

# SEQUAL 240 EC

# SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** SEQUAL 240 EC  
**Other identifier:** Clethodim 240 EC  
**Recommended use:** Herbicide  
**Restrictions on use:** Agriculture

**Supplier:** Villa Crop Protection (Pty) Ltd.  
**Co. Reg. No.:** 1992/002474/07  
 PO Box 10413,  
 Aston Manor, 1630, South Africa  
**Telephone:** (011) 3962233  
**Fax:** (011) 3964666  
**Website:** [www.villacrop.co.za](http://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
<b>Physical</b>		
Flammability	Flam. Liq. 4	H227
<b>Health</b>		
Oral	Acute Tox. 5	H303
Dermal	Skin Irrit. 3	H316
Eye	Eye Dam. 1	H318
Inhalation	Acute Tox. 4	H332
Mutagenicity	Muta. 1B	H340
Carcinogenicity	Carc. 1B	H350
Reproductive toxicity	Repr. 1B	H360D
Aspiration	Asp. Tox. 1	H304
<b>Environment</b>		
Aquatic chronic	Aquatic Chronic 3	H412

**The most important adverse effects:**  
**Physiochemical effects:** None known  
**Human health effects:**  
 Causes serious eye irritation.  
**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.  
 H316: Causes mild skin irritation.  
 H318: Causes serious eye damage.  
 H332: Harmful if inhaled.  
 H340: May cause genetic defects.  
 H350: May cause cancer.  
 H360D: May damage the unborn child.  
 H412: Harmful 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.  
 P260: Do not breathe mist/spray.  
 P273: Avoid release to the environment.  
 P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.  
 P284: In case of inadequate ventilation wear respiratory protection.  
 P301/310: IF SWALLOWED: Immediately call a POISON CENTER.  
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305/351/338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308/313: If exposed or concerned: Get medical attention.  
 P310: IF IN EYES: Immediately call a POISON CENTRE.  
 P331: Do NOT induce vomiting.  
 P403+P233: Store in a well-ventilated place. Keep container tightly closed.  
 P405: Store locked up.  
 P501: Dispose of contents/container in accordance with local regulations.

**Special labelling of certain mixtures:**  
 None known.

**Other hazards:**  
 None known.

**Toxicity:**  
 Classification according to GHS: Category 4  
 Classification according to WHO: Category III  
 Classification according to GPIC: Category III

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## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

### Composition:

Chemical Name	CAS	Conc. (m/v)	Classification EC 1272/2008
Clethodim	99129-21-2	24 %	Acute Tox. 2 (H302) Aquatic Chronic 2 (H411)
Heavy aromatic solvent	64741-65-7	< 40 %	Asp. Tox. 1 (H304) Muta. 1B (H340) Carc. 1B (H350)
Petroleum	64742-94-5	< 40 %	Asp. Tox. 1 (H304)
N-methyl-2-pyrrolidone	872-50-4	< 10 %	Skin Irrit. 2 (H315) Eye Irrit. 3 (H319) Repr. 1B (H360D)
Emulsifier	99734-09-5	< 10 %	Aquatic Chronic 3 (H412)
Calcium dodecyl benzene sulphonate	26264-06-2	< 5 %	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 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 immediately consult a doctor.

**Inhalation:** Remove from exposure area to fresh air immediately. If breathing has stopped, perform mechanical artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. **Get medical attention immediately.**

**Skin:** Remove contaminated clothing, shoes and leather goods. 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 immediately.**

**Ingestion:** Seek medical attention or call a poison control centre for treatment advice. Do not induce vomiting, product contains 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.

**Anticipated delayed effects:**

May cause cancer.

May cause genetic defects.

May damage the unborn child.

**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:** May emit toxic fumes of hydrogen chloride (HCl) as well as carbon, nitrogen or sulphur oxides if involved in fires or exposed to extreme heat.

**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. Keep upwind. 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. Harmful if inhaled. 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 harmful to aquatic organisms and may cause long-term adverse effects. 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,

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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 swallowed and enters airways. Avoid contact with skin and eyes. Ensure adequate ventilation during handling and use. 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**

Components	Exposure limits	Type of exposure limit	Source
N-methyl-2-pyrrolidone	100 ppm (TWA)	400 mg/m <sup>3</sup> (TWA)	OEL

**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 gloves is recommended to prevent against skin contact.

**Eye Protection:** Chemical safety goggles or a face shield must be used to prevent against eye contact. Contact lenses are not protective eye devices.

**Skin and Body Protection:** Employee must wear appropriate protective 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:** Amber to brown, Emulsifiable concentrate.

**Odour:** Aromatic odour.

**pH:** 4.0 – 6.5.

**Melting point:** Not available.

**Freezing Point:** 0 °C.

**Boiling Point:** Not available.

**Flash Point:** 65 °C.

**Flammability:** Combustible.

**Upper/lower explosion limits:** Not available.

**Vapour Pressure (mm Hg):** Not available.

**Relative Vapour Density:** Not available.

**Density:** 0.96 – 0.98 g/cm<sup>3</sup>.

**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 or near sources of heat.

**Reactivity:** None known.

**Possibility of Hazardous Reactions:** Will not occur.

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**Conditions to Avoid:** Extreme heat, sources of ignition or exposure to flames.

**Incompatible Materials:** Strong oxidizers and strong acids.

**Hazardous Decomposition Products:** Thermal decomposition: When heated, may give off toxic fumes of oxides of nitrogen, sulphur, carbon or halogenated compounds. Hazardous products of combustion: Fire may produce hydrogen chloride (HCl).

## 11. TOXICOLOGICAL INFORMATION

**ACUTE TOXICITY:** Calculated according to GHS

**Oral LD<sub>50</sub> rat** > 4500 mg/kg

**Dermal LD<sub>50</sub> rabbit** > 18 000 mg/kg

**Inhalation LC<sub>50</sub> rat** > 1.6 mg/L

**Skin Irritation/Corrosion:** Causes mild irritation.

**Eye Damage/Irritation:** Causes serious eye damage.

**Skin Sensitization:** Not positive for skin sensitization.

**Respiratory Sensitization:** Not available.

**Reproductive cell mutagenicity:** May cause genetic defects.

**Carcinogenicity:** May cause cancer.

**Reproductive toxicity:** May damage the unborn child.

**Specific target organ toxicity – single exposure:** Not available.

**Specific target organ toxicity – repeated exposure:** Not available.

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

**Chronic Effects** (other targets e.g. developmental): Not available.

**POTENTIAL ADVERSE EFFECTS:**

**Inhalation:** Harmful if inhaled.

**Skin contact:** Causes mild skin irritation.

**Eye contact:** Causes severe eye damage.

**Ingestion:** May be harmful if swallowed.

## 12. ECOLOGICAL INFORMATION

This product is harmful to aquatic life with long lasting effects.

**ECOTOXICITY DATA:**

**Fish:**

LC <sub>50</sub> (96 h)	Rainbow trout	>67 mg/l
	Bluegill sunfish	>120 mg/l

**Daphnia:**

LC <sub>50</sub> (48 h)		>120 mg/l
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**Algae:**

EC <sub>50</sub> (5d)	Fresh water algae	57.8 mg/l
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**Birds:**

Acute oral LD <sub>50</sub>	Bobwhite quail	>2000 mg/kg
Dietary LC <sub>50</sub>	Mallard ducks	>6000 mg/kg diet

**Bees:**

LD<sub>50</sub> contact >100 µg/bee

**Worms:**

LC<sub>50</sub> 454 mg/kg soil

**Plants:** Metabolised to the sulfoxide, sulfone and S-methyl sulfoxide.

**ENVIRONMENTAL EFFECTS:**

Aerobic DT<sub>50</sub> in soil 1 – 3 d. K<sub>d</sub> 0.08 – 1.6 (5 soil types).

**Persistence and degradability:** Not persistent.

**Bio-accumulative Potential:** Not determined.

**Mobility in soil:** Not determined.

**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: 3082**

**Road Transport ADR/IRD:**

Class:	3
Packaging group:	III
UN Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s. (Clethodim 240 g/l)

**Maritime Transport IMDG/IMO:**

Class:	3
Packaging group:	III
UN Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s. (Clethodim 240 g/l)

**Marine Pollutant (Y/N): Yes**

**Air Transport IATA/ICAO:**



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Class: 3  
 Packaging group: III  
 UN Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Clethodim 240 g/l)  
**Special/Environmental Precautions:** None known.  
**Transport in bulk** (according to MARPOL 73/78, Annex II and the IBC code): Not available.

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 50, 100, 200, 250 & 500 millilitres and 1, 5, 10, 20, 25 & 200 litres fluorinated plastic containers, labelled according to South African regulations and guidelines.

### Additional H statements (formulants):

**H302:** Harmful if swallowed.

**H315:** Causes skin irritation.

**H319:** Causes serious eye irritation.

**H411:** Toxic to aquatic life with long lasting effects.

**H413:** May cause long lasting effects to aquatic life.

**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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