

ATOMIC 225 EC

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: ATOMIC 225 EC
Other identifier: Ioxynil Octanoate 225 EC
Recommended use: Herbicide
Restrictions on use: Agriculture

Supplier: Villa Crop Protection (Pty) Ltd.
PO Box 10413
Aston Manor, 1630, 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		
Flammable Liquid	Flam liq. 4	H227
Health		
Oral	Acute Tox. 4	H302
Aspiration Hazard	Asp Tox. 1	H304
Dermal	Skin irrit. 2 Skin sens. 1	H315 H317
Eye	Eye Dam. 1	H318
Inhalation	Acute Tox. 3	H331
Specific Target Organ Toxicity - Single Exposure	STOT SE 3	H335 H336
Reproductive Toxicity	Repr. 2	H361
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:

Harmful if swallowed.
May be fatal if swallowed and enters airways.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
Toxic if inhaled.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.

Label elements:



Signal word: Danger.

Hazard statements:

H227: Combustible liquid.
H302: Harmful if swallowed.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H331: Toxic if inhaled.
H335: May cause respiratory irritation.
H336: May cause drowsiness or dizziness.
H361: Suspected of damaging fertility or the unborn child.
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 dust, fumes, mists, gas, vapours or spray.
P264+P265: Wash hands and face thoroughly after handling. Do not touch eyes.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P272: Contaminated work clothing should not be allowed out of the workplace.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P316: IF SWALLOWED: Get emergency medical help immediately.
P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.

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P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P354+P338: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P316: Get emergency medical help immediately.

P319: Get medical help if you feel unwell.

P330: Rinse mouth.

P331: Do NOT induce vomiting.

P333+P317: If skin irritation or rash occurs: Get medical help.

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

P403+P233: Store in a well-ventilated place. Keep container tightly closed

P405: Store locked up.

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

Special labelling of certain mixtures:

None known.

Other hazards:

None known.

Toxicity:

Classification according to GHS: Category 3

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture.

Composition:

Chemical Name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Ioxynil Octanoate TC	3861-47-0	23.69 %	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Eye Irrit. 2 (H319) Repr. 2 (H361d) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Cacium dodecylbenzen e sulfonate	26264-06-2	<10 %	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 4 (H413)
2-Methylpropan-1-ol	78-83-1	<10 %	Flam. Liq. 3 (H226) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) STOT SE 3 (H335) STOT SE 3 (H336)
Solvent 150	64742-94-5	<70 %	Asp. Tox. 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 and consult a doctor.

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.

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 persists.

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 immediately.**

Ingestion: Do not induce vomiting. Do not give anything by mouth to an unconscious person. **Obtain medical attention immediately.**

Anticipated acute effects: Toxic if inhaled.

May be fatal if swallowed and enters airways.

Causes serious eye damage.

Causes skin irritation.

Anticipated delayed effects: Suspected of damaging fertility or the unborn child.

Most important symptoms/effects: None known.

Advice to physician:

In case of respiratory difficulties practice oxygenotherapy. There is no specific antidote available. Treat symptomatically and supportively.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Extinguish fires with carbon dioxide, dry powder, water spray or alcohol-resistant foam.

Unsuitable Extinguishing Media: Water jet.

Specific hazards: In case of fire and/or explosion do not breath 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. 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 bunker gear.

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6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid contact with eyes and skin. 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 with long-term adverse effects in the aquatic environment. Any spillages or uncontrolled 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: Harmful if swallowed. Avoid contact with eyes and skin. 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 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. 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
2-Methylpropan-1-ol	50 ppm	8 hr TWA	OSHA PEL

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: Wear an organic cartridge respirator suitable for protection from mists/ vapours of pesticides if inhalation is likely to occur.

Hand Protection: Employee must wear appropriate chemically resistant gloves e.g. nitrile rubber gloves to prevent contact with this mixture.

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: The use of protective (impervious) clothing e.g. coveralls is recommended to prevent skin contact with this mixture.

Emergency eyewash: Where there is any possibility that an employee's eyes may be exposed to this mixture; 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: Brown clear liquid.

Odour: Aromatic.

pH (1% aqueous dilution): Not available.

Melting point: Not available.

Freezing Point: Not available.

Boiling Point: Not available.

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Flash Point: 69°C.
Flammability: Combustible liquid.
Upper/lower explosion limits: Not available.
Vapour Pressure (mm Hg): Not available.
Relative Vapour Density: Not available.
Density: 1.06 g/ml at 20°C
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: None known.

Conditions to Avoid: Avoid extreme heat or exposure to flames. Keep the product in a cool, dry place, below 50°C, protect from direct sunlight.

Incompatible Materials: None known.

Hazardous Decomposition Products: No dangerous reaction known under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Calculated according to GHS:

Oral LD₅₀ (24 h) > 680 mg/kg.

Dermal LD₅₀ (24 h) > 5000 mg/kg.

Inhalation LC₅₀ (4 h) rat > 0,85 mg/ℓ.

Skin Irritation/Corrosion: Causes 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: Suspected of damaging fertility or the unborn child.

Specific target organ toxicity – single exposure: May cause respiratory irritation. May cause drowsiness or dizziness.

Specific target organ toxicity – repeated exposure: Not classified.

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

Chronic Effects: Not classified.

POTENTIAL ADVERSE EFFECTS:

Inhalation: Toxic by inhalation.

Skin contact: Due to inerts, this product is irritating to the skin.

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Eye contact: Due to inerts, this product is severely irritating to eyes and may cause serious, permanent eye damage.

Ingestion: Harmful if swallowed.

12. ECOLOGICAL INFORMATION

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

ECOTOXICITY DATA:

Active ingredient: Ioxynil octanoate

Fish: 0.024

LC ₅₀ (96 h)	Bluegill sunfish	
	Rainbow trout	0.043 mg/ℓ

Daphnia:
EC₅₀ (48 h) 0.068 mg/ℓ

Algae:
EC₅₀ (73 h) *Navicula pelliculosa* 0.24 mg/ℓ
Scenedesmus subspicatus >4.6 mg/ℓ

Birds:
Acute oral LD₅₀ Japanese quail 677 mg/kg
Pheasants 1000 mg/kg
Mallard ducks 1200 mg/kg

Bees:
LD₅₀ (oral) >3.27 µg/bee
(contact) >200 µg/bee

Worms:
Acute LC₅₀ >60 mg/kg Soil

Plants:

In plants, the ester and nitrile groups are hydrolysed, and deiodination also occurs.

ENVIRONMENTAL EFFECTS:

Based on information for the active ingredient: Ioxynil octanoate

Persistence and degradability: In soil, DT₅₀ c. 10 d. Degraded by hydrolysis and deiodination to less toxic substances such as hydroxybenzoic acid.

Bio-accumulative Potential: Not determined.

Mobility in soil: Low mobility; the majority of Ioxynil and its metabolites remained in the top 8 cm of all soil types studied.

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. The

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product may be taken to a registered waste disposal site or incineration plant. Where possible, recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

Container: Emptied containers retain vapour and 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 one third of that of the container. Add the rinsings to the contents of the spray tank before recycling or destroying the container in the prescribed manner. 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: 2902
Road Transport ADR/IRD:
 Class: 6.1
 Packaging group: II
 UN Proper Shipping Name: PESTICIDE, LIQUID, TOXIC, N.O.S. (ioxynil octanoate 255 g/l)
Maritime Transport IMDG/IMO:
 Class: 6.1
 Packaging group: II
 UN Proper Shipping Name: PESTICIDE, LIQUID, TOXIC, N.O.S. (ioxynil octanoate 255 g/l)
Marine Pollutant (Y/N): Yes
Air transport IATA/ICAO:
 Class: 6.1
 Packaging group: II
 UN Proper Shipping Name: PESTICIDE, LIQUID, TOXIC, N.O.S. (ioxynil octanoate 255 g/l)
Special/Environmental Precautions: None known.
Transport in bulk (according to MARPOL 73/78, Annex II and the IBC code): Not available.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation for the mixture:
 OSHA 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 100, 200, 250, 500 ml, 1, 2, 5, 10 litres fluorinated plastic containers, labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations and explanations:

H301: Toxic if swallowed.

H302: Harmful if swallowed.

H319: Causes serious eye irritation.

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

ADR: Accord Dangereux Routier.

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.