

UNIVERSAL SKOFFEL® 145 SL

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE

Product Name: SKOFFEL® 145 SL
 Herbicide
UN No.: 3016
Company: 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. COMPOSITION / INFORMATION ON INGREDIENTS

Common Name: Paraquat dicloride
Chemical Name: 1,1'-dimethyl-4,4'-bipyridinium (IUPAC)
CAS No.: 1910-42-5
Chemical Family: Bipyridyl herbicide.
Chemical formula: C₁₂H₁₄Cl₂N₂ (Mol. Wt.: 257.2).
Use: Post emergence non-selective contact herbicide in solution, absorbed by the foliage, with some translocation in the xylem.
Formulation: Paraquat ion (bypiridyl): 145 g/l (as dichloride salt: 200 g/l) Soluble Liquid.
Hazardous components: Paraquat
SYMBOLS: T, Xi
RISK-PHASE(S): R24/25, R36/37/38

3. HAZARD IDENTIFICATION

Toxicity class: WHO II (a.i); EPA II (formulation)
Likely routes of exposure: Ingestion, inhalation, eye contact and skin contact. **Toxic.** Can kill if swallowed or inhaled. **Paraquat** has serious delayed effects if absorbed.

Eye contact: Severe Irritant. The concentrate can lead to serious eye damage, may be delayed.

Skin contact: Toxic. May cause moderate irritation. Damaged skin will lead to increased rates of absorption of **Paraquat**. Refer to effects under "Ingestion".

Contamination of nails may cause white spots or cracking and loss of nails. Re-growth will occur normally.

Ingestion: Highly toxic by ingestion. Immediate effects depend on the dose of **Paraquat** absorbed into the blood. Early signs of **Paraquat** poisoning are vomiting, painful mucous membranes in mouth and throat. In severe cases of poisoning diarrhoea follows and kidney and liver damage may develop 1 to 3 days after exposure. Lung damage can be observed after about 3 days and may lead to death.

Inhalation: Highly toxic by inhalation. However, unlikely to be hazardous as **Paraquat** is not volatile. Exposure to spray mist may cause nose bleeding and soreness of mouth and throat.

4. FIRST AID MEASURES AND PRECAUTIONS

Eye contact: Flush eyes with lukewarm, gently flowing water for at least 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. If irritation, redness or burning sensations develop, obtain medical attention immediately.

Skin contact: Remove contaminated clothing, shoes and leather goods immediately. Wash contaminated areas with soap and water. If skin is damaged, the **Paraquat** can be absorbed through the skin. Emergency personnel should wear gloves and avoid contamination. If irritation persists, obtain medical attention immediately.

Inhalation: Remove from exposure area to fresh air immediately. Keep affected person calm and at rest. Get medical attention immediately. **Do NOT administer supplementary OXYGEN.**

Ingestion: **Do not** induce vomiting. Wash mouth with water and give water to drink. **Seek medical advice immediately.**

Advice to Physician: Rapid treatment is essential. Wash out stomach and test urine and gastric aspirate (if clear) for presence of **Paraquat**. Give up to 1 litre of 15 % aqueous suspension of Fuller's Earth, orally or via gastric tube, together with suitable purgative (200 ml of aqueous solution of mannitol). Repeat administration of absorbent plus purgative until absorbent is seen in stools. This should normally take between 4 to 6 hours after start of treatment.

Do NOT administer supplementary OXYGEN.

5. FIRE FIGHTING MEASURES

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Fire hazard: Product is non-combustible. Does not burn. However, following evaporation of aqueous component, residual material may burn, forming toxic fumes.

Hazardous decomposition products: Fire decomposition products from this product may form toxic and corrosive mixtures.

Extinguishing agents: Extinguish fires with carbon dioxide, dry chemical powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock. Contain water used for fire fighting for later disposal. Do not get water inside the containers. Runoff to sewers could be corrosive and/or toxic and could cause pollution.

Firefighting: Keep upwind. Remove container from fire area if possible. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Contain fire control agents for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling hazardous vapours. Keep upwind. Consider evacuation of downwind area if material is leaking.

Personal protective equipment: Fire may produce a combination of irritating, corrosive and toxic gases 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 mist or fumes. For personal protection see Section 8.

Environmental precautions: Do not allow entering into 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 flush with water. Eliminate all ignition sources (smoking, flares, sparks or flames) in the immediate area. Earth all equipment used when handling the product. Do not touch or walk through spilled material. Stop leak if you can do so without risk.

Absorb or cover with dry earth or sand or other suitable non-combustible absorbent and transfer to labelled containers. Use clean non-sparking tools to collect absorbed material.

In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains. Keep spectators away.

7. HANDLING AND STORAGE REQUIREMENTS

Handling: Toxic if swallowed. Avoid contact with eyes and skin and inhalation of mist and vapour. Use with

adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the insecticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. 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.

Storage: Stable for up to 2 years when stored under dry normal warehouse conditions. Avoid mild steel, galvanized iron and aluminium.

The product must be kept under lock and key. Keep out of reach of unauthorised persons, children and animals. Store in its original labelled container in isolated, dry, cool and well-ventilated area. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

It is essential to provide adequate ventilation. The measures appropriate for a particular work site 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: If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

Respirator: An approved respirator suitable for protection from vapours and mists of pesticides is required. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

Clothing: Employee must wear appropriate protective (impervious) clothing and equipment to prevent skin contact with the substance.

Gloves: Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

Eye protection: The use of full-face protection is recommended.

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: Clear, dark greenish brown liquid.

Odour: Strong pungent odour.

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Flash point: 84 °C
Explosive properties: Not explosive
Oxidising properties: Will not oxidize
Specific gravity: 1.04 to 1.08 g/cm³ at 20 °C
Decomposition temperature: 300 °C
Solubility in water: Complete.

10. STABILITY AND REACTIVITY

Stability: Stable for up to 2 years in original container, properly closed and under normal storage conditions.
Corrosiveness: Corrosive to iron.
Incompatibility: Incompatible with strong bases, strong acids and oxidising agents.
Hazardous decomposition products: Carbon dioxide and if combustion is incomplete, carbon monoxide and smoke. Nitrogen, oxides of nitrogen, hydrogen chloride gas, chlorides and water.

11. TOXICOLOGICAL INFORMATION

Acute oral LD₅₀: 205 mg/kg (rat) (*Technical*).
 200 to 220 mg/kg (rat) (*Formulation - calculated*).
Acute dermal LD₅₀: 235 mg/kg (rabbit) (*Technical*).
 230 to 250 mg/kg (rabbit) (*Formulation - calculated*).
Inhalation: If inhaled, may cause nose bleeding.
Acute skin irritation: Moderate irritant. Damaged skin will increase rate of absorption of **Paraquat**.
Acute eye irritation: Severe irritation.
Reproductivity: **Paraquat** is unlikely to cause reproductive effects in humans at expected exposure levels.
Teratogenicity: Evidence suggests that **Paraquat** does not cause birth defects at doses, which might reasonably be encountered.
Carcinogenicity: Evidence regarding carcinogenic effects of **Paraquat** is inconclusive.
ADI: 0.004 mg/kg/day (**Paraquat ion**) and 0.002 mg/kg (**Paraquat dichloride**)
TLV: 0.1 mg/m³ (8 hour) (reparable fraction).

12. ECOLOGICAL INFORMATION

Paraquat is highly persistent in the soil environment, with reported half-lives of greater than 1000 days. Ultraviolet light, sunlight and soil micro-organisms can degrade **Paraquat** to products less toxic than parent compound. The strong affinity for adsorption by soil particles may limit the bioavailability of **Paraquat** to plants, earthworms and micro-organisms. **Paraquat** is not significantly mobile in most soils.

Paraquat will be bound to suspended or precipitated sediment in the aquatic environment and may even be more persistent than on land due to limited availability of oxygen. Half-lives vary from 13 hours to 23 weeks.

Paraquat dichloride decomposes when exposed to light after application to maize, tomato and bean plants. Small amounts of residues were found in potatoes. However, no residue detected after boiling of potatoes.

ECOTOXICOLOGY:

Birds:

LD ₅₀	hens:	262 to 380 mg/kg
LC ₅₀ (5 days)	Bobwhite tail:	981 mg/kg
	Japanese quail:	970 mg/kg
	Mallard ducks:	4048 mg/kg

Fish:

LC ₅₀ (96 hours)	Rainbow trout:	32 mg/l
	Brown trout:	2.5 to 13 mg/l

Bees: Non-toxic to bees.

13. DISPOSAL CONSIDERATION

Pesticide disposal: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product that cannot be re-used or reprocessed should be disposed of in a landfill approved for pesticide disposal. Do not contaminate rivers, dams or any other water sources with the product or used containers.

Package product wastes: Emptied containers retain vapour and product residues. Observe all labelled safeguards. **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.

Destroy the emptied containers by perforation and flattening. Bury in an approved dumpsite. Do not re-use the empty container for any other purpose.

14. TRANSPORT INFORMATION

UN NUMBER: 3016
Road Transport ADR/IRD:
 Class: 6.1
 Packaging group: III
 Shipping name: bipyridilium pesticide, liquid, toxic (Herbicide - **Paraquat**)
Air Transport ICAO/IATA:
 Class: 6.1
 Packaging group: III

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Maritime Transport IMDG/IMO:

Class: 6.1

Packaging group: III

Shipping name: bipyridilium pesticide, liquid, toxic
(Herbicide - **Paraquat**)

For detailed information on revisions, contact the
Registration holder.

15. REGULATORY INFORMATION

Symbol: T, Xi

Indication of danger: Toxic, Irritating substance

Risk phrase(s):

R 24/25 Toxic in contact with skin and if swallowed.

R 36/37/38 Irritating to eyes, respiratory system and
skin.

R41 Risk of serious damage to eyes.

Safety phrases:

S 1/2 Keep locked up and out of reach children.

S 20/21 When using do not eat, drink or smoke.

S 23 Do not breathe vapour/spray.

S 24/25 Avoid contact with skin and eyes.

S 36/37/39 Wear suitable protective clothing, gloves
and eye/face protection.

S 45 In case of accident or if you feel unwell,
seek medical advice immediately (show the
label where possible).

16. OTHER INFORMATION

Packing and Labelling: Packed in 5, 10, 20 & 25 litres
fluorinated plastic containers and labelled according to the
South African regulations and guidelines.

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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