

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY

Product name: Aclonifen 600G/L SC
Other name: /
Recommended use of the chemical and restrictions on use: Herbicide
Supplier name: Shandong Weifang Rainbow Chemical Co., Ltd.
Supplier address: Binhai Economic Development Area, Weifang, Shandong, China
Supplier phone: +86-531-88875222, 88875231
Supplier fax: +86-531-88875232, 88875224
Emergency phone number: +86-531-88875222

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Acute toxicity - Oral (Category 5)
 Acute toxicity - Dermal (Category 5)
 Acute toxicity - Inhalation (Category 5)
 Hazardous to the aquatic environment — Acute Hazard (Category 1)
 Hazardous to the aquatic environment — Chronic Hazard (Category 2)

GHS Label elements, including precautionary statements:



Signal word: Warning

Hazard statements:

H303: May be harmful if swallowed
 H313: May be harmful in contact with skin
 H333: May be harmful if inhaled
 H400: Very toxic to aquatic life.
 H411: Toxic to aquatic life with long lasting effects

Precautionary statements:

P273 Avoid release to the environment.
 P301 + P317 IF SWALLOWED: Get medical help.
 P302 + P317 IF ON SKIN: Get medical help.
 P304 + P317 IF INHALED: Get medical help.
 P391 Collect spillage.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification:

Not available

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration
Aclonifen	74070-46-5	600G/L
Other ingredients	/	Up to 1L

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4. FIRST - AID MEASURES

Description of necessary first aid measures

Ingestion	Do NOT induce vomiting if swallowed.
Inhalation	Remove patient to fresh air. Lie down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance soon if irritation persists.
Skin contact	Take off contaminated clothing. Wash skin with plenty of soap and water immediately. Call a poison control center or doctor for treatment advice. Wash contaminated clothing before reuse.
Eye contact	If in eyes, hold eye open and rinse slowly and gently for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a POISON CENTRE or doctor for treatment advice.

Most important symptoms/effects, acute and delayed

Not available

Indication of immediate medical attention and special treatment needed:

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. FIRE FIGHTING MEASURES

Extinguishing media

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

Special hazards arising from the chemical:

In the event of fire the following may be released: Carbon monoxide (CO), Nitrogen oxides (NO_x), Hydrogen chloride (HCl)

Special protective actions for fire-fighters:

In the event of fire and/or explosion do not breathe fumes. Wear self-contained breathing apparatus and protective suit. Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Keep people away from and upwind of spill/leak. Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. When dealing with a spillage do not eat, drink or smoke.

Environmental precautions:

Do not allow to get into surface water, drains and ground water.

Methods and materials for containment and cleaning up:

Recover the product by pumping, suction or absorption using a dry and inert absorbent clay. Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling:

Avoid contact with skin, eyes and clothing. Keep working clothes separately. Remove soiled clothing immediately and clean thoroughly before using again. Wash hands before breaks and immediately after handling the product.

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Conditions for safe storage, including any incompatibilities:

Store in original container. Store in a place accessible by authorized persons only. Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from freezing. Keep away from direct sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Appropriate engineering controls:

Use in ventilated areas. Keep containers closed when not in use.

Personal protective equipment:

Eye and face protection: When handling wear eye protection, waterproof gloves, boots, hat and cotton overalls

Skin protection: Wear appropriate chemical resistant clothing to prevent skin contact depending on the extent of exposure. During most normal work situations where exposure to the material cannot be avoided for a limited time span, waterproof pants and apron of chemical resistant material or coveralls of polyethylene (PE) will be sufficient. Coveralls of PE must be discarded after use if contaminated. In cases of appreciable or prolonged exposure, coveralls of barrier laminate may be required.

Respiratory protection: Wear respiratory protection if ventilation is inadequate. Use particle filter with medium efficiency for solid and liquid particles.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color etc.):	Yellow Flowable Liquid
Odor:	No data available
Odor threshold:	No data available
pH:	5.0-8.0
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	100 °C
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	Not flammable
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Density:	1.21 g/cm ³ (20 °C)
Solubility(ies):	Dispersible
Partition coefficient: n-octanol/water:	Aclonifen: log Pow: 4,37
Auto-ignition temperature:	480°C
Decomposition temperature:	No data available
Viscosity:	No data available

10. STABILITY AND REACTIVITY

Reactivity:

Stable under normal conditions.

Chemical stability:

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Stable under recommended storage conditions.

Possibility of hazardous reactions:

No dangerous reactions occur if stored and handled according to the indications.

Conditions to avoid:

Extreme temperatures and direct sunlight.

Incompatible materials:

No data available

Hazardous decomposition products:

No hazardous decomposition products result under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

Acute health effects:

Eye irritation	Non-irritant
Skin irritation	Non-irritant
Skin sensitization	Not sensitizing

Numerical measures of toxicity:

Acute oral LD ₅₀ :	5000 mg/kg in the rat
Acute dermal LD ₅₀ :	>2000 mg/kg in the rat
Acute inhalation LC ₅₀ :	>5.04 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Fish - 96 hour LC ₅₀	4.8 mg/L (<i>Poecillia reticulata</i>)
Daphnia - 48 hour EC ₅₀	5.05±0.8 mg/L (<i>Daphnia magna</i>)
Algae – 72 hour EC ₅₀	0.46±0.32 mg/L (<i>Chlorella vulgaris</i>)
Algae – Chronic NOEC	0.05mg/L (<i>Chlorella vulgaris</i>)
Birds - Acute LD ₅₀	>2000 mg/kg (<i>Colinus japonica</i>)
Honeybee – Acute contact LD ₅₀	177.13±45.98 µg/bee
Honeybee – Acute oral LD ₅₀	>167 µg/bee
Earthworm - Acute LD ₅₀	239.92±97.22mg/kg

Persistence and degradability:

Soil degradation: lab studies DT₅₀ range 29.5-93.6 days, DT₉₀ range 107-740 days; field studies DT₅₀ range 13-195 days, DT₉₀ range 104-649 days

Aqueous photolysis DT₅₀ (days) at pH 7: Not a major route of degradation. Calculated values range 9-1040 days depending on sunlight levels and temp

Aqueous hydrolysis DT₅₀ (days) at 20 °C and pH 7: Stable between pH 5 and pH 9, 22-70 °C

Bioaccumulative potential:

The risk of bioaccumulation was considered to be low.

Mobility in the soil:

Low, this substance may be considered practically immobile in soil (Koc = 5318 –10612).

Other adverse effects:

Not available.

13. DISPOSAL CONSIDERATIONS

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Safe handling of waste residues and disposal methods:

PRODUCT Keep out of drains, sewers, ditches and water ways. Recycle if appropriate
DISPOSAL facilities/equipment available. Burn in special, controlled high temperature incinerator.
Otherwise bury in approved landfill. Follow all local/ regional/ national/ international
regulations.

CONTAINER Emptied packaging may retain product residue. Observe all labelled safeguards until
DISPOSAL packaging is destroyed. Store for collection by approved waste disposal service or dispose of
by burying in approved landfill.

14. TRANSPORT INFORMATION

UN Number: 3082

Road Transport ADR/IRD:

Class:9

Packaging group: III

UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID.N.O.S

Maritime Transport IMDG/IMO:

Class:9

Packaging group: III

UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID.N.O.S

Marine Pollutant (Y/N): Yes

Air transport IATA/ICAO:

Class:9

Packaging group: III

UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID.N.O.S

Special/Environmental Precautions: None known.

15. REGULATORY INFORMATION

The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given.

Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with local laws.

16. OTHER INFORMATION

The data given here is based on current knowledge and experience. The purpose of this safety data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

This version revised in 20250121