

ORION 240 EC

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: ORION 240 EC
Other identifier: Oxyfluorfen 240 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
Physiochemical		
Flammable liquid	Flammable liquid 3	H226
Health		
Oral	Acute Toxicity 5	H303
Dermal	Acute Toxicity 5	H313
	Skin irritation 2	H315
Eye	Eye Damage 1	H318
Reproductive toxicity R	Reproductive toxicity 1B	H360
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 if swallowed.
 May be harmful in contact with skin.
 Causes skin irritation.
 Causes serious eye damage.
 May damage fertility or the unborn child.

Label elements:



Signal word: Danger.

Hazard statements:

H303: May be harmful if swallowed.
 H313: May be harmful in contact with skin.
 H315: Causes skin irritation.
 H318: Causes serious eye damage.
 H360: May damage fertility or the unborn child.
 H400: Very toxic to aquatic life.
 H410: Very toxic to aquatic life with long lasting effects.

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 equipment.
 P242: Use non-sparking tools.
 P243: Take action to prevent static discharges.
 P264+P265: Wash hands thoroughly after handling. Do not touch eyes.
 P273: Avoid release into the environment.
 P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
 P301+P317: IF SWALLOWED: Get medical help.
 P303+P361+P353+P317: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [shower]. 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.
 P318: IF exposed or concerned, get medical advice.
 P321: See specific treatment on this label.
 P333+P317: If skin irritation or rash occurs: Get medical help.
 P362+P364: Take off contaminated clothing and wash it before reuse.
 P391: Collect spillage.
 P403+P233: Store in a well-ventilated place. Keep container tightly closed.
 P405: Store locked up.
 P501: Dispose of contents/container to suitable landfill in accordance with local regulations.

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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
Oxyfluorfen	42874-03-3	24 %	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Light aroma (Xylene)G	1330-20-7	< 50 %	Flammable liquid 3 (H226) Acute Toxicity 4 (H312) Skin Irritation 2 (H315) Acute Toxicity 4 (H332)
Dimethyl formamide	68-12-2	< 20 %	Acute Toxicity 4 (H312) Eye Irritation 2 (H319) Acute Toxicity 4 (H332) Reproductive toxicity 1B (H360)
Ethoxylated tristyrylphenol	99734-09-5	<5%	Aquatic chronic 3 (H412)
Phenylsulphonate salt	26264-06-2	<5%	Eye Damage 1 (H318) Aquatic chronic 4 (H413)

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 and if symptoms persist, consult a doctor. If exposed or concerned, get medical advice.

Inhalation: If vapours or mists have been inhaled, move victim to fresh air and remove source of contamination if safe to do so. The patient should be kept under observation. Obtain medical attention if irritation occurs.

Skin: Remove contaminated clothing, shoes and leather goods. Wash skin gently and thoroughly with cold water and non-abrasive soap. **Obtain medical attention if irritation or rash occurs.**

Eyes: Flush eyes with clean water for at least 15 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.** 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 if swallowed. May be harmful in contact with skin. Causes skin irritation. Causes serious eye damage.

Anticipated delayed effects: May damage fertility or the unborn child.

Most important symptoms/effects: None known.

Advice to physician: There is no specific antidote available. Treat symptomatically and supportively.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used to cool unaffected stock, but avoid water coming into contact with product. Use as little water as possible.

Unsuitable Extinguishing Media: Water.

Specific hazards: In case of fire and/or explosion do not breathe fumes.

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. 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 to be very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled

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discharges into water courses 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, earth or silica gel.

Methods and Materials for Clean-up: Cover contained spill with an inert absorbent material such as sand, earth or other appropriate non-combustible 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 (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Open burning or dumping of this material is prohibited. See section 13 for disposal considerations.

7. HANDLING AND STORAGE

Handling:

Precautions for safe handling: May be harmful if swallowed. Avoid contact with eyes and skin. Do not inhale spray mist or vapours. Ensure adequate ventilation during handling and use. Do not handle broken containers without protective equipment. Immediately clean up spills that occur during handling. Keep containers tightly 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:

Components	Exposure limits	Type of exposure limit	Source
Light aroma (Xylene)	100 ppm	TWA	"www.osha.gov"
Dimethylformamide	10 ppm	TWA	"www.osha.gov"

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 OSHA PELs 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 gloves is recommended 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 used.

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 mixture; the employer should provide an eyewash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Amber homogeneous, emulsifiable liquid, without coagulation.

Odour: Weak chemical odour.

pH: 6.5 of a 1% aqueous emulsion.

Melting point: Not available.

Freezing Point: Not available.

Boiling Point: Not available.

Flash Point: 37°C.

Flammability: Flammable liquid and vapour.

Upper/lower explosion limits: Not available.

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Vapour Pressure (mm Hg): Not available.
Relative Vapour Density: Not available.
Density: 1.005 to 1.02 g/cm³.
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.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Calculated according to GHS.
Oral LD₅₀ (24 h) >4400 mg/kg (rat).
Dermal LD₅₀ (24 h) >3100 mg/kg (rabbit).
Inhalation LC₅₀ (4 h) >13 mg/l (rat).
Skin Irritation/Corrosion: Causes skin irritation.
Eye Damage/Irritation: Causes serious eye damage.
Skin Sensitization: Not classified.
Respiratory Sensitization: Not classified.
Reproductive cell mutagenicity: Not classified.
Carcinogenicity: Not classified.
Reproductive toxicity: May damage fertility or the unborn child.
Specific target organ toxicity – single exposure: Not classified.
Specific target organ toxicity – repeated exposure: Not classified.
Aspiration hazard: Not classified.
Chronic Effects: Not available.
POTENTIAL ADVERSE EFFECTS:
Inhalation: Not classified.
Skin contact: May be harmful in contact with skin.
Eye contact: Cause serious damage to eyes.
Ingestion: May be harmful if swallowed.

12. ECOLOGICAL INFORMATION

This product is very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

ECOTOXICITY DATA: Active ingredient

Fish:

LC ₅₀ (96 h)	Bluegill sunfish	0.2 mg/l
	Trout	0.41 mg/l
	channel catfish	0.4 mg/l

Daphnia:

EC ₅₀ (48 h)		1.5 mg/l
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Algae:

E _b C ₅₀ and E _r C ₅₀ (240h)	<i>Pseudokirchneriella subcapitata</i>	>0.0029 mg/l
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Birds:

Acute LD ₅₀	Bobwhite quail	>2150 mg/kg
Dietary LC ₅₀ (8 d)	Bobwhite quail & Mallard ducks	>5000 mg/kg diet.

Bees:

		>25 µg/bee
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Worms:

LC ₅₀	Earthworms	>1000 mg/kg soil
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Other aquatic spp:

E _b C ₅₀ (14d)	<i>Lemna gibba</i>	0.00032 mg/l
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ENVIRONMENTAL EFFECTS:

Plants: Not readily metabolised in plants.
Persistence and degradability: Photodecomposition in water is rapid, and on soil is slow. Microbial degradation is not a major factor. Field dissipation DT50 5–55 d; soil DT50 (in dark) (aerobic) 292 d, (anaerobic) c. 580 d.
Bio-accumulative Potential: Not determined.
Mobility in soil: Strongly adsorbed on soil, not readily desorbed, and shows negligible leaching. Koc from 2891 (sand) to 32381 (silty clay loam).
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

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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 vapour and 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: 1993
Road Transport ADR/IRD:
 Class: 3
 Packaging group: III
 UN Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.
 (oxyfluorfen 240 g/l)

Maritime Transport IMDG/IMO:
 Class: 3
 Packaging group: III
 UN Proper Shipping Name: FLAMMABLE, LIQUID, N.O.S.
 (oxyfluorfen 240 g/l)

Marine Pollutant (Y/N): Yes
Air transport IATA/CAO:
 Class: 3
 Packaging group: III
 UN Proper Shipping Name: FLAMMABLE, LIQUID, N.O.S.
 (oxyfluorfen 240 g/l)

Special/Environmental Precautions: None known.
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, 12, 10, 15, 20, 25 and 50 litres fluorinated plastic containers, labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations and explanations:

H302: Harmful if swallowed.
H312: Harmful in contact with skin.
H319: Causes serious eye irritation.
H332: Harmful if inhaled.
H412: Harmful to aquatic life with long lasting effects.
H413: May cause long lasting harmful effects to aquatic life.

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.