UNIVERSAL ALACHLOR 384 EC SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **ALACHLOR 384 EC**
Other identifier: **Alachlor**
Recommended use: Herbicide
Restrictions on use: Agriculture

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 numbers:
24 Hr Transport / Spill emergency no:
Envirosure. +27 31 205 4918
(Hazcall24) +27 86 044 4411
(Client: Villa Crop Protection)
Griffon Poison Information Centre +27 82 446 8946
(Client: Villa Crop Protection)
Poisoning Emergency telephone numbers:
Griffon Poison Information Centre +27 82 446 8946
Poisons Information Centre +27 861 555 777
Villa Crop Protection Emergency number:
National Safety, Health and Environmental Manager:
+27 63 698 0668

2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	**Hazard categories**	**H-statements**
Physical		
Flammable	Flam Liq. 3	H226
Health		
Oral	Acute Toxicity 4	H302
Dermal	Acute Toxicity 5 Skin sens. 1	H313 H317
Inhalation	Acute Tox. 4	H332
Carcinogenic	Carc. 2	H351
Specific target organ toxicity following single exposure	STOT SE 1	H370
Environment		
Aquatic acute	Aquatic acute 1	H400
Aquatic chronic	Aquatic chronic 1	H410

The most important adverse effects:
Physiochemical effects: Flammable liquid and vapour.
Human health effects: Harmful if swallowed or inhaled. Suspected of cause cancer.
Causes damage to organs.

Label elements:

Signal word: Danger
Hazard statements:
H226: Flammable liquid and vapour.
H302: Harmful if swallowed.
H313: May be harmful in contact with skin.
H317: May cause an allergic skin irritation.
H332: Harmful if inhaled.
H351: Suspected of causing cancer.
H370: Causes damage to organs.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
Precautionary statements:
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P260: Do not breathe mist/spray.
P264: Wash hands and face thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P273: Avoid release into the environment
P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
P302+352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [shower].
P308+P311: IF exposed or concerned: Call a POISON CENTER.
P333+P313: If skin irritation or rash occurs: Get medical advice.
P391: Collect spillage.
P403+P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up.
P501: Dispose of content/container to suitable landfill in accordance with local regulations.

Other hazards:
None known.
Toxicity:
Classification according to GHS: Class 4

Classification according to WHO: Group II
Classification according to GPIC: Category III

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture
Composition:

Chemical name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Alachlor	15972-60-8	45.3 %	Acute tox. 4 (H302) Skin Sens. 1 (H317) Carc. 2 (H351) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Methanol	67-56-1	< 10 %	Flam Liq. 2 (H225) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT SE 1 (H370)
Xylene	1330-20-7	< 50 %	Flam Li1. 2 (H226) Acute Tox. 4 (H312) Skin Irritation 2 (H315) Eye Irritation 2/2A (H319) Aquatic Tox. 4 (H332)

4. FIRST AID MEASURES

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure. **Immediately consult a doctor.**
Inhalation: Remove person from contaminated area to fresh air and assist if breathing is needed. Seek medical attention if irritation occurs.
Skin: Remove contaminated clothing and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. Obtain medical attention if irritation persists.
Eyes: Flush eyes with clean water for at least 15 – 20 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. **Seek medical attention.**
Ingestion: Seek medical attention or call a poison control centre for treatment advice. Do not induce vomiting unless instructed to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person. If the person is alert, rinse mouth thoroughly with water.
Anticipated acute effects: May cause an allergic skin reaction.
Anticipated delayed effects: Suspected of causing cancer. Causes damage to organs.
Most important symptoms / effects: None known.
Advice to physician: Treat symptomatically and supportively. No specific antidote known.

5. FIRE-FIGHTING MEASURES

High explosive risk.
Suitable Extinguishing Media: Use carbon dioxide or dry chemical for small fires and water fog or foam for large fires.
Unsuitable Extinguishing Media: High volume water jet. Use a water jet only to cool heated containers.
Specific hazards: Hazards or hazardous products arising from combustion
Special fire-fighting procedures: Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Remain upwind of fire. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.
Personal protective equipment: Wear NIOSH / MSHA approved self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid contact with eyes and skin. Ventilate area of spill or leak, especially in contained areas.
Protective equipment: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.
Emergency procedures: Alert firefighting personnel, evacuate unprotected personnel and animals.
Environmental Precautions: Prevent spilled product from entering sewers, waterways or ground water. This product is classified as very toxic to aquatic organisms and causes long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into watercourses should be reported immediately to the

police and the Department of Water / Environmental Affairs.
Methods and Materials for Containment: Contain spilled product by diking area with sand or earth.
Methods and Materials for Clean-up: Cover contained spill with an inert absorbent material such as sand, vermiculite, earth or other appropriate material. Vacuum, scoop, or sweep up material and place the material into a clean, dry, sealable container. Label containers with the contents and dispose of according to local regulations. Do not place spilled material back in original container. Do not re-use spilled material. Collect washings and add to the drums already collected. Do not flush spilled material or washings into drains or waterways. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. See section 13 for disposal considerations.

7. HANDLING AND STORAGE

Handling:
Precautions for safe handling: Harmful if inhaled. Avoid contact with skin and eyes. Ensure adequate ventilation during handling and use. Do not inhale spray mist or vapours. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4.
General occupational hygiene: Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used.
Storage:
Conditions for safe storage: Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original, labelled container, tightly closed in an isolated, dry, cool and well- ventilated area. **This product is flammable.** Do not store near heat, open flame, sources of ignition or hot surfaces. Not to be stored next to foodstuffs, feed and water supplies. Avoid cross contamination with other pesticides and fertilisers.
Incompatible substances and mixtures: Refer to product label.
Packaging material: Fluorinated plastic containers.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration
No occupational exposure limits have been determined for the significant ingredients in this product.

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. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations.
Personal Protective Equipment:
Respiratory Protection: For most well-ventilated conditions, no respiratory protection should be needed. If used in a poorly ventilated area (airborne concentrations exceed exposure limits), use a NIOSH approved, air-purifying respirator with cartridges / canisters approved for organic vapours.
Hand Protection: The use of chemically protective impervious gloves is recommended to prevent against skin contact.
Eye Protection: The use of chemical safety goggles is recommended to prevent against eye contact. Contact lenses are not protective eye devices.
Skin and Body Protection: Employees must wear appropriate protective impervious clothing, rubber boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing.
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: Purple liquid.
Odour: Aromatic odour.
Odour threshold: Not available.
pH (1% aqueous dilution): Not available.
Melting point: Not available.
Freezing Point: 0 °C.
Boiling Point: Not available.
Flash Point: 34 °C.
Flammability: Flammable.
Upper / lower explosion limits: Not available.
Vapour Pressure (mm Hg): Not available.
Relative Vapour Density: Not available.
Density / Relative density: Not available.
Solubility: Readily miscible in water – 242 ppm.
n-octanol / water partition coefficient: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.

10. STABILITY AND REACTIVITY

Chemical stability: The product is stable for two years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme

temperatures and conditions. Store below 50 °C, preferably below 30 °C, and not for prolonged periods in direct sunlight. The product is stable to UV light.
Reactivity: None known.
Possibility of hazardous reactions: Unlikely to occur.
Conditions to avoid: Extreme heat or exposure to flames.
Incompatible materials: Strong oxidizers, strong bases, strong reducing agents. May corrode plastic, steel and black iron.
Hazardous decomposition products: Alcohols. carbon monoxide and carbon dioxide may form under burning conditions or with incomplete combustion.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Oral LD_{50} (24h) > 1747 mg/kg (rat)
Dermal LD_{50} > 4628 mg/kg (rabbit)
Inhalation LC_{50} (4h) >2.29 mg/ℓ (rat)
Skin Irritation / Corrosion: May cause an allergic skin reaction.
Eye Damage / Irritation: Not available.
Skin Sensitization: Product is a skin sensitizer.
Respiratory Sensitization: Not available.
Reproductive cell mutagenicity: Not available.
Carcinogenicity: Not available.
Reproductive toxicity: Not available.
Specific target organ toxicity – single exposure: Causes damage to organs.
Specific target organ toxicity – repeated exposure: Not available.
Aspiration hazard: Not available.
Chronic Effects: Suspected of causing cancer.
POTENTIAL ADVERSE EFFECTS:
Inhalation: None known.
Ingestion: None known.

12. ECOLOGICAL INFORMATION

This product is expected to be very toxic to aquatic organism with long lasting effects.

ECOTOXICITY DATA:
Active ingredient: Alachlor

Fish:		
LC_{50} (96 h)	Rainbow trout	5.3 mg/ℓ
	Bluegill sunfish	5.8 mg/ℓ
	Channel catfish	2.1 mg/ℓ
	Sheepshead minnows	3.9 mg/ℓ
Daphnia:		
EC_{50} (48 h)		13 mg/ℓ
Algae:		
EC_{50} (72 h)	Green algae	0.012 mg/ℓ
Birds:		
Acute oral LD_{50}	Bobwhite quail	1536 mg/kg
Dietary LD_{50} (8d)	Mallard ducks	>5620 mg/kg diet
	Bobwhite quail	>5620 mg/kg diet
Bees:		
LD_{50} contact		>100 µg/bee
LD_{50} oral		>94 µg/bee
Worms:		
LC_{50}		387 mg/kg

ENVIRONMENTAL EFFECTS
Based on information for the active ingredient:
Plants: Rapidly metabolised in plants to a wide array of metabolites by multiple metabolic routes including hydrolytic/oxidative displacement of chlorine, N-dealkylation, hydroxylation of the arylethyl moiety, and glutathione displacement of the chlorine followed by formation of various sulfur-containing secondary catabolism products.
Persistence and degradability: Degradation in soil by micro-organisms under aerobic conditions was rapid; DT_{50} 7.8 d (loam, pH 7.7, 1.9% o.m.), 10.9 d (sandy loam, pH 7.4, 2.5% o.m.) 15.3 d (silt loam, pH 5.8, 3.4% o.m), 17.1 d (clay loam, pH 7.5, 5.1% o.m) (20 °C 40% of the MWHC); DT90 26, 36, 51 and 57 d, respectively The principal metabolites are oxanilic and sulfonic acids. In surface water, 55% degraded in 28 d.
Bio-accumulative potential: Not determined.
Mobility in soil: Alachlor is moderately to highly mobile in soil. Mobilisation decreases with an increase in organic carbon and clay content in soil.
Other adverse effects: Not determined.

13. DISPOSAL CONSIDERATIONS

Waste: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product 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. The product may be taken to a registered waste disposal site or incineration plant.
Container: Emptied containers retain product residues. Do not re-use the empty container for any other purpose. Triple rinse empty containers by inverting 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 third of that of the container. Add the rinsings to the contents of the spray tank before destroying the container in the prescribed manner. Destroy the container by perforating and flattening and dispose of through an approved

waste dump site, incineration plant or recycling company. Observe all labelled safeguards until container is destroyed.

14. TRANSPORT INFORMATION

UN Number:
Road Transport ADR / ORD: **1993**
Class: 3
Packaging group: III
UN Proper Shipping Name: Flammable, liquid, N.O.S. (Xylene, methanol)
Maritime Transport IMDG / IMO:
Class: 3
Packaging group: III
UN Proper Shipping Name: Flammable, liquid, N.O.S. (Xylene, methanol)
Marine pollutant (Y/N): Yes
Air Transport IATA / ICAO:
Class: 3
Packaging group: III
UN Proper Shipping Name: Flammable, liquid, N.O.S. (Xylene, methanol)
Special / Environmental Precautions: Wedge drums tightly to avoid movement.
Transport in bulk: Refer to MARPOL 73/78, Annex II and the IBC code.

15. REGULATORY INFORMATION

Safety, health and environmental regulations / legislation for the mixture:
OHSA 1993 Regulations for Hazardous Chemical Substances.
Relevant information regarding restrictions: None.
EU regulation: Regulation EC1272/2008 (EU-GHS/CLP)
Other national regulations: None.
Chemical Safety Assessment carried out? No

16. OTHER INFORMATION

Packaging: Packed in 1, 5, 10, 20 and 25 litres fluorinated plastic containers, labelled according to South African regulations and guidelines.
Other hazard statements, abbreviations and explanations:
H225: Highly flammable liquid and vapour.
H301: Toxic if swallowed.
H311: Toxic in contact with skin.
H312: Harmful in contact with skin.
H315: Causes skin irritation.
H331: Toxic if inhaled.
IATA: International Air Transport Association.
IBC: International Bulk Chemical.
ICAO: International Civil Aviation Organization.
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization.
LD_{50} value: The median lethal dose or the amount of a toxic agent that is sufficient to kill 50 percent of a population within a certain period of time.
OEL/RL: Occupational exposure limit-recommended limit.
TWA: Time-weighted average – The average exposure over a specified period, usually a nominal eight hours.
ST/STEL: Short-term exposure limits.
Disclaimer: The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed. All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

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For detailed information on revisions, contact the Registration holder.