

## Chemical Safety Data Sheet MSDS / SDS

## CHLORFENAC

Revision Date:2023-05-06 Revision Number:1

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

**Product identifier**

Product name : CHLORFENAC  
CBnumber : CB9445521  
CAS : 85-34-7  
EINECS Number : 201-599-3  
Synonyms : chlorfenac,2,3,6-Trichlorobenzeneacetic acid

**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  
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

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

☐

Signal word : Warning

**Hazard statement(s)**

H302 Harmful if swallowed  
H411 Toxic to aquatic life with long lasting effects

**Precautionary statement(s)**

P273 Avoid release to the environment.

**Prevention**

P264 Wash ... thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

#### **Response**

P301+P317 IF SWALLOWED: Get medical help.

P330 Rinse mouth.

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

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## SECTION 3: Composition/information on ingredients

### **Substance**

Product name	: CHLORFENAC
Synonyms	: chlorfenac,2,3,6-Trichlorobenzeneacetic acid
CAS	: 85-34-7
EC number	: 201-599-3
MF	: C <sub>8</sub> H <sub>5</sub> Cl <sub>3</sub> O <sub>2</sub>
MW	: 239.48

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## SECTION 4: First aid measures

### **Description of 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 and effects, both acute and delayed**

no data available

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

### **Absorption, Distribution and Excretion**

52.8% of a dose was excreted in the urine of a lactating cow as 2,3,6-trichlorophenylacetic acid ester glucuronide & 18.6% as the free acid. fenac components were not excreted by either the fecal or mammary routes. fenac was unmetabolized by liver drug-metabolizing enzymes & ruminal microflora.

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## **SECTION 5: Firefighting measures**

### **Extinguishing media**

Use dry chemical, carbon dioxide or alcohol-resistant foam.

### **Specific Hazards Arising from the Chemical**

no data available

### **Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

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## **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**

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.

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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 the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

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

### Skin protection

Wear fire/flamm 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

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Physical state	neat
Colour	Colorless crystals
Odour	no data available
Melting point/freezing point	161°C
Boiling point or initial boiling point and boiling range	353.5°C at 760 mmHg
Flammability	no data available
Lower and upper explosion limit/flammability limit	no data available
Flash point	167.6°C
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	SOL IN ACETONE, ALC, ETHER
Partition coefficient n-octanol/water	3.2
Vapour pressure	1.7x10 <sup>-5</sup> mm Hg at 25 deg C

Density and/or relative density	1.568
Relative vapour density	no data available
Particle characteristics	no data available

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## SECTION 10: Stability and reactivity

### Reactivity

no data available

### Chemical stability

No shelf life limitations. Not harmed by freeze thaw cycles.

### Possibility of hazardous reactions

Nonflammable

### Conditions to avoid

no data available

### Incompatible materials

no data available

### Hazardous decomposition products

no data available

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 Rat oral 576-1780 mg/kg
- Inhalation: no data available
- Dermal: LD50 Rabbit percutaneous 1440-3160 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**

no data available

### **STOT-repeated exposure**

no data available

### **Aspiration hazard**

no data available

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## **SECTION 12: Ecological information**

### **Toxicity**

Toxicity to fish: no data available

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**

No degradation of 2,3,6-trichlorophenylacetic acid was observed when incubated with lake water/sediment or activated sludge under aerobic conditions or with a sandy loam soil in water under anaerobic conditions(1). More than 75% of 2,3,6-trichlorophenylacetic acid remained after 120 day biodegradation studies in lake water (Oneida Lake, NY), primary sewage effluent, soil, and soil/water suspensions; adding supplemental nutrients decreases the amount remaining to 40% after 120 days in soil inoculum while little effect was observed using other media. Cometabolic degradation may be the major biodegradation process for 2,3,6-trichlorophenylacetic acid in aquatic systems(2). A dichlorohydroxybenzene derivative was tentatively identified as a product of the biodegradation of 2,3,6-trichlorophenylacetic acid in soil(2). 2,3,6-Trichlorophenylacetic acid was described as being susceptible to decarboxylation reactions when incubated with soil inoculum(3).

### **Bioaccumulative potential**

Experimental bioconcentration factors ranging from 1.6 to 11.6 in bluegills (*Lepomis macrochirus*) were determined in static tests with a 2,3,6-trichlorophenylacetic acid concentration of 2 ppm(1). Based on an experimental log Kow of 3.20 for 2,3,6-trichlorophenylacetic acid, obtained in 0.1 and 0.5 M HCl(2), and its water solubility, 200 mg/L at 28 deg C(3), estimated bioconcentration factors ranging from 31 to 159 can be calculated(SRC) using an appropriate regression equation(4). The magnitude of these values indicate that bioconcentration in fish and aquatic organisms will not be a significant process(SRC).

### **Mobility in soil**

Experimental soil adsorption coefficients ranging from 0.3 to 667 on four different sediments with percent organic carbon ranging from 0.3 to 54 were observed at pH 6.5; adsorption on organic muck was found to increase at pH 4.5 but not at pH 9(1). Soil pH, especially in the range 5.0-6.7, was described as the most important factor in 2,3,6-trichlorophenylacetic acid mobility(2-3). At neutral or basic pHs, 2,3,6-trichlorophenylacetic acid will exist predominately as the ionized acid and adsorption to soil will be driven by ionic interactions between it and the soil while at more acidic pHs hydrophobic processes will predominate(4). Soil TLC experiments using a wide range of soils (Hagerstown silty

clay loam, Lakeland sandy loam, Chillium silt loam) produced Rfs ranging from 0.38 to 1.0 indicating that 2,3,6-trichlorophenylacetic acid has a high degree of mobility compared to other pesticides(2-6).

### **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: 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

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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)**

Not Listed.

#### **PICCS**

Not Listed.

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

Listed.

#### **IECSC**

Not 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?pagenID=0&request\\_locale=en](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/>

### 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.