



SHANGHAI MINGDOU AGROCHEMICAL CO., LTD

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MATERIAL SAFETY DATA SHEET OF ACETOCHLOR 900 G/L EC

1. IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Supplier: SHANGHAI MINGDOU AGROCHEMICAL CO., LTD

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Product name: Acetochlor 900 g/l EC

Product use: Herbicide

2. COMPOSITION/INFORMATION ON INGREDIENTS

Formulation Type: Emulsifiable concentrate

Active Ingredients: Acetochlor

Chemical Abstracts name: 2-chloro-*N*-(ethoxymethyl)-*N*-(2-ethyl-6-methylphenyl)acetamide

IUPAC name: 2-chloro-*N*-ethoxymethyl-6'-ethylacet-*o*-toluidide

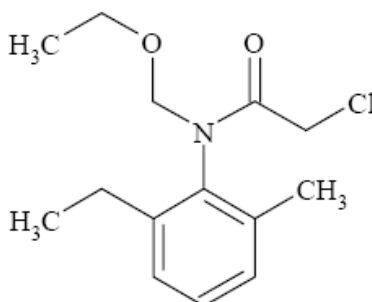
Chemical Family: Chloroacetanilide

CAS NO. 34256-82-1

Molecular Formula: C₁₄H₂₀ClNO₂

Molecular Weight: 269.8

Structural Formula:



Other ingredients determined not to be hazardous

INGREDIENT	CAS NO	PROPORTION
Acetochlor	34256-82-1	≥900 g/l
Inerts	Not available	Up to 100%



3. HAZARDS IDENTIFICATION

Emergency overview: Irritating to respiratory system. May cause sensitization by skin contact. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Routes of entry: Skin contact, ingestion, and inhalation.

Health hazards:

Eyes: May cause eye irritation.

Skin: Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage. Prolonged skin contact is unlikely to result in absorption of harmful amounts. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals.

Ingestion: Low toxicity if swallowed. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

Inhalation: At room temperature, exposure to vapor is minimal due to low volatility. Vapor from heated material or mist may cause respiratory irritation and other effects.

Environmental hazards: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

General: Have the product container, label or Material Safety Data Sheet with you when going for treatment. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given.

Skin contact: Immediately flush with plenty of water while removing contaminated clothing. As soon as soap is available, wash skin thoroughly with soap and water. Wash clothing before reuse. Sensitized persons should avoid further contact and reuse of contaminated clothing. Get medical attention.

Eye contact: Hold eyelids open and flush with a gentle steady stream of water for 15 minutes. Get medical attention.

Ingestion: Coughing, choking and shortness of breath may occur if material is accidentally drawn into lungs during swallowing or vomiting. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Inhalation: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

Note to physician: Due to the solvent present, if small amount of the product is aspirated into the respiratory system during ingestion or from vomiting, bronchopneumonia or pulmonary edema may be caused. No specific antidote. Keep patient under observation and treat symptomatically as indicated by



his/her condition.

5. FIRE FIGHTING MEASURES

Flash point: Not highly flammable.

Flammable limits: Not determined.

Autoignition temperature: Not determined.

Extinguishing agents: Extinguish small fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product.

Hazardous combustion products: Chloride compounds, carbon dioxide and nitrogen oxides.

Fire-fighting instructions: Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind. Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal. Dyke fire control water for later disposal. Do not scatter the material. Avoid pollution of waterways. Do not use high volume water jet, due to contamination risk. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Protective equipment for firefighters: Fire may produce irritating or poisonous vapours or gases (oxides of chlorine and sulphur) or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENT RELEASE MEASURES

Personal precautions: Avoid contact with spilled material or contaminated surfaces. Do not smoke, eat or drink during the clean up process. Wear suitable personal protective clothing and equipment.

Environmental precautions: Do not allow to enter drains or water courses. If contamination of drains, streams, watercourses etc. is unavoidable, warn the local water authority.

Clean up method: Contain spill and absorb with earth, sand, clay, or other absorbent material. Prevent spilled material from entering drains or watercourses. Collect and store in properly labelled disposal drums. Clean floor with a damp cloth and place it in the drum. Seal drums and label ready for safe disposal. Deal with all spillages immediately.

7. HANDLING AND STORAGE

Handling: Harmful if swallowed. Avoid inhalation and contact with eyes and skin. Use with adequate ventilation. Do not handle broken packages without protective equipment. Wash hands before eating,



drinking, chewing gum, smoking, or using the toilet. Remove clothing immediately if the product gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Seek medical advice. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination. Worker should shower at the end of each work day. Launder all clothing before it is re-used again.

Storage: Store in its original container in dry, cool, well-ventilated area. Avoid excess heat. Not to be stored next to foodstuffs and water supplies. Keep out of reach of children, uninformed persons and animals. Do not contaminate other pesticides and fertilizers.

Storage stability: Stable for a period of 2 years under normal warehouse conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits: No exposure limits have been established for this material.

Engineering controls: It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

Personal protective equipment (PPE):

Respirator: An approved full-face respirator suitable for protection from spray or mists of pesticides is required. Limitations of respirator use specified by the approved agency and the manufacturer must be observed.

Clothing: Employee must wear appropriate protective (impervious) clothing, boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing.

Gloves: Employee must wear appropriate chemical resistant protective gloves to prevent contact with this substance.

Eye protection: The use of chemical resistant goggles or face shield.

Emergency eye wash: Where there is any possibility that an employee's eyes may be exposed to this substance; the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Yellow brown or violet liquid.

Odor: Aromatic.

Specific gravity: Approximately 1.1 g/ml (25°C).

Solubility in water: Emulsifiable in water.



Volatility: Negligible at normal ambient temperatures.

10. STABILITY AND REACTIVITY

Chemical stability: Stable for up to 2 years under normal dry, shaded warehouse conditions. The product is stable in neutral, weakly acidic and alkaline solutions but is rapidly hydrolysed by strong acids and alkalis.

Hazardous decomposition: Although acetochlor is stable under normal temperatures and pressures, thermal decomposition products may include toxic oxides of nitrogen and carbon and toxic and corrosive fumes of chlorides.

Incompatible materials: Hydrolysed by strong acids and bases.

Hazardous reactions: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Oral: LD₅₀ 2370 mg/kg (rat)

Dermal: LD₅₀ >2000 mg/kg (rat)

Inhalation: LC₅₀ >2.0 mg/l (rat)

Irritant properties:

Skin: Mild skin irritation.

Eye: Moderate eye irritation.

Allergenic and sensitizing effects: May cause skin sensitization.

12. ECOLOGICAL INFORMATION

The following information is for the active ingredient, acetochlor.

Ecotoxicity:

Birds Acute oral LD₅₀: 1260 mg/kg (bobwhite quail).

Dietary LC₅₀ (5 days): >5000 ppm (quail and mallard ducks).

Fish LC₅₀ (96 h): 0.36 mg/l (rainbow trout), 1.5 mg/l (bluegill sunfish).

Chronic NOEC (21 days): 8.6 mg/l (*Oncorhynchus mykiss*).

Daphnia EC₅₀ (48 h): 9 mg/l.

Chronic NOEC (21 days): 0.022 mg/l.

Algae EC₅₀ (72 h): 0.00027 mg/l.

Chronic NOEC (96 h): 0.00059 mg/l.

Bees LD₅₀ (oral): >0.1 mg/bee.

LD₅₀ (contact): >0.1 mg/bee.



Earthworm: LC₅₀ (14 days): 211 mg/kg soil.

Persistence and degradability: Acetochlor degrades under aerobic conditions in most soils with a half-life of 8 to 14 days. However, with coarse soils such as sandy loam the half-life is 110 days. The major routes of dissipation for acetochlor appear to be microbially-mediated degradation, runoff, and leaching. Under anaerobic conditions, acetochlor degrades with a half-life of 17 to 21 days) with microbial degradation being the major pathway. However, with coarse soils such as sandy loam the halflife is 230 days. Acetochlor is moderately mobile in soils with higher organic matter (3.4%) and very mobile in soils with lower organic matter content (0.7%). Acetochlor is persistent in aquatic and terrestrial environments and is mobile. This chemical is stable to hydrolysis and photolysis.

Bioaccumulative potential: A study on the bioconcentration potential in fish was made available as the log P_{ow} exceeds 3. The resulting BCF value of 20 indicates a low risk of bioconcentration in fish.

Mobility in soil: Acetochlor is found to be moderately mobile in soils with higher organic matter (3.4%) and very mobile in soils with lower organic matter content (0.7%). This herbicide leaches in the soil profile.

13. DISPOSAL CONSIDERATION

Pesticide disposal: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or reprocessed. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal.

Container disposal: Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed. Triple rinse empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner. Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dumpsite. Prevent contamination of food, feedstuffs, drinking water and eating utensils. Comply with local legislation applying to waste disposal.

14. TRANSPORT INFORMATION

UN Number: 3082

UN Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (acetochlor 900 g/l)



Transport hazard class: 9

Packing group: III

Marine pollutant: Yes

15. REGULATORY INFORMATION

Risk symbols:

Xi Irritant

N Dangerous for the environment

Risk phrases:

R 378 Irritation respiratory system.

R 43 May cause skin sensitisation by skin contact.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:

S 2 Keep out of the reach of children.

S 13 Keep away from food, drink and animal feedingstuffs.

S 23 Do not breathe spray.

S29/35 Do not empty into drains; dispose of this material and its container in a safe way.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 57 Use appropriate container to avoid environmental contamination.

S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

16. OTHER INFORMATION

This MSDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of the how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made the user should contact the company.

END OF MSDS