1. PRODUCT & COMPANY IDENTIFICATION

Product Name: PREMIUM 900 EC
Herbicide

UN No.: 1993

Supplier: Universal Crop Protection (Pty) Ltd.
Co. Reg. No.: 1983/008184/07
PO Box 801, Kempton Park, 1620, South Africa

Telephone: (011) 396 2233
Fax: (011) 396 4666
Website: www.villacrop.co.za

Emergency telephone: +27 11 396 2233
(08:00 – 16:30)

24 Hr Emergency Numbers:
Bateleur: +27 83 1233 911 or
(Client: Villa Crop Protection) +27 860 333 911

In case of Poisoning:
Western Cape Poisons Tel. Service +27 861 555 777
Griffon Poison Information Centre +27 82 446 8946
Tygerberg Hospital +27 21 931 6129

2. COMPOSITION/INFORMATION ON INGREDIENTS

Common Name: Acetochlor
Chemical Name: 2-chloro-N-ethoxymethyl-6'- ethylaceto-0-toluidide (IUPAC)
CAS No.: [34256-82-1]
Chemical Family: chloroacetamide
Chemical Formula: C14H20ClNO2 (Mol. wt.: 269.8)
Formulation: Acetochlor: 900 g/ℓ Emulsifiable concentrate
Use / Mode of Action: Selective pre-emergence herbicide, absorbed mainly by
germating plant shoots and secondly by roots. Inhibits
protein synthesis.

Hazardous Ingredient: Acetochlor – 90 %
Xylene – 2 %

SYMBOLS: Xn, N, F
RISK-PHRASe(S): R 11, 22, 36/37/38, 40, 41, 43, 50

3. HAZARD IDENTIFICATION

Toxicity class:
WHO III (a.i.). Slightly hazardous.
Cause irritation to the skin and eyes.
May cause skin sensitisation by contact.
Aspiration into lungs may cause chemical pneumonitis.
Combustible.
Very toxic to fish.

4. FIRST AID MEASURES AND PRECAUTIONS

Irritant effects on skin and mucous membrane are the
most common reactions. Large ingestions can cause
nausea, vomiting, abdominal distress and diarrhoea.

Inhalation:
Immediately remove source of contamination or move
victim to fresh air. If breathing has stopped, perform
artificial respiration and administer oxygen. Avoid mouth-
to-mouth resuscitation. Keep person warm and at rest.
Treat symptomatically and supportively as and when
required. Seek medical advice immediately.

Skin contact:
Remove contaminated clothing, shoes and leather goods
immediately. Gently wipe of excess chemical. Wash skin
gently and thoroughly with non-abrasive soap or mild
detergent and large amounts of water until no evidence of
chemical remains (approximately 15 to 20 minutes). Seek
medical advice if necessary.

Eye contact:
Flush eyes immediately with large amounts of gently
flowing cold water or normal saline solution, occasionally
lifting upper and lower lids, until no evidence of chemical
remains (approximately 15 to 20 minutes). If irritation
persists, get medical attention.

Ingestion:
Have victim rinse mouth thoroughly with water. Do not
induce vomiting, due to the aromatic solvent. Seek
medical advice immediately. If the person is alert and
respiration is not depressed, give large quantity of water to
drink. Never give anything by mouth to an unconscious
person. Establish and maintain airway. Treat respiratory
difficulty with artificial respiration and oxygen. Qualified
medical personnel should perform administration of gastric
lavage or oxygen.

Advice 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

Fire/Explosion hazard:
Flammable. Combustible.
Flash point: 23 ℃
Combustion products are toxic and/or irritant.
Inhalation of material could be harmful.

Extinguishing agents:
Extinguish 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. Use as little water as possible.

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Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Fire fighting:
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.

Personal protective equipment:
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. ACCIDENTAL RELEASE MEASURES (Spillage)

Personal precautions:
Avoid contact with skin and eyes. Do not breathe in fumes. For personal protection see Section 8.

Environmental precautions:
Acetochlor is toxic to fish and very toxic to algae. Is an environmentally hazardous substance. Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

Occupational spill:
Do not touch-spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals.

For spills: Soak up with absorptive material such as damp earth or sand or other suitable non-combustible absorbent material. Place the material into a clean, dry container and cover for subsequent disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Prevent material from spreading by damming in with absorptive material. Do not flush spilled material into drains. Keep spectators away and upwind.

To decontaminate spill area, tools and equipment, wash with a suitable solution (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Label drums with its content and dispose it in accordance with local regulations.

7. HANDLING AND STORAGE REQUIREMENTS

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 CONTROL/PERSONAL PROTECTION

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:

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

Emergency eyewash: 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: Light brown emulsifiable liquid.
Relative density: 1,106 ± 0,05 g/cm³ at 20 °C.
Solubility in water: Miscible with water. Gives a stable emulsion.
Flash point: 23 °C
Flammability: Combustible.

pH: Not available.

10. STABILITY AND REACTIVITY

Stability: Considered stable for a period of 2 years under recommended warehouse and light conditions.

Hazardous decomposition: Emits toxic and irritant vapours under fire conditions.

11. TOXICOLOGICAL INFORMATION

Formulation (calculated):
Acute oral LD₅₀: > 2000 mg/kg in rats.
Acute dermal LD₅₀: > 5000 mg/kg in rabbits.
Acute inhalation LC₅₀: Technical: > 3 mg/l/4 hours.
Acute skin irritation: May cause severe irritation and damage. Cause dermatitis through defatting of tissue.

Acute eye irritation: May cause severe irritation and damage to the eyes.

Sensitization: May cause skin sensitization.

Teratogenicity/Development: Acetochlor did not induce either maternal or developmental toxicity in rabbits up to 300 mg/kg/day, the highest dose tested.

Mutagenicity:

Acetochlor was weakly positive in the gene mutation assay with and without activation in the mouse lymphoma assay. However, negative in a DNA damage repair assay, Salmonella assay and chromosomal aberration studies. Positive evidence of mutagenicity was found in various studies at the mid- and high-dose levels.

Carcinogenicity: In various studies carcinogenicity effects were noted. Based on data, the US EPA has classified Acetochlor as a “probable human carcinogen”.

ADI: 0.01 mg/kg b.w.

12. ECOLOGICAL INFORMATION

In animals: The primary routes of metabolism for Acetochlor are glutathione conjugation and metabolism by cytochrome P450.

In plants: In maize and soybeans, Acetochlor is rapidly absorbed and metabolised in the germinating plant. In maize, the first metabolite is glutathione, and in soybeans homoglutatione.

In the soil: Acetochlor is absorbed by soil colloids and leached very little. The main method of degradation is microbial breakdown. Average persistence at recommended rates is 8 to 12 weeks, but vary depending on soil type and climatic conditions. It is very active on heavy or high organic matter soils.

ECOTOXICOLOGY:

Birds: moderately toxic to birds.
LD₅₀: Bobwhite quail: > 1260 mg/kg
LC₅₀ 5-day diet: Mallard ducks: > 5620 mg/kg
Quail: > 5620 mg/kg

Fish: Very toxic to fish.
LC₅₀ (96 hours): Bluegill sunfish: 1.5 mg/l Rainbow trout: 0.36 mg/l

Daphnia: Very toxic to Daphnia. 
Daphnia magna: 48-hour LC₅₀: 9 mg/l

Bees: Moderately toxic to bees.
LD₅₀ (oral): > 100 µg/bee
LD₅₀ (contact, 24 hours): > 200 µg/bee

Earthworms: LC₅₀ (14 days): 211 mg/kg soil

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 one third 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 No.: 1993
Road Transport ADR/IRD:
Class: 3
Subsidiary group: 3.2
Packing group: II
Shipping name: Flammable, Environmentally hazardous substance, liquid, N.O.S. (Acetochlor 900 g/l)

Maritime Transport IMDG/IMO:
Class: 3
Subsidiary group: 3.2
Packing group: II
Shipping name: Flammable, Environmentally hazardous substance, liquid, N.O.S. (Acetochlor 900 g/l)

15. REGULATORY INFORMATION

Symbol: F, Xn, N
Indication of danger: Flammable, Harmful, Environmentally Hazardous Substance

Risk phrases:
R 11 Highly flammable.
R 20/22 Harmful by inhalation and if swallowed.
R 36/37/38 Irritation to eyes, respiratory system and skin.
R 40 Limited evidence of a carcinogen.
R 41 Risk of serious damage to eyes.
R 43 May cause skin sensitisation by skin contact.
R 50 Very toxic to aquatic organisms.

Safety phrases: