

# UNIVERSAL INVADE 250 SL

# MATERIAL SAFETY DATA SHEET

## 1. PRODUCT & COMPANY IDENTIFICATION

**Product Name:** **INVADE 250 SL**  
Herbicide  
**UN No.:** 3082  
**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](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. COMPOSITION/INFORMATION ON INGREDIENTS

**Common Name:** **Imazapyr**  
**Chemical Name:** 2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl) nicotinic acid (IUPAC)  
**CAS No.:** [81334-34-1] unstated stereochemistry, formerly [94795-74-1] and [108224-78-8]  
**Chemical family:** imidazolinone  
**Chemical formula:** C<sub>13</sub>H<sub>15</sub>N<sub>3</sub>O<sub>3</sub>  
**Molecular weight:** 261.3  
**Use:** Systemic, contact and residual herbicide, absorbed by the foliage and roots, with rapid translocation in the xylem and phloem to the meristematic regions, where it accumulates.  
**Formulation:** Imazapyr: 250 g/l. Soluble concentrate  
**Hazardous Ingredient:** % w/v:  
 Imazapyr ± 25  
 Other inerts ± 14  
**Symbol:** X<sub>n</sub>, Xi, N  
**Indication of danger:** Harmful, Irritant and Environmentally Hazardous Substance  
**Risk Phrases:** R 36, 52/53

## 3. HAZARD IDENTIFICATION

**Toxicity class:** WHO: III. A low toxicity herbicide.  
**Likely routes of exposure:** Skin contact, ingestion and inhalation.  
**Ingestion:** Harmful if swallowed.  
**Inhalation:** Avoid breathing spray mist.

## 4. FIRST AID MEASURES AND PRECAUTIONS

**Inhalation:** Remove source of contamination, or move victim to fresh air. Keep affected person at rest and in a half-upright position. Treat symptomatically and supportively. Seek medical advice.  
**Skin contact:** Move the victim to fresh air and remove all contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash affected skin areas gently and thoroughly with water and non-abrasive soap. Do not rub the skin. If irritation persists, seek medical advice.  
**Eye contact:** Immediately flush the eyes with clean, gently flowing cool water for 15-30 minutes, holding the eyelid(s) open. If irritation persists, seek medical advice.  
**Ingestion:** Have victim rinse mouth thoroughly with water. Do not induce vomiting unless the patient has swallowed a large amount. Seek medical advice immediately showing container and label.  
**Advice to physician:** There is no specific antidote. Treat symptomatically and supportively as and when required. Symptoms may be delayed by up to 48 hours following ingestion. Thus a patient ingesting undiluted product should be treated as indicated above.

## 5. FIRE FIGHTING MEASURES

**Fire and explosion hazard:** Flash point: >93 °C. **This material is not flammable. Explosiveness:** Not explosive.  
**Extinguishing agents:** Extinguish small fires with carbon dioxide or dry chemical. Extinguish large fires with foam or water. Move containers from fire area if there is no risk involved. Cool containers with water from maximum distance.  
**Hazardous products of combustion:** In a fire, irritant and toxic fumes containing oxides of carbon and nitrogen, hydrogen chloride, sulphur dioxide and other substances may be generated. It is a combustible liquid.  
**Firefighting:** Remove spectators from surrounding area. Evacuate downwind. Remove container from fire area if possible. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling hazardous vapours and fumes from burning materials. **Personal protective equipment:** Fire may produce irritating or poisonous vapours, mists or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

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### 6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

**Personal precautions:** Avoid contact with skin and eyes. Do not breathe in spray or fumes. For personal protection see Section 8.

**Environmental precautions:** Do not allow entering 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:** Remove all sources of flames and sparks. For small spills, soak up with any inert absorbent material such as granular clay, saw dust or pet litter. Place in an approved chemical waste container for disposal. Rinse spill area with small amount of soapy water. Contain and absorb the rinsate with inert absorbents and place into the same disposal container. Area can be washed with water to remove the last trace residue. For large liquid spills, emanate all ignition sources. Stop leak if you can do so without coming into contact with the spilled material. All equipment used to clean up spill should be grounded. Do not flush spilled material into drains. Keep spectators away.

### 7. HANDLING AND STORAGE REQUIREMENTS

**Handling:** Avoid contact with eyes, mouth, prolonged contact with skin, and inhalation of spray and fumes. Handle product with caution. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Remove clothing immediately if the herbicide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Operators should change and wash clothing after use. Water used to clean equipment must be disposed of correctly to avoid contamination.

**Storage:** Store in its original, labelled and closed container in dry, cool, shaded, well-ventilated area, away from heat, sparks and other sources of ignition. Keep container tightly closed when not in use. Do not store with other pesticides, fertilizer, seeds, foodstuffs and water supplies. Store away from incompatible substances. Keep out of reach of unauthorized persons, children and animals. Local regulations should be complied with.

### 8. EXPOSURE CONTROL / PERSONAL PROTECTION

It is essential to provide adequate ventilation. Provide local exhaust or general dilution 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:** If the product is used in dusty or confined conditions, a mask or respirator suitable for protection from dusts and mists of pesticides is adequate.

**Clothing:** Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

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

**Eye protection:** Wear safety goggles, full face shield in addition if splashing is possible.

**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, uniformity transparent liquid.

**Odour:** Mild amine odour.

**Density:** 1.08 g/cm<sup>3</sup> (20 °C).

**Solubility in water:** Fully soluble.

**Flash point:** >93 °C .

**pH:** 6 to 8 (20 °C).

### 10. STABILITY AND REACTIVITY

**Stability:** Stable under normal temperatures and pressures.

**Storage stability:** Stable for 2 years under normal warehouse conditions.

**Conditions to avoid:** Store in a closed container in a dry, cool, well-ventilated area out of direct sunlight.

**Thermal decomposition:** This product is likely to decompose only after heating to dryness, followed by further strong heating. Carbon dioxide and if combustion is incomplete, carbon monoxide, and smoke are liberated. Nitrogen and its compound and under circumstances, oxides of nitrogen are released. Occasionally hydrogen cyanide gas in reducing atmospheres. Carbon monoxide poisoning produces headaches, weakness, nausea, dizziness, confusion, dimness of vision, distance of judgement and unconsciousness followed by coma and death.

**Polymerization:** Unlikely to occur.

### 11. TOXICOLOGICAL INFORMATION

**Acute oral LD<sub>50</sub>:** >2000 to >5000 mg/kg.

**Acute dermal LD<sub>50</sub>:** >2000 mg/kg.

**Inhalation:** LC<sub>50</sub> (4 hours): >5.1 mg/l.

**Acute skin irritation:** Mild skin irritant.

**Acute eye irritation:** Moderate eye irritant.

**Skin Sensitization:** Non skin sensitizer.

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## 12. ECOLOGICAL INFORMATION

### ECOTOXICOLOGY:

**Birds:** LD<sub>50</sub>: for bobwhite quail and mallard ducks >2150 mg/kg.

Dietary LC<sub>50</sub> (8 d) for bobwhite quail and mallard ducks >5000 mg/kg

**Fish:** LC<sub>50</sub> (96 hours): (96 h) for rainbow trout, bluegill sunfish and channel catfish >100 mg/l

**Bees:** LD<sub>50</sub>: Bees Dermal for honeybees >100 µg/bee.

**Daphnia:** LC<sub>50</sub> (48 hours): >100 mg/l

**Algae:** EC<sub>50</sub> (120 h) for *Selenastrum* 71, *Anabaena* 11.7, *Skeletonema* 85.5, *Navicula* >59 mg/l.

## 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 reused or reprocessed. Never pour untreated waste or surplus products 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.

**Container disposal:** Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

**TRIPLE RINSE** empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow to drain 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 a third of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner.

Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dumpsite. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

Comply with local legislation applying to waste disposal.

## 14. TRANSPORT INFORMATION

**UN NUMBER:** 3082

### Road Transport ADR/IRD:

Class: 9  
 Packing group: III  
 Shipping name: Environmentally hazardous substance, liquid, N.O.S. (Contains **Imazapyr** 250 g/l)

### Air Transport ICAO/IATA:

Class: 9  
 Packing group: III  
 Shipping name: Environmentally hazardous substance, liquid, N.O.S. (Contains **Imazapyr** 250 g/l)

## Maritime Transport IMDG/IMO:

Class: 9  
 Packing group: III  
 Shipping name: Environmentally hazardous substance, liquid, N.O.S. (Contains **Imazapyr** 250 g/l)

This product is a marine pollutant.

## 15. REGULATORY INFORMATION

**Symbol:** Xi, Xn, N  
**Indication:** Irritant, Harmful and Environmentally Dangerous Substance.

### Risk phrases:

**R 36/38** Irritating to eyes and skin  
**R 50/53** Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment  
**R 67** Vapour may cause drowsiness and dizziness

### Safety phrases:

**S 2** Keep out of reach children.  
**S 2425** 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).  
**S 61** Avoid release to the environment.

## 16. OTHER INFORMATION

**Packaging:** Packed in 1, 5, 10, 20, 25, 50 200 litres plastic/steel containers/drums and labelled according to 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 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

**Compiled:** November 2014  
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For detailed information on revisions, contact the Registration holder.