectively(2). Dichlorprop was not degraded in by soil bacterium after 28 days with a starting concn of 50 ug/mL and incubated at 30 deg C(3). No degradation of dichlorprop was found after 45 days in Lanna clay(4). The half-life for the R and S isomers for dichlorprop in soil are reported as 8.7 and 4.4 days, respectively, and it degrades completely in 31 days with biological mediated degradation(5). The calculated half-lives of the R and S isomers of dichlorprop for 0-15 day incubation are 21.9 and 7.1 days, at 16-35 days incubation, 4.6 to 3.9 days, and for 52 days incubation, 6.0 and 6.8 days using garden soil at pH 7.0 and 1.6% organic carbon(6). Dichlorprop had a half-life of 5 days in soil from Vienna, Austria incubated at 21 deg C for 32 days(7). Dichlorprop was shown to degrade rapidly in soil after a lag period; the lag period decreased with repeated application, and the degradation rate increased with increased pH(8). In soil, metabolism involves degradation of the side-chain to 2,4-dichlorophenol, ring hydroxylation, and subsequent ring opening(9). Dichlorprop was degraded in an aerobic aquatic study at 1.6 ug/L/day after a 31 day lag and at 2.0 ug/L/day after a 21 day lag period(10). Dichlorprop was degraded aerobically after acclimation in a sandy aquifer in 5 months(11). Dichlorprop was rapidly degraded in 14 days in an aerobic limestone aquifer after a 4 day lag period(12). Dichlorprop was microbially degraded in Danish aquifers in 124 days with a lag time of at least 62 days(13).

Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for dichlorprop(SRC), using a log Kow of 3.43(1) and a regression-derived equation(2). The bioconcentration factor for dichlorprop was also estimated as 23(3). According to a classification scheme(4), these BCFs suggest the potential for bioconcentration in aquatic organisms is low(SRC).

Mobility in soil

Koc values for dichlorprop were experimentally determined to be 50-62 in three soils ranging from pH 5-5.3(1). Koc values of 113 and 118 were determined in soils at respective pHs of 4.4 and 4.1(1). Koc values have also been measured as 34-129(2) and 36.6-60(3). According to a classification scheme(4), these Koc values suggest that dichlorprop is expected to have very high to high mobility in soil. The pKa of dichlorprop is 3.1(5), 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(6). Dichlorprop has a pesticide leaching potential of 49 when used as a foliar applicant(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: 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

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

PICCS

Not Listed.

Vietnam National Chemical Inventory

Listed.

IECSC

Not Listed.

Korea Existing Chemicals List (KECL)

Not 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?pagenID=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

Other melting points: 114°C (technical product). Depending on the degree of exposure, periodic medical examination is suggested. If the substance is formulated with solvents also consult the ICSCs of these materials. Carrier solvents used in commercial formulations may change physical and toxicological properties.

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.