

1. Chemical Product Identification

1.1 Product Description

Product Name **ACET- CHLOR**

1.2 Manufacturer and Distributors

Manufacturer **GREEN LEAVES CO.,LTD**

Address 38/1 TESABANNIMITNUR ROAD, LADYAO, CHATUCHAK, BANGKOK 10900

Contact Tol: 0-2591-6601 Fax: 0-2580-0309

Website <http://www.essencechem.com>

Distributors **Sherwood Corporation (Thailand) Public Company Limited**

Address 90/1 Moo 9, Wellgrow Industrial Estate, Km.36 Bang Na-Trad Road, Bang Wua, Bang Pakong District, Chachoengsao 24180, Thailand

Contact Tel. (+66) 3852-2302 Fax. (+66) 3852-2311

Website <http://www.sherwood.co.th>

1.3 Emergency telephone number

Emergency Contact Tel. (+66) 9-5957-4010

2. Composition / Information on Ingredients

Ingredient		CAS No	Percent
Active ingredient	Acetochlor	34256-82-1	50%
Inert ingredient	Other ingredients, including water	/	Up to 100%

3. Hazards Identification

Emergency Overview:

Appearance & Odor: Wine red to yellow/amber oil

Warning Statements:

- The use of this product may be hazardous to your health. This product contains acetochlor, which has been determined to cause tumors in laboratory animals.
- Keep out of reach of children.
- CAUTION!
- Harmful if swallowed, inhaled or absorbed through skin

- May cause eye irritation
- May cause allergic skin reaction
- For formulation of herbicide products only

Potential Adverse Health Effects:

Likely Routes of Exposure: Skin contact and inhalation

Eye Contact: No more than slightly irritating based on toxicity studies.

Skin Contact: No more than slightly toxic and no more than slightly irritating based on toxicity studies. May cause allergic skin reaction based on toxicity studies.

Ingestion: No more than slightly toxic based on toxicity studies. No significant adverse health effects are expected to develop if only small amounts (less than a mouthful) are swallowed.

Inhalation: No more than slightly toxic if inhaled based on toxicity studies.

4. First Aid Measures

If in Eyes: Flush with plenty of water. Get medical attention if irritation persists.

If on Skin: Immediately flush with plenty of water while removing contaminated clothing. As soon as soap is available, wash clothing thoroughly with soap and water. Wash clothing before reuse.

Sensitized persons should avoid further contact and reuse of contaminated clothing. Get medical attention.

If Inhaled: Remove individual to fresh air. Seek medical attention if breathing difficulty develops.

If Swallowed: Induce vomiting immediately as directed by medical personnel. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

NOTE: For additional human emergency first aid or treatment guidance, call collect, anytime, day or night.

5. Fire-Fighting Measures

Extinguishing media

Water/foam/CO₂/dry powder.

Minimize use of water to prevent environmental contamination.

Exposure hazards

Decomposes in a fire giving off harmful fumes. (See section 10).

Environmental precautions: See section 6.

Protective equipment

Firefighters, and others exposed, wear self-contained breathing apparatus.

Wear suitable protective clothing, gloves and eye/face protection.

Thoroughly clean equipment after use.

6. Accidental Release Measures

Personal precautions

Use personal protection recommended in section 8.

Environmental precautions

Minimize spread.

Prevent product entering sewers/basements/workpits.

Keep out of drains and water courses.

Methods for cleaning up

Absorb in earth/sand/absorbent granules.

Sweep up into containers for disposal.

Dig up heavily contaminated soil and place in drums.

(Refer to section 10 for types of containers and drums.)

Flush spill area with water.

Minimize use of water to prevent environmental contamination.

Refer to section 13 for disposal of spilled material.

7. Handling And Storage

Handling

Good industrial practice in housekeeping and personal hygiene should be followed. Observe all recommended safety precautions until container is cleaned, reconditioned or destroyed. When using do not eat, drink or smoke. Avoid contact with skin, eyes, mucous membranes and clothing. Sensitized persons should avoid further contact. Have safety shower available at

locations where skin contact can occur. Wash hands thoroughly after handling or contact. Use these materials for equipment: stainless steel. Thoroughly clean equipment after use.

Storage

Keep out of the reach of children.

Keep away from food, drink and animal feedingstuffs.

Keep only in the original container.

Store above -10 °C.

Do not store above 40 °C.

Minimum shelf life: 5 years.

8. Exposure Controls/Personal Protection**Engineering measures**

Not applicable

Occupational exposure limit

No TLV/OEL has been established.

Respiratory protection

No special requirement when used as recommended.

Hand protection

Wear impermeable gloves.

Eye protection

No special requirement when used as recommended

Skin protection

Wear long trousers, a long sleeved shirt or jacket of closely knit material and rubber boots, high enough to cover ankles.

Ensure sleeves and trousers are worn over gloves and boots.

9. Physical and Chemical Properties

Physical state:	Liquid
Colour:	Yellow
Odour:	Light aromatic
pH:	6-8
Viscosity:	100 cP at 20 °C
Emulsion stability cream:	≤ 2 ml (CIPAC water C) (solution 2 %) (temperature 25 °C)
Emulsion stability oil:	0 ml (1 hour, CIPAC water A & C) (solution 2 %) (temperature 25 °C)
Self emulsifiability:	Poor to perfect (CIPAC water A & C) (solution 2 %) (temperature 25 °C)
Water solubility:	Fully miscible
Acetochlor	Partition coefficient n-octanol/water: 2.48 log Pow

10. Stability and Reactivity

Conditions to avoid

Not applicable.

Materials to avoid

Mild steel, rubber.

Hazardous decomposition products

Thermal decomposition products : carbon monoxide (CO), nitrogen oxides (NO_x), hydrogen chloride (HCl).

11. Toxicological Information

Laboratory data

Similar formulation

Oral LD₅₀ (rat):

2953 mg/kg body weight.

Dermal LD₅₀ (rabbit):

3667 mg/kg body weight.

Acute inhalation toxicity (rat):

no deaths at 3.85 mg/l, the highest achievable concentration in this study.

Overall mean EU skin irritation scores (Draize test, 24 h) :

Redness: 0.625

Swelling: 0

Lesions reversible by 7 days.

Overall mean EU eye irritation scores (OECD test, 24 h) :

Conjunctival redness: ca 2.13

Conjunctival swelling: ca 1.42

Iris lesions: 0.5

Corneal opacity: 1.83

Lesions reversible by 7 days.

Guinea pig Buchler test: 100 % positive incidence.

Active ingredient

Oral (diet) carcinogenicity test (rat):

Tumours with an incidence significantly different from controls: nose, thyroid.

Effects only observed at very high dose levels.

Tumours not relevant to man.

Oral (diet) carcinogenicity test (mouse) :

Tumours with an incidence significantly different from

controls : liver, lung.

Tumours not relevant to man.

Oral reprotoxicity test (rat) :

Target organs/systems in parents: body weight.

Target organs/systems in pups: body weight, survival.

Effects on offspring only observed with maternal toxicity.

Oral developmental toxicity test (rat):

No adverse treatment related effects in offspring.

Oral developmental toxicity test (rabbit):

No adverse treatment related effects in offspring.

In vitro and in vivo mutagenicity tests: not mutagenic.

Human data

Active ingredient

Skin contact: May cause sensitization in susceptible individuals.

12. Ecological and Ecotoxicological Information

Monsanto has not conducted environmental studies on this product.

Data obtained on active ingredient are summarized below :

Aquatic toxicity

LC₅₀, 96 h:

Bluegill sunfish (*Lepomis macrochirus*): 1.3 mg/l.

Rainbow trout (*Oncorhynchus mykiss*): 0.45 mg/l.

Sheepshead minnow (*Cyprinodon variegatus*): 2.4 mg/l.

Mysid shrimp (*Mysidopsis bahia*): 2.4 mg/l.

LC₅₀, 48 h:

Water flea (*Daphnia magna*): 16 mg/l.

EC₅₀, 5 day:

Algae (*Selenastrum capricornutum*): 0.0019 mg/l.

Oyster shell deposition, 96 h:

Atlantic oyster (*Crassostrea virginica*): 4.2 mg/l.

Rainbow trout (*Oncorhynchus mykiss*) (embryo and larvae),

NOAEL (No observable adverse effect level): 0.45 mg/l.

Water flea (*Daphnia magna*), 21 days:

EC₅₀: > 0.341 mg/l

NOEC (No observable effect concentration): 0.0427 mg/l.

Avian toxicity

LD₅₀, acute, oral:

Bobwhite quail (*Colinus Virginianus*): 1260 mg/kg body weight.

LC₅₀, 8 day dietary (5 day treatment):

Mallard duck (*Anas platyrhynchos*): > 5620 mg/kg diet.

Bobwhite quail (*Colinus Virginianus*): > 5620 mg/kg diet.

Reproduction tests, 22-23 weeks (diet):

Mallard duck (*Anas platyrhynchos*):

LOAEL (lowest observable adverse effect level): 150 mg/kg diet.

NOEL (No observable effect level): 30 mg/kg diet.

Bobwhite quail (*Colinus Virginianus*):

LOAEL (lowest observable adverse effect level): 750 mg/kg diet.

NOEL (No observable effect level): 150 mg/kg diet.

Wildlife toxicity

LD₅₀, 48 h, topical:

Honey bee (*Apis mellifera*): 1.715 mg/bee

Bioaccumulation

BCF (Bioconcentration factor), exposure to 0.21 mg/l (30 day, flowthrough):

Bluegill sunfish (*Lepomis macrochirus*): 84

Dissipation

Half life: 8-12 days (soil, aerobic)

13. Disposal Considerations

Keep out of drains and water courses.

All local and national regulations should be followed.

Consult Monsanto for specialist advice.

Product

Dilute surplus product about 10 times. Apply to a previously treated area following use instructions. Send to special chemical waste disposal facility or burn only in special, controlled high temperature incinerator.

Containers

Triple rinse empty containers. Pour rinse water into spraytank

Give them to public waste disposal services.

To be disposed of as hazardous waste.

Do not re-use containers.

14. Transport Information

REGULATED

ROAD/RAIL: YES

AIR: NO

SEA: NO

Proper shipping name :

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

UN Class: 9

UN No.: 3082

Packing Group: III

15. Regulatory Information

EC label

Product classification following the EU Pesticides Directive 78/631/EEC.

Self classification:

Xi - Irritant

R43 May cause sensitization by skin contact.

R50 Very toxic to aquatic organisms.

R53 May cause long-term adverse effects in the aquatic environment

Other regulation

All local and national regulations should be followed.

All tests were conducted following OECD guidelines for Good

Laboratory Practices (GLP).

16. Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.