

# UNIVERSAL CAST 700 WDG

# MATERIAL SAFETY DATA SHEET

## 1. PRODUCT & COMPANY IDENTIFICATION

**Product Name:** CAST 700 WDG  
 Insecticide  
**UN No.:** 3077  
**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:** Imidacloprid  
**Chemical Name:** 1-(6-chloro-3-pyridylmethyl)-N-nitroimidazolidin-2-ylideneamine (IUPAC)

**CAS No.:** 138261-41-3

**Chemical Family:** neonicotinoid

**Chemical Formula:** C<sub>9</sub>H<sub>10</sub>ClN<sub>5</sub>O<sub>2</sub>

**Molecular weight:** 255.7

**Use:** Systemic insecticide with translaminar activity and with contact and stomach action. Readily taken up by the plant and further distributed acropetally, with good root-systemic action.

**Formulation:** Imidacloprid 350 g/l  
 Soluble Concentrate

### Hazardous ingredients of toxicological concern:

Inert:	concern:	% present:
Imidacloprid	slightly hazardous	70 %
other ingredients	non	30 %

**Symbol:** Xi, N

**Indication of danger:** Irritant, Environmentally Hazardous Substance, Toxic to aquatic organisms.

**Risk-Phrases:** R36/37/38, R51, R57

## 3. HAZARD IDENTIFICATION

**Toxicity Class:** WHO (a.i.) II; EPA (formulation) II

### Likely routes of exposure:

**Skin:** May irritate skin. The dermal toxicity of this product is low. However, skin contact should be avoided. This product is not a skin sensitizer.

**Eye:** May be a mild irritant. However, it is unlikely to cause any more than mild transient discomfort. It is also unlikely to cause any lasting effects.

**Inhalation:** May be a slight respiratory irritant.

**Ingestion:** The acute toxicity of this product is low, but it may be harmful if a large amount is swallowed.

## 4. FIRST AID MEASURES AND PRECAUTIONS

**Inhalation:** Remove person from exposure area to fresh air. If not breathing, give artificial respiration. Get medical attention as soon as possible.

**Skin contact:** Flush with soap and water, remove contaminated clothing and seek medical attention.

**Eye contact:** Flush eyes with plenty of water for at least 15 minutes. If irritation persists get medical attention.

**Ingestion:** Drink 1 or 2 glasses of water, induce vomiting. Obtain medical attention immediately. Do NOT induce vomiting or give anything by mouth to an unconscious person.

**Advice on treatment:** Treat symptomatically. In cases of ingestion of a large amount, induce vomiting if the patient is fully conscious and its less than 30 minutes since ingestion. Monitor blood count, gastric lavage and charcoal administration. Anticonvulsant therapy is not appropriate.

## 5. FIRE FIGHTING MEASURES

**Flash point:** Not applicable

**This material is not flammable.**

### Extinguishing agents:

Extinguish fires with carbon dioxide, dry agent, foam or soft stream of water fog, only if needed.

### Fire fighting:

Remove spectators from surrounding area. Isolate the fire area. Evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.

Avoid inhaling hazardous vapours and fumes from burning materials. Avoid pollution of waterways. Avoid the accumulation of polluted run-off from the site.

### Personal protective equipment:

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. Considered as Marine Pollutant.

### Occupational spill:

Do not touch spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals.

**For spills:** Clean up spills immediately, observing precautions. Isolate hazard area. Vacuum or sweep up material and place in properly labelled disposal container. Dike to confine spill and absorb with non-combustible absorbent like clay, sand or soil. Vacuum, shovel or pump waste in to drum and label contents for disposal. Large spills may be neutralized with dilute solutions of soda ash or with appropriate alcohol. After removal, flush contaminated area thoroughly with water. Do not allow any material to run off in soil, drainage systems or bodies of water.

## 7. HANDLING AND STORAGE REQUIREMENTS

**Handling:** Avoid contact with eyes and skin, and inhalation of spray and vapour. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the pesticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

**Storage:** Do not store above 35°C. Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original labelled container in isolated, dry, cool and well-ventilated area. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

It is essential to provide adequate ventilation. Use local exhaust ventilation at all processes, locations where vapour or mist may be emitted. Ventilate all transport vehicles prior to unloading. 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:** An approved respirator suitable for protection from mists of pesticides is adequate in the absence of adequate ventilation.

**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 impervious rubber gloves to prevent contact with this substance.

**Eye protection:** The use of safety goggles is recommended.

**Emergency eye wash:** 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 beige powder

**Odour:** Characteristic odour

**Flammability:** Not Flammable.

**Flash point:** Not applicable

**Explosion properties:** Not explosive.

**Solubility:** 0.61 mg/l (20°C)

**Density:** 0.6056±0.0003 g/ml

## 10. STABILITY AND REACTIVITY

**Stability:** Stable under normal conditions of use. Incompatible with alkaline materials, strong acids and oxidizers. Oxides of carbon and nitrogen may be given off when exposed to extreme heat or fire.

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

### Conditions and Materials to Avoid:

Keep the product in a cool, dry place, at below 30 °C. Protect from open flame, dampness and sources of heat. Avoid contact with strong oxidising agents.

### Hazardous decomposition products:

Can decompose at high temperatures and form toxic gases.

## 11. TOXICOLOGICAL INFORMATION

### Acute oral LD<sub>50</sub> rats:

**Imidacloprid Technical:** 450 mg/kg  
 Formulation calculated: > 1000 mg/kg

### Acute dermal LD<sub>50</sub> rats:

**Imidacloprid Technical:** > 5000 mg/kg  
 Formulation calculated: > 5000 mg/kg

### Acute skin irritation:

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**Imidacloprid Technical:** *non-irritant*  
 Formulation: Mild irritant

**Acute eye irritation:**  
**Imidacloprid Technical:** *non-irritant*  
 Formulation: mild irritant

**Dermal sensitisation:**  
 Not expected to be a skin sensitizer. Individuals may develop an allergic response.

**Inhalation:**  
 Not harmful. Inhalation of excessive amounts may cause respiratory irritation.

*Technical: LC<sub>50</sub> (4hours) for rat: >5323 mg/m<sup>3</sup> dust*  
*Formulation calculated: > 2.53 mg/ℓ (4h)*

**Mutagenicity:**  
 Studies indicate that the product is not mutagenic.

**Teratogenicity:**  
 Studies indicate that the product is not teratogenic.

**Carcinogenicity:**  
**Imidacloprid** is considered to be of minimal carcinogenic risk, and is thus categorized by EPA as a "Group E" carcinogen (evidence of no carcinogenicity for humans).

## 12. ECOLOGICAL INFORMATION

**Mobility, Degradability & Accumulation:**  
 The half-life of **Imidacloprid** in soil is 48 to 190 days, depending on the amount of ground cover (it breaks down faster in soils with plant ground cover than in fallow soils). Organic material aging may also affect the breakdown rate of **Imidacloprid**. **Imidacloprid** is degraded stepwise to the primary metabolite 6-chloronicotinic acid, eventually breaking down to carbon dioxide. The chemical is moderately soluble, and has moderate binding affinity to organic materials in soils. However, there is a potential for the compound to move through sensitive soil types including porous, gravelly, or cobbly soils, depending on irrigation practices.

The half-life in water is much greater than 31 days at pH 5, 7 and 9. There is generally not a high risk of groundwater contamination with **Imidacloprid** if used as directed.

**Animals:** **Imidacloprid** is quickly and almost completely absorbed from the gastrointestinal tract, and eliminated via urine and faeces. The most important metabolic steps include the degradation to 6-chloronicotinic acid, a compound that acts on the nervous system. This compound may be conjugated with glycine and eliminated, or reduced to guanidine.

**ECOTOXICOLOGY:**

**Birds:**

Oral LD <sub>50</sub> :	Japanese quail:	31 mg/kg
	Bobwhite quail:	152 mg/kg
LC <sub>50</sub> (diet):	Bobwhite quail:	2225 mg/kg
	Mallard ducks:	>5000 mg/kg

**Fish: Non-toxic to fish.**

LC<sub>50</sub> (96 hours): Rainbow trout: 211 mg/ℓ

**Daphnia:**  
 LC<sub>50</sub> (48 hours): *Daphnia magna*: 85 mg/ℓ

**Bees: Harmful to bees.**  
 Harmful to honeybees by direct contact, but no harm expected when not sprayed into flowering crop or when used as a seed treatment.

**Algae:** E<sub>r</sub>C<sub>50</sub> (72 hrs):  
*Pseudokirchneriella subcapitata* >100 mg/ℓ

## 13. DISPOSAL CONSIDERATION

**Pesticide and container disposal:**  
 Open dumping or burning of this pesticide is prohibited. 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. Product is a Marine Pollutant.

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

Empty the container of excess product into the mixing tank or spray tank of the applicator. Destroy the emptied containers by perforation and flattening. Bury in an approved dump site. Do not re-use the empty container for any other purpose. Comply with any local legislation applying to disposal.

Prevent contamination of food, feedstuffs, drinking water and eating utensils.

## 14. TRANSPORT INFORMATION

**UN NUMBER:** 3077

**Road Transport ADR/RID:**

Class: 9  
 Packaging group: III  
 Shipping name: Environmentally hazardous substances, Solid, N.O.S. (**Imidacloprid** 700 g/kg)

**Maritime Transport IMDG/IMO:**

Class: 9  
 Packaging group: III  
 Shipping name: Pesticide, Liquid, Toxic, N.O.S. (**Imidacloprid** 700 g/kg)

## 15. REGULATORY INFORMATION

**Symbol:** Xi, N  
**Indication of danger:** Irritant, Environmentally Hazardous substance.  
**Risk phrase(s):**

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<b>R 36/37/38</b>	Irritating to eyes, respiratory system and skin.
<b>R51</b>	Toxic to aquatic organisms.
<b>R 57</b>	Toxic to bees.
<b>Safety phrases:</b>	
<b>S 1/2</b>	Keep locked up and out of reach children.
<b>S 13</b>	Keep away from food, drink and animal feeding stuffs.
<b>S 23</b>	Do not breathe vapour/spray.
<b>S 24/25</b>	Avoid contact with skin and eyes.
<b>S 60</b>	This material and its container must be disposed of as hazardous waste.
<b>S 61</b>	Avoid release to the environment. Refer to special instructions/safety data sheets.

### 16. OTHER INFORMATION

**Packaging:**

Packed in 1, 5, 10 and 20 kg plastic/paper containers or bags 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

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For detailed information on revisions, contact the Registration holder.