

PENDIMETHALIN 500 EC

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: PENDIMETHALIN 500 EC
Other identifier: /
Recommended use: Herbicide
Restrictions on use: Agriculture, small-scale farming

Registration Holder: Universal Crop Protection (Pty) Ltd.
Co. Reg. No.: 1983/008184/07
 PO Box 801,
 Kempton Park, 1620, South Africa
 (011) 3962233
Telephone: (011) 3964666
Fax: (011) 3964666
Website: www.villacrop.co.za

Emergency telephone numbers:
24 Hr Transport / Spill emergency no:
 (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

2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	H-statements
Physical		
Flammable	Flammable liquid 4	H227
Health		
Oral	Acute Toxicity 5	H303
Aspiration	Aspiration Toxicity 1	H304
Dermal	Acute Toxicity 5 Skin Irritation 3 Skin Sensitisation 1	H313 H316 H317
Eye	Eye Damage 1	H318
Inhalation	Acute Toxicity 4	H332
Environment		
Aquatic acute	Aquatic acute 1	H400
Aquatic chronic	Aquatic chronic 1	H410

The most important adverse effects:
Physicochemical effects: Combustible liquid.
Human health effects:
 Causes serious eye damage.
 May be fatal if swallowed and enters airways.
 Harmful if inhaled.
 May be harmful if swallowed or in contact with skin.
 Causes mild skin irritation.
 May cause an allergic skin reaction.

Label elements:



Signal word: Danger

Hazard statements:

H227: Combustible liquid.
 H303: May be harmful if swallowed.
 H304: May be fatal if swallowed and enters airways.
 H313: May be harmful in contact with skin.
 H316: Causes mild skin irritation.
 H317: May cause an allergic skin reaction.
 H318: Causes serious eye damage.
 H332: Harmful if inhaled.
 H400: Very toxic to aquatic life.
 H410: Very toxic to aquatic life with long lasting effects.

Precautionary statements:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P261: Avoid breathing fumes, mists, vapours or spray.
 P264+P265: Wash hands thoroughly after handling. Do not touch eyes.
 P271: Use only outdoors or in a well-ventilated area.
 P272: Contaminated work clothing should not be allowed out of the workplace.
 P273: Avoid release into the environment.
 P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
 P301+P316: IF SWALLOWED: Get emergency medical help immediately.
 P302+P352+P317: IF ON SKIN: Wash with plenty of water and soap. Get medical help.
 P304+P340+P317: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help.
 P305+P354+P338+P317: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.
 P331: Do NOT induce vomiting.
 P391: Collect spillage.
 P403: Store in a well-ventilated place.
 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: Category 4

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3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture
Composition:

Chemical name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Pendimethalin TC	40487-42-1	50 %	Skin Sensitisation 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Sodium dodecylbenzene sulfonate	25155-30-0	< 10 %	Acute Toxicity 4 (H302) Skin Irritation 2 (H315) Eye Damage 1 (H318)
Solvesso 150 Heavy aromatic petroleum 95%	64742-94-5	< 30 %	Aspiration Toxicity 1 (H304)

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.

Inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. **Seek medical attention.**

Skin: Remove contaminated clothing, leather goods and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. **Obtain medical attention.**

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 immediately** or call a poison control centre for treatment advice. **Do NOT induce vomiting due to aromatic solvent.** Do not give anything by mouth to an unconscious person. If the person is alert, rinse mouth thoroughly with water.

Anticipated acute effects: Causes serious eye damage. May be fatal if swallowed and enters airways. Harmful if inhaled. May be harmful if swallowed or in contact with skin. Causes mild skin irritation. May cause an allergic skin reaction.

Anticipated delayed effects: None known.

Most important symptoms / effects: None known.

Advice to physician: Treat symptomatically and supportively. No specific antidote known.

5. FIRE-FIGHTING MEASURES

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 skin and eyes. **Do not breathe in spray mist or vapours.** 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

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suitable detergent. See section 13 for disposal considerations.

7. HANDLING AND STORAGE

Handling:

Precautions for safe handling: May be fatal if swallowed and enters airways. Avoid contact with skin and eyes. Do not inhale spray mist or vapours. 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. 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: Employees must wear chemically protective impervious gloves to prevent against skin contact.

Eye Protection: Wear a face shield when handling the concentrate and when applying the product. The use of safety goggles is recommended if a face shield is not available.

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: Yellow dark brown liquid, emusifiable concentrate.

Odour: Mild aromatic hydrocarbon odour.

Odour threshold: Not available.

pH (1% aqueous dilution): 5.0 to 8.0

Melting point: Not available.

Freezing Point: 0 °C.

Boiling Point: Not available.

Flash Point: 61 °C.

Flammability: Combustible liquid.

Upper / lower explosion limits: Non-explosive.

Vapour Pressure (mm Hg): Not available.

Relative Vapour Density: Not available.

Density / Relative density: 1.02 g/ml

Solubility: Emulsifies in water.

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.

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.

Hazardous decomposition products: Alcohols, carbon monoxide and carbon dioxide may form under burning conditions or with incomplete combustion.

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11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Calculated according to GHS

Oral LD₅₀ (24h) > 4400 mg/kg (rat)

Dermal LD₅₀ > 4000 mg/kg (rabbit)

Inhalation LC₅₀ (4h) > 2.7 mg/l (rat)

Skin Irritation / Corrosion: Causes mild skin irritation.

Eye Damage / Irritation: Causes serious eye damage.

Skin Sensitization: May cause an allergic skin reaction.

Respiratory Sensitization: Not classified.

Reproductive cell mutagenicity: Not classified.

Carcinogenicity: Not classified.

Reproductive toxicity: Not classified.

Specific target organ toxicity – single exposure: Not classified.

Specific target organ toxicity – repeated exposure: Not classified.

Aspiration hazard: May be fatal if swallowed and enters airways.

Chronic Effects: Not available.

POTENTIAL ADVERSE EFFECTS:

Inhalation: Harmful if inhaled.

Ingestion: May be harmful if swallowed. May cause nausea, vomiting, and diarrhoea.

Skin: May be harmful in contact with skin.

12. ECOLOGICAL INFORMATION

This product is very toxic to aquatic organisms with long lasting effects.

ECOTOXICITY DATA:

Pendimethalin

Fish:

LC ₅₀ (96 h)	Rainbow trout	0.890 mg/l
	Sheepshead minnows	0.707 mg/l

Daphnia:

EC ₅₀ (48 h)		0.147 mg/l
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Algae:

E _b C ₅₀ (72 h)	<i>Selenastrum capricornutum</i>	0.018 mg/l
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Birds:

Acute oral LD ₅₀	Mallard ducks	1420 mg/kg
Dietary LD ₅₀ (8 d)	Bobwhite quail	4190 mg/kg diet

Bees:

LD ₅₀ contact		>100 µg/bee
LD ₅₀ oral		>101 µg/bee

Worms:

LC ₅₀ (14 d)	Earthworms	>1000 mg/kg soil
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ENVIRONMENTAL EFFECTS

Based on information for the active ingredient

Plants: In plants, the 4-methyl group on the benzene ring is oxidised to the carboxylic acid via the alcohol. The amino nitrogen is also oxidised.

Persistence and degradability: In soil, the 4-methyl group on the benzene ring is oxidized to the carboxylic acid via the alcohol; the amino nitrogen is also oxidized. DT₅₀ in soil is 3 – 4 months.

Bio-accumulative potential: Log K_{ow} 5.4.

Mobility in soil: K_d ranges from 2.23 (0.01% o.m., pH 6.6) to 1638 (16.9% o.m., pH 6.8).

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. Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank. Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages. Observe all labelled safeguards until container is destroyed.

14. TRANSPORT INFORMATION

UN Number: 3082

Road Transport ADR / ORD:

Class: 9
 Packaging group: III
 UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Pendimethalin 500 g/l)

Maritime Transport IMDG / IMO:

Class: 9
 Packaging group: III
 UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Pendimethalin 500 g/l)

Marine pollutant (Y/N): Yes

Air Transport IATA / ICAO:

Class: 9
 Packaging group: III

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UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Pendimethalin 500 g/l)

Special / Environmental Precautions: Wedge drums tightly to avoid movement.

Transport in bulk: Refer to MARPOL 73/78, Annex II and the IBC code.

For detailed information on revisions, contact the Registration holder.

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:

H302: Harmful if swallowed.

H315: Causes skin irritation.

IATA: International Air Transport Association.

IBC: International Bulk Chemical.

ICAO: International Civil Aviation Organization.

IMDG: International Maritime Dangerous Goods

IMO: International Maritime Organization.

LD₅₀ 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.

END OF DOCUMENT

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