

## Chemical Safety Data Sheet MSDS / SDS

**Acetochlor**

Revision Date:2023-12-07 Revision Number:1

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

Product name : Acetochlor  
CBnumber : CB3745980  
CAS : 34256-82-1  
EINECS Number : 251-899-3  
Synonyms : acetochlor,2-chloro-N-(ethoxymethyl)-N-(2-ethyl-6-methylphenyl)acetamide

**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**

Skin irritation, Category 2  
Skin sensitization, Category 1  
Acute toxicity - Category 4, Inhalation  
Specific target organ toxicity – single exposure, Category 3  
Carcinogenicity, Category 2  
Specific target organ toxicity – repeated exposure, Category 2  
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1  
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1  
Reproductive toxicity, Category 2

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

☐

Signal word : Warning

**Hazard statement(s)**

H315 Causes skin irritation  
H317 May cause an allergic skin reaction  
H332 Harmful if inhaled  
H335 May cause respiratory irritation  
H410 Very toxic to aquatic life with long lasting effects

#### **Precautionary statement(s)**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P501 Dispose of contents/container to.....

#### **Prevention**

P264 Wash ... thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P271 Use only outdoors or in a well-ventilated area.  
P203 Obtain, read and follow all safety instructions before use.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P273 Avoid release to the environment.

#### **Response**

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.  
P333+P317 If skin irritation or rash occurs: Get medical help.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P317 Get medical help.  
P319 Get medical help if you feel unwell.  
P318 IF exposed or concerned, get medical advice.  
P391 Collect spillage.

#### **Storage**

P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

#### **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	: Acetochlor
Synonyms	: acetochlor,2-chloro-N-(ethoxymethyl)-N-(2-ethyl-6-methylphenyl)acetamide
CAS	: 34256-82-1
EC number	: 251-899-3
MF	: C14H20ClNO2
MW	: 269.77

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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

Skin decontamination: Skin contamination should be treated promptly by washing with soap and water. Contamination of the eyes should be treated immediately by prolonged flushing of the eyes with large amounts of clean water. If dermal or ocular irritation persists, medical attention should be obtained without delay. Herbicides

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## SECTION 5: Firefighting measures

### Extinguishing media

Wear self-contained breathing apparatus (SCBA) and full protective equipment. Dupont Breakfree Herbicide

### Specific Hazards Arising from the Chemical

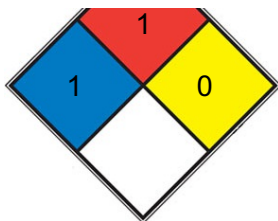
no data available

### Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### NFPA 704





**HEALTH** 1 Exposure would cause irritation with only minor residual injury (e.g. [acetone](#), sodium bromate, potassium chloride)

Materials that require considerable preheating, under all ambient temperature conditions, before ignition and combustion

**FIRE** 1 can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 93.3 °C (200 °F). (e.g. [mineral oil](#), ammonia)

**REACT** 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N<sub>2</sub>](#))

**SPEC.**

**HAZ.**

## 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

Do not contaminate /receiving/ water when disposing of equipment washwaters or rinsate. DuPont Breakfree Herbicide

## 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 original container only. Keep container closed when not in use. Do not store near food or feed. DuPont Breakfree Herbicide

## 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/flammable 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	Clear, viscous liquid
Odour	Aromatic odor
Melting point/freezing point	<0°C
Boiling point or initial boiling point and boiling range	391.5°C at 760 mmHg
Flammability	no data available
Lower and upper explosion limit/flammability limit	no data available
Flash point	>68°C
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	In water, 233 mg/L at 25 deg C
Partition coefficient n-octanol/water	log Kow = 4.14
Vapour pressure	2.2X10 <sup>-2</sup> mPa /1.67X10 <sup>-7</sup> mm Hg/ at 20 deg C
Density and/or relative density	1.1
Relative vapour density	no data available
Particle characteristics	no data available

## SECTION 10: Stability and reactivity

### Reactivity

no data available

### Chemical stability

Stable for over 2 years at 20 deg C (EC formulation)

### Possibility of hazardous reactions

no data available

### Conditions to avoid

no data available

### Incompatible materials

no data available

### Hazardous decomposition products

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

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 Rat oral 1929 mg/kg bw
- Inhalation: LC50 Rat inhalation 3.99 mg/L/4 hr
- 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

Cancer Classification: Likely to be Carcinogenic to Humans

### 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: LC50; Species: *Lepomis macrochirus* (Bluegill); Conditions: freshwater, static; Concentration: 1300 ug/L for 96 hr (95% confidence interval: 1000-1800 ug/L) /95.6% pure formulation

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: *Daphnia magna* (Water Flea) age <24 hr; Conditions: freshwater, static; Concentration: 14000 ug/L for 48 hr (95% confidence interval: 10000-18000 ug/L); Effect: intoxication, immobilization /91.3% pure formulation

Toxicity to algae: EC50; Species: *Anabaena flosaquae* (Blue-Green Algae); Conditions: freshwater, static; Concentration: 35000 ug/L for 5 days (95% confidence interval: 31000-39000 ug/L); Effect: population abundance /95.1% pure formulation

Toxicity to microorganisms: no data available

### **Persistence and degradability**

AEROBIC: Degradation rates of 14C-labeled acetochlor in sandy loam soils from Eastern Virginia were found to range from 8 to 15% of applied concentration over a period of 48 days(1). In sewage sludge the overall degradation rate constant and half-life were determined to be 0.0403 per hour and 17.2 hours, respectively, while in soil the overall degradation rate constant and half-life were determined to be 0.1601 per day and 4.3 days, respectively(2). Using a soil inoculum from an agricultural field of Northwestern Beijing, China (pH 8.4; 1.5% organic carbon; cation exchange capacity 84.0 mmol/100 g; 59% silt; 38% sand; 3% clay), a half-life of 4.6 days was reported following 35 days incubation; acetochlor was added at a concentration of 10 mg/kg(3). Acetochlor at a concentration of 1 mg/kg exhibited 6.7% and 23.9% mineralization after 58 and 90 days in neoluvisol and calcosol soils, respectively, under laboratory conditions. Soil characteristics were as follows: Neoluvisol - 15.4% sand; 66.0% silt; 18.6% clay; 14.80% organic carbon; pH 7.47; cation exchange capacity: 12.3 cmol/kg; water content: 16.6 cu cm/100 cu cm. Calcosol - 14.7% sand; 57.1% silt; 23.9% clay; 16.21% organic carbon; pH 8.05; cation exchange capacity: 18.6 cmol/kg; water content: 14.7 cu cm/100 cu cm. First-order degradation rate constants in neoluvisol maintained at 25 and 15 deg C were 0.14/day and 0.05/day, respectively, corresponding to half-lives of 5.1 and 14.9 days, respectively. First-order degradation rate constants in calcosol maintained at 25 and 15 deg C were 0.20/day and 0.11/day, respectively, corresponding to half-lives of 3.5 and 6.3 days, respectively(4).

### **Bioaccumulative potential**

An estimated BCF of 250 was calculated in fish for acetochlor(SRC), using a log Kow of 4.14(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is high(SRC), provided the compound is not metabolized by the organism(SRC).

### **Mobility in soil**

The Koc of acetochlor has been reported as 98.5(1), 239(2), log 2.30 (Koc = 199)(3), and 165(4). Using a silty clay loam, a Koc of 335 was reported(5). According to a classification scheme(6), this range of Koc values suggests that acetochlor is expected to have high to moderate

mobility in soil. The leaching potential of acetochlor was assessed to be marginal based on a Koc value of 165 mL/g and a half-life in soil of 12 days(4). Freundlich adsorption coefficients of 7.9 and 4.8 were reported using Chinese agricultural soils - Beijing (pH 8.4; 1.5% organic carbon; cation exchange capacity 84 mmol/100 g; 59% sand; 38% silt; 3% clay) and Hebei (pH 7.7; 0.8% organic carbon; cation exchange capacity 215.4 mmol/100 g; 73% sand; 22% silt; 5% clay)(7). Using a soil inoculum from an agricultural field of Northwestern Beijing, China (pH 8.4; 1.5% organic carbon; cation exchange capacity 84.0 mmol/100 g; 59% silt; 38% sand; 3% clay), a mean Freundlich adsorption coefficient of 4.339 L/kg was measured(8).

#### **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: UN3082 (For reference only, please check.)

IMDG: UN3082 (For reference only, please check.)

IATA: UN3082 (For reference only, please check.)

### **UN Proper Shipping Name**

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

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

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, 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

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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

Not Listed.

#### China Catalog of Hazardous chemicals 2015

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/>

### 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.