Chemical Safety Data Sheet MSDS / SDS

Alachlor SDS

Revision Date:2024-04-25 Revision Number:1

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

Product identifier

Product name: Alachlor

CAS: 15972-60-8

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.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

SECTION 2: Hazards identification

Classification of the substance or mixture

Acute toxicity - Category 4, Oral
Skin sensitization, Category 1

Carcinogenicity, Category 2
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Warning

Hazard statement(s)

H302 Harmful if swallowed
H317 May cause an allergic skin reaction
H351 Suspected of causing cancer
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.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P203 Obtain, read and follow all safety instructions before use.
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/...
P333+P317 If skin irritation or rash occurs: Get medical help.
P321 Specific treatment (see ... on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P318 IF exposed or concerned, get medical advice.
P391 Collect spillage.

Storage

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 which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	Alachlor
Common names and synonyms:	Alachlor
CAS number:	15972-60-8
EC number:	240-110-8
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower.

Following eye contact

Rinse with plenty of water for several minutes (remove contact lenses if easily possible).

Following ingestion

Rinse mouth. Do NOT induce vomiting. Refer for medical attention .

Most important symptoms/effects, acute and delayed

Excerpt from ERG Guide 151 [Substances - Toxic (Non-combustible)]: Highly toxic, may be fatal if inhaled, swallowed or absorbed through skin. Avoid any skin contact. Effects of contact or inhalation may be delayed. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. (ERG, 2016)

Indication of immediate medical attention and special treatment needed, if necessary

There is no antidote for alachlor. Treatment would be symptomatic.

SECTION 5: Firefighting measures

Suitable extinguishing media

This chemical is not flammable, but may support combustion. Stay upwind of fire. Use dry chemical, carbon dioxide, water spray, or foam extinguishers. Poisonous gases are produced in fire including nitrogen oxides and chlorine. If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated waters. Notify local health and fire officials and pollution control agencies. From a secure, explosion-proof location, use water spray to cool exposed containers. If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors, or shows any signs of deforming), withdraw immediately to a secure position. If employees are expected to fight fires, they must be trained and equipped in OSHA 1910.156. If employees are expected to fight fires, they must be trained and equipped in OSHA 1910.156.

Specific hazards arising from the chemical

Excerpt from ERG Guide 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2016)

Special protective actions for fire-fighters

Use water spray, foam, powder, carbon dioxide.

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 containers. 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 containers. Carefully collect remainder. Then store and dispose of according to local regulations.

Methods and materials for containment and cleaning up

Accidental Release Measures. Personal precautions. Use personal protection recommended /for this product/. Environmental precautions. Minimize spread. Keep out of drains, sewers, ditches and water ways. Notify authorities. Methods for cleaning up. Absorb in earth, sand or absorbent material. Dig up heavily contaminated soil. Collect in containers for reclamation or disposal. ... Wash spill area with detergent and water. Minimize use of water to prevent environmental contamination. INTRRO

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames. NO contact with flammables. 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. Separated from strong oxidants and incompatible materials. Keep in a well-ventilated room. Store only in original container. Store in an area without drain or sewer access.Minimum storage temperature: 32 deg F. Incompatible materials for storage: mild steel, PVC. Keep locked up and out of the reach of children. Keep away from living quarters. Keep away from food, drink and animal feed. Keep only in the original container. Keep away from sources of ignition (sparks, flame, etc.). Keep container tightly closed in a cool, well-ventilated place. Protect from frost. ... If frozen, place in warm room and shake frequently to put back into solution. INTRRO

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

TLV: 1 mg/m3, as TWA; (SEN); A3 (confirmed animal carcinogen with unknown relevance to humans)

Biological limit values

no data available

Appropriate engineering 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, such as personal protective equipment (PPE)

Eye/face protection

Wear safety goggles or eye protection in combination with breathing protection if powder.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Avoid inhalation of dust. Use breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Alachlor is a crystalline solid. Melting point 104-106°F (40-41°C). Used as a herbicide.
Colour:	Colorless to white crystalline solid
Odour:	Odorless
Melting point/freezing point:	39-42°C
Boiling point or initial boiling point and boiling range:	100°C (0.02 mmHg)

Flammability:	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	-18?°C
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	Soluble in diethyl ether, acetone, benzene, chloroform, ethanol, ethyl acetate; sparingly soluble in heptane
Partition coefficient n-octanol/water:	log Kow = 3.52
Vapour pressure:	9.74E-07mmHg at 25°C
Density and/or relative density:	1.119 g/cm3
Relative vapour density:	(air = 1): 9.3
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on heating and on burning. This produces toxic fumes including hydrogen chloride (see ICSC 0163) and nitrogen oxides. Reacts with strong oxidants. Corrosive to iron and steel.

Chemical stability

Indefinitely stable; not sensitive to light or heat

Possibility of hazardous reactions

Dust explosion possible if in powder or granular form, mixed with air.A halogenated acetamide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).

Conditions to avoid

no data available

Incompatible materials

Strong oxidizers. Corrosive to iron and steel.

Hazardous decomposition products

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

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat oral 790 mg/kg

Inhalation: LC50 Rat inhalation 1.04 mg/L/4 hrs

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 (High Doses); Not Likely to be Carcinogenic to Humans (Low Doses)

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

Repeated or prolonged contact may cause skin sensitization. The substance may have effects on the kidneys and liver. The substance may have effects on the spleen. This may result in siderosis. This substance is possibly carcinogenic to humans.

Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying or when dispersed, especially if powdered.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50 Lepomis macrochirus (Bluegill sunfish) 2.8 mg/L/96 hr /Conditions of bioassay not specified

Toxicity to daphnia and other aquatic invertebrates: EC50 Daphnia magna (Water flea) 14 mg/L/24 hr (95% confidence interval: 8.6-19 mg/L); static; Effect: immobilization /Technical grade alachlor 94.64% AI

Toxicity to algae: EC50 Selenastrum caprincornutum (Algae) 1.9 ug/L/120 hr (95% confidence interval: 1.5-2.4 ug/L); static; Effect: growth inhibition (based on biomass) /Sulfonic acid metabolite of alachlor, 91.5% purity

Toxicity to microorganisms: no data available

Persistence and degradability

Soil incubation studies suggests that alachlor is biodegraded rapidly in soils but that very little ring-labeled (14)c alachlor is converted to (14)co2. majority of radioactivity could be recovered from soil only after alkaline hydrolysis, suggesting that herbicidal metabolites were bound to soil org matter. ... 2-chloro-2',6'-diethylacetamide was formed in alachlor-treated air-dried soils incubated @ 46 deg c. this product ... believed to result ... from acid-catalyzed hydrolysis ... on mineral surfaces.

Bioaccumulative potential

Biological concentration factors of 2.8 and 10.3 mg/L were measured in fish for alachlor, using bluegill sunfish which were exposed in an ecosystem treated with 2.5 and 10.3 kg/ha, respectively; substantial amounts of residue were present in fish up to 20 days(1). Whole body bioconcentration factor (BCF) for alachlor in fathead minnow (Pimephales promelas) was measured to be 6(2). According to a classification scheme(3), these BCF values suggest the potential for bioconcentration in aquatic organisms is low(SRC). Alachlor was rapidly eliminated upon transfer of fish in uncontaminated water with 81% and 98% being eliminated after 24 hr and 14 days, respectively(2). This rapid elimination was also found in rainbow trout (Salmo gairdneri)(2).

Mobility in soil

Log Koc values for alachlor have been reported by various authors to range 2.08 (Koc = 120) to 3.33 (Koc = 2,138)(1,2). According to a classification scheme(3), this estimated Koc value suggests that alachlor is expected to have high to low mobility in soil(3). Experimental results confirm that alachlor adsorbs weakly to moderately to soil and the leaching of alachlor from soil is high to medium(4,5). The adsorption of alachlor increases with an increase in organic content, clay content and surface area of soil(4). Alachlor was not detected in groundwater from a soil with high organic and clay content(5). This is probably due to longer residence time in this soil allowing the degradation of alachlor before it reached the water table. The presence of continuous pores or channels in soil will increase the mobility of alachlor in soil(6,7).

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

Not Listed.

China Catalog of Hazardous chemicals 2015

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

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/

Other Information

Carrier solvents used in commercial formulations may change physical and toxicological properties.