

TRIFLURALIN 480 EC

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: TRIFLURALIN 480 EC
Other identifier: TRIFLURALIN 480 EC
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:

(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		
Flammability	Flam. Liq. 3	H226
Health		
Dermal	Acute Tox. 5 Skin Irrit. 2 Skin sens. 1	H313 H315 H317
Eye	Eye irritation 2	H319
Carcinogenicity	Carc. 2	H351
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:

May be harmful in contact with skin. (Acute Tox. 5)

Causes skin irritation. (Skin Irrit. 2)

Causes serious eye irritation. (Eye irrit. 2)

May cause an allergic skin irritation. (Skin Sens. 1)

Suspected of causing cancer. (Carc. 2)

Label elements:



Signal word: Warning

Hazard statements:

H226: Flammable liquid and vapour.

H313: May be harmful in contact with skin.

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H351: Suspected of causing cancer.

H400: Very toxic to aquatic life.

H410: May cause long lasting harmful effects to aquatic life.

Precautionary statements:

P203: Obtain, read and follow all safety instructions before use.

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233: Keep container tightly closed.

P240: Ground and bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting equipment.

P242: Use non-sparking tools.

P261: Avoid breathing dust, fumes, mists, gas, vapours or spray.

P264+P265: Wash hands thoroughly after handling. Do not touch eyes.

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.

P302+P317+P352: IF ON SKIN: Get medical help. 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].

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P318: IF exposed or concerned, get medical advice.

P332+P317: If skin irritation occurs: get medical help.

P337+P317: If eye irritation persists: Get medical help.

P362+P364: Take off contaminated clothing and wash it before reuse.

P370+P378: In case of fire: Use carbon dioxide or dry chemical for small fires and water fog or foam for large fires.

P391: Collect spillage.

P403+P235: Store in a well-ventilated place. Keep cool.

P405: Store locked up.

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P501: Dispose of content/container to suitable landfill in accordance with local regulations.

Other hazards:

None known.

Toxicity:

Classification according to GHS: Category 5

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture

Composition:

Chemical name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Trifluralin	1582-09-8	47.44 %	Skin Sens. 1 (H317) Carc. 2 (H351) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Burternal F1	68954-89-2	< 10 %	Skin Irrit. 2 (H315) Eye Dam. 1 (H318)
Xylene	1330-20-7	< 10 %	Flam. Liq. 3 (H226) Acute Tox. 4 (H312) Skin Irrit. 2 (H315) Acute 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.

Inhalation: Do not induce vomiting. Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs. **Seek medical attention if you feel unwell after inhalation.**

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 be harmful in contact with skin.

Causes skin irritation.

May cause an allergic skin reaction.

Causes serious eye irritation.

Anticipated delayed effects:

Suspected of causing cancer.

Most important symptoms / effects: None known.

Advice to physician: Treat systematically. There are no specific antidotes for poisoning of this herbicide.

Do not induce vomiting due to the aromatic solvent. Administer activated charcoal. Empty the stomach by intubation, aspiration and lavage, using a slurry of activated charcoal in isotonic saline. Rigorous precautions must be taken to protect the airway from aspiration of regurgitated gastric contents:

1. If the victim is unconscious, use a cuffed endotracheal tube prior to gastric intubation.
2. Keep the patient's head below level of stomach during gastric intubation and lavage (Trendelenburg, or left lateral decubitus, with head of table tipped downward). Keep victim's head turned to the left.
3. Aspirate pharynx as regularly as possible to remove gagged or stomach contents.

Supportive measures are ordinarily sufficient for successful management of excessive exposures to these herbicides.

5. FIRE-FIGHTING MEASURES

Fire and explosion hazard:

General Hazard: FLAMMABLE.

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.

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 or clothes. Do not breathe in vapour, fumes or spray mist. Ventilate area of spill or leak, especially confined 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.

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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 / toxic to aquatic organisms and may cause 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: May be harmful in contact with skin. Causes serious eye irritation. 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. 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: Product is incompatible with strong oxidising agents.

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 if the solvent is not water.

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: Maroon coloured liquid, emulsifiable concentrate.

Odour: Aromatic odour.

Odour threshold:

pH (1% aqueous dilution): Not available.

Melting point: Not available.

Freezing Point: Not available.

Boiling Point: Not available.

Flash Point: 35 °C.

Flammability: highly flammable.

Upper / lower explosion limits:

Vapour Pressure (mm Hg): Not available.

Relative Vapour Density: Not available.

Density / Relative density: 1.033 g/ml

Solubility: Emulsifies in water.

n-octanol / water partition coefficient: Not available.

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Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available

10. STABILITY AND REACTIVITY

Chemical stability: The product is stable in neutral, weakly acidic and weakly alkaline media. Decomposed by ultraviolet radiation. 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: Products of combustion may include hydrogen fluoride, oxides of nitrogen and possibly cyanides on heating.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Calculated according to GHS:

Oral LD₅₀ (24h) > 5000 mg/kg

Dermal LD₅₀ > 3500 mg/kg

Inhalation LC₅₀ (4h) > 5 mg/ℓ

Skin Irritation / Corrosion: Causes skin irritation.

Eye Damage / Irritation: Causes serious eye irritation.

Skin Sensitization: May cause an allergic skin reaction

Respiratory Sensitization: Not classified.

Reproductive cell mutagenicity: Not classified.

Carcinogenicity: Suspected of causing cancer.

Reproductive toxicity: Not classified.

Specific target organ toxicity – single exposure: Not classified.

Specific target organ toxicity – repeated exposure: Not classified.

Aspiration hazard: Not classified.

Chronic Effects: Not classified.

POTENTIAL ADVERSE EFFECTS:

Dermal: May be harmful in contact with skin.

Other information: Not available.

12. ECOLOGICAL INFORMATION

This product is considered a marine pollutant.

ECOTOXICITY DATA:

Active ingredient: Trifluralin

Fish:		
LC ₅₀ (96 h)	Rainbow trout	0.088 mg/ℓ
	Bluegill sunfish	0.089 mg/ℓ

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Daphnia:		
EC ₅₀ (48 h)		0.245 mg/ℓ
Algae:		
EC ₅₀ (168 h)	<i>Selenastrum capricornutum</i>	0.0122 mg/ℓ
Birds:		
Acute oral LD ₅₀	Bobwhite quail	>2250 mg/kg
Dietary LD ₅₀ (5d)	Bobwhite quail	2970 mg/kg diet
Bees:		
LD ₅₀ contact & oral		>100 µg/bee
Worms:		
LC ₅₀	<i>Eisenia fetida</i>	>1000 mg/kg

ENVIRONMENTAL EFFECTS (indicate if this is only for the active ingredient)

Based on information for the active ingredient:

Trifluralin

Plants: Degradation in plants is as for soil.

Persistence and degradability: Degradation in animals is as for soil (J. L. Emmerson & R. C. Anderson, Toxicol. Appl. Pharmacol., 1966, 9, 84). Following oral administration, c. 70% is eliminated in the urine and 15% in the faeces within 72 hours. Duration of residual activity in soil is 6–8 mo. In laboratory studies, degradation was more rapid under anaerobic conditions, e.g. for loam soil, DT50 (anaerobic) 25–59 d, DT50 (aerobic) 116–201 d.

Bio-accumulative potential: Not determined.

Mobility in soil: Adsorbed by the soil and is extremely resistant to leaching. Little lateral movement in the 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. 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

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beverages. Observe all labelled safeguards until container is destroyed.

14. TRANSPORT INFORMATION

UN Number: 1993
Road Transport ADR / ORD:
Class: 3
Packaging group: III
UN Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. (Trifluralin 480 g/l)
Maritime Transport IMDG / IMO:
Class: 3
Packaging group: III
UN Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. (Trifluralin 480 g/l)
Marine pollutant (Y/N): Yes
Air Transport IATA / ICAO:
Class: 3
Packaging group: III
UN Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. (Trifluralin 480 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.

15. REGULATORY INFORMATION

Safety, health and environmental regulations / legislation for the mixture:

OHS 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:

H312: Harmful in contact with skin.

H318: Causes serious eye damage.

H332: Harmful 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.

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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For detailed information on revisions, contact the Registration holder.