IMMIMOX 48 SL

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **IMMIMOX 48 SL**
Other identifier: **Imazapyr 15 g/l + Imazamox 33 g/l**
Recommended use: Herbicide
Restrictions on use: Agriculture

Supplier **Villa Crop Protection (Pty) Ltd.**
Co. Reg. No.: 1992/002474/07
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**
Health		
Skin irritation	Skin Irrit. 3	H316
Environment		
Aquatic acute	Aquatic Acute 2	H401
Aquatic chronic	Aquatic Chronic 2	H411

The most important adverse effects:
Physiochemical effects: None known.
Human health effects:
Causes slight skin and eye irritation.
Label elements: None
Signal word: Warning
Hazard statements:
H316: Causes mild skin irritation.
H401: Toxic to aquatic life.
H411: Toxic to aquatic life with long lasting effects.
Precautionary statements:
P273: Avoid release to the environment.
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: Unclassified
Classification according to WHO: Unclassified
Classification according to GPIC: Unclassified

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture
Composition:

Chemical Name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Imazapyr	81334-34-1	1.5 %	Eye Irrit. 2 (H319) Aquatic Chronic 3 (H412)
Imazamox	114311-32-9	3.3 %	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Calcium dodecylbenzene sulfonate	26264-06-2	< 2 %	Acute Tox 4 (H302) Eye Irrit. 2 (H312) Eye Dam. 1 (H318) Aquatic Chronic 4 (H413)
Mono-ethanolamine	141-43-5	< 2 %	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Skin Corr. 1B (H314) 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. Consult a doctor.
Inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs.
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. Obtain medical attention if irritation persists.
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: None known.
Anticipated delayed effects: None known.
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: None known
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. Do not breathe in spray mist or dust/fumes/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 toxic to aquatic life with long lasting 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, 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: 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. Avoid excess heat. 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: 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.
Hand Protection: The use of chemically protective 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: Employee must wear appropriate protective clothing; boots, hat and equipment

to prevent repeated or prolonged skin contact with this substance.
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: Light yellow liquid, Soluble concentrate.
Odour: Characteristic odour.
pH (1% aqueous dilution): 6.3 @ 20°C.
Melting point: Not available.
Freezing Point: Not available.
Boiling Point: Not available.
Flash Point: Not available.
Flammability: Not available.
Upper/lower explosion limits: Not available.
Vapour Pressure (mm Hg): Not available.
Relative Vapour Density: Not available.
Density: 1.132 g/cm3 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: Will not 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:
Based on experimental data
Oral LD_{50}: >5000 mg/kg
Dermal LD_{50}: >5000 mg/kg
Inhalation LC_{50}: >10 mg/ℓ
Skin Irritation/Corrosion: Animal tests showed the product to be slightly irritating.
Eye Damage/Irritation: Animal tests showed the product to be slightly irritating.
Skin Sensitization: Product is not a skin sensitizer.
Respiratory Sensitization: There was no mortality during the study and the product is not anticipated to be toxic by inhalation.
Reproductive cell mutagenicity: Not available.
Carcinogenicity: Not available.
Reproductive toxicity: Not available.
Specific target organ toxicity – single exposure: Not available.
Specific target organ toxicity – repeated exposure: Not available.
Aspiration hazard: Not available
Chronic Effects (other targets e.g. developmental)**:** Not available.
POTENTIAL ADVERSE EFFECTS:
Inhalation: None known
Skin contact: None known
Eye contact: None known
Ingestion: None known
Other information: None known

12. ECOLOGICAL INFORMATION

This product is expected to be a marine pollutant.

ECOTOXICITY DATA:

Fish:		
Imazamox:	Rainbow trout	>122 mg/ℓ
LC_{50} (96 h)	Bluegill sunfish	>119 mg/ℓ
Imazapyr:		
LC_{50} (96 h)	Rainbow trout	>100 mg/ℓ
	Bluegill sunfish	
	Channel catfish	
Daphnia:		
Imazamox:		
EC_{50} (48 h)		>122 mg/ℓ
Imazapyr:		
EC_{50} (48 h)		>100 mg/ℓ
Algae:		
Imazamox:		
EC_{50} (120 h)		0.037 mg/ℓ
Imazapyr:		
EC_{50} (120 h)	*Selenastrum*	71 mg/ℓ
	Anabaena	11.7 mg/ℓ
	Skeletonema	85.5 mg/ℓ
	Navicula	>59 mg/ℓ

Birds:

Imazamox:

Acute oral LD_{50} (14 d)	Bobwhite quail	>1846 mg/kg
	Mallard ducks	>1950 mg/kg
Dietary LC_{50}	Bobwhite quail	>5572 mg/kg
	Mallard ducks	

Imazapyr:

Acute oral LD_{50}	Bobwhite quail	>2150 mg/kg
	Mallard ducks	
Dietary LC_{50} (8 d)	Bobwhite quail	>5000 mg/kg
	Mallard ducks	

Bees:

Imazamox:

LD_{50} contact (72 h)	>25 mg/bee
LD_{50} oral (48 h)	>40 mg/bee

Imazapyr:

LD_{50} contact	100 mg/bee

Worms:

Imazamox:

LC_{50}	>901 mg/kg soil

Other aquatic spp.

Imazamox

EC_{50} (14 d)	*Lemna gibba*	0.011 mg/ℓ

ENVIRONMENTAL EFFECTS:

Persistence and degradability: Plants: Imazamox – In plants, the methyl group of the benzene moiety is oxidised to a hydroxymethyl group; glucoside conjugates have been identified as secondary metabolites. **Imazapyr** – Following foliar application, residues in plants decline rapidly in the first 24 hours. The major residue in plants is the parent compound.

Bio-accumulative Potential: Animals: Imazamox – In rats, following oral administration, rapidly excreted in urine and faeces, mainly as unchanged parent. **Imazapyr** – In rats, following oral administration, c. 87% of the dose was excreted in the urine and faeces within 24 h. In muscle and fat tissues and blood, residual levels were <0.01 mg/kg at both 24 and 192 h.

Mobility in soil: Imazamox – Degrades aerobically in the soil to a non-herbicidal metabolite; also degrades by aqueous photolysis; photdegradation is slow in soil. Lab DT_{50} 12-207 d (median 44 d) (20 °C). Field DT_{50} 5-41 d. No clear dependence of degradation rates on pH or timing of application. K_{oc} 2-374 (mean 67). Imazamox is mobile, but the terminal soil metabolite is moderately mobile to immobile. Leaching of imazamox in filed studies was very limited. **Imazapyr** – In field dissipation studies, DT_{50} 24-143 d. Aerobic soil degradation laboratory studies were generally longer, DT_{50} 117 (biphasic) to 313 d. Degradation is primarily due to soil microbial activity, which is not represented in laboratory studies. In water, DT_{50} 7d; degradation is due to photolysis. Bioaccumulation in the environment is highly unlikely. The major residue it the parent compound.

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 beverages. Observe all labelled safeguards until container is destroyed.

14. TRANSPORT INFORMATION

UN Number: 3082

Road Transport ADR / ORD:

Class:	9
Packaging group:	III
UN Proper Shipping Name:	Environmentally hazardous substance, liquid, N.O.S. (Imazamox 33 g/ℓ)

Maritime Transport IMDG / IMO:

Class:	9
Packaging group:	III
UN Proper Shipping Name:	Environmentally hazardous substance, liquid, N.O.S. (Imazamox 33 g/ℓ)

Marine pollutant (Y/N): Yes

Air Transport IATA / ICAO:

Class:	9
Packaging group:	III
UN Proper Shipping Name:	Environmentally hazardous substance, liquid, N.O.S. (Imazamox 33 g/ℓ)

Special/Environmental Precautions: Wedge drums tightly to avoid movement.

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:
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 1, 5, 10, 20, 25, 50, 100 and 200 litres plastic containers and PE lined metal drums, labelled according to South African regulations and guidelines.
Additional H statements (formulants):
H302: Harmful if swallowed.
H312: Harmful in contact with skin.
H314: Causes severe skin burns and eye damage.
H318: Causes severe eye damage.
H319: Causes serious eye irritation.
H332: Harmful if inhaled.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
H412: Harmful to aquatic life with long lasting effects
H413: May cause long lasting harmful 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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For detailed information on revisions, contact the Registration holder.