

## VILLA IFAX 800 DS

## MATERIAL SAFETY DATA SHEET

### 1. IDENTIFICATION OF THE SUBSTANCE

**Product name:** IFAX 800 DS  
Fungicide  
**UN No.:** 3077  
**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](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:** Mancozeb  
**Chemical Name:** manganese ethylenebis  
(dithiocarbamate) (polymeric)  
complex with zinc salt (IUPAC)  
**CAS No.:** 8018-01-7  
**Chemical Family:** alkylenebis (dithiocarbamate)  
**Chemical Formula:**  $[C_4H_6MnN_2S_4]_xZn_y$   
**Molecular weight:** 271.2 (based on composition)  
**Use:** Fungicide with protective action.  
**Formulation:** **Mancozeb:** 800 g/kg  
Powder for seed treatment  
**Ingredients:** **Mancozeb**  
**Symbols:** Xi, N  
**Indication of danger:** Irritant and Environmentally  
dangerous substance.  
**Risk-phrase(s):** R 37, R 43, R50/53

### 3. HAZARD IDENTIFICATION

**Toxicity class:** WHO III (a.i); EPA IV (formulation). A low toxicity fungicide.

**ADI:** 0.03 mg/kg b.w.

**NOAEL:** Long-term feeding studies: 5 mg/kg b.w.

**Likely routes of exposure:** Skin and eye contact, ingestion and inhalation.

**Eye contact:** Direct contact with the product may cause slight eye irritation.

**Skin contact:** Minimally toxic and prolonged skin contact can cause possible skin irritation.

**Ingestion:** Minimally toxic.

**Inhalation:** Inhalation of the dust may be irritating to the respiratory system.

**Delayed effects:** At high levels **Mancozeb** has caused hind leg paralysis in test animals and an increased incidence of retinal degeneration. It has caused thyroid tumours and birth defects in test animals, resulting from ethylenethiourea (ETU) formation. ETU, a trace contaminant and breakdown product of **Mancozeb**, primarily affects the thyroid and liver. It has also caused other endocrine and blood effects, tumours and birth defects in test animals.

### 4. FIRST AID MEASURES AND PRECAUTIONS

In cases of extreme high doses have been absorbed, reactions occurred. Otherwise reactions are not likely to occur. Symptoms of exposure to the product include: itching, scratchy throat, sneezing and coughing. Nausea, vomiting, diarrhoea, headache, ataxia, confusion and fatigue in man, have occurred in cases of accidental swallowing.

**Inhalation:** Move the victim to fresh air or remove source of contamination. Monitor for respiratory distress. Keep person warm and at rest. Treat symptomatically and supportively as and when required. Administration of oxygen should be performed by qualified personnel. Get medical attention immediately if necessary.

**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. Persons who become sensitized may require specialized medical management with anti-inflammatory agents or cortisone-containing emulsions.

**Eye contact:** Immediately flush the contaminated eyes with gently flowing lukewarm water for 15 to 20 minutes, occasionally lifting the upper and lower lids. If irritation persists, seek medical advice.

**Ingestion:** Seek medical advice immediately. Do not induce vomiting without medical advice. Give 2 glasses of water to drink. Never give anything by mouth to an unconscious person. Administration of gastric lavage or oxygen should be performed by qualified medical personnel.

**Advice to physician:** No specific antidotes are available against dithiocarbamate poisoning. If a large amount of **Mancozeb** has been ingested in the last few hours, and if copious vomiting has not already occurred, the stomach must be emptied and steps taken to limit gastrointestinal

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absorption. If the patient is fully alert and nervous system depression is not anticipated, oral administration of Syrup of Ipecac is probably the best way to empty the stomach. If contact with the toxicant has been minimal, administration of charcoal without the cathartic, followed by careful observation of the patient, probably represent optimal management.

### 5. FIRE FIGHTING MEASURES

**Fire hazard and explosion hazard:** Avoid heat or flame. Slight fire hazard when exposed to heat or flame. Dusts at sufficient concentrations can form explosive mixtures with air.

**Unusual Hazards:** Pesticides particulates can become airborne. Combustion generates toxic fumes of hydrogen sulphide, carbon disulfide, sulphur oxides, nitrogen oxides and carbon oxides.

**Extinguishing agents:** Extinguish fires with carbon dioxide, dry chemical or alcohol-resistant foam. Avoid water coming in contact with the product.

Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

**Firefighting:** Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.

Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Do not scatter the material. Remove container from fire area if possible and without risk. Avoid the accumulation of polluted run-off from the site. Avoid pollution of waterways.

Avoid inhaling hazardous vapours. Keep upwind.

**Personal protective equipment:** Fire-fighters and others that may be exposed should wear full chemical protective clothing and self-contained breathing apparatus. See section 8 for recommendations regarding Exposure Controls/Personal Protection. Fire may produce irritating or poisonous vapours (toxic oxides of carbon, nitrogen and sulphur) of combustion.

**Procedures:** Transfer spilled material to suitable containers for recovery or disposal. Keep dust to a minimum. Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Do not breathe in dusts or fumes. Avoid contact with skin and eyes. For personal protection see Section 8 and see section 4 regarding First Aid Measures when exposed to material during clean-up operations.

**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 dry spills, shovel up and sweep up with damp earth or sand or other suitable absorbents, taking care not to raise a dust cloud. Place the material into a labelled, clean, dry container and cover for subsequent disposal; and store in a safe place to await proper disposal. All contaminated cleaning materials should be placed in closable receptacles. In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains. Do not contaminate water while cleaning equipment or disposing of wastes. Keep spectators away and upwind.

### 7. HANDLING AND STORAGE REQUIREMENTS

**Handling:** Wear appropriate protective equipment when handling the product. Do not handle material near food, feed or drinking water. Avoid contact with eyes, prolonged contact with skin, and inhalation of dust and vapour. Avoid high concentrations of dust in air and accumulation of dust on equipment. An airborne dust of this material can create a dust explosion. Use with adequate ventilation to control dust and reduce exposure to vapours. Protect all equipment from explosions.

Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Remove clothing immediately if the product 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. Local regulations should be complied with.

**Storage:** Store the product in its original labelled container in cool, dry, well ventilated area, away from heat, sparks and other sources of ignition. No smoking is allowed. Protect the product from temperatures below 0 °C and above 50°C. Product is combustible and do not ignite. Do not allow the product to become wet or overheated in storage, decomposition, impaired activity or fire may result. Do not store bagged product more than 3 pallets high. Loose bags should not be stacked more than 2x2x2 meters. Check for hot containers and immediately remove to open areas for disposal. Do not store next to food, feed and water supplies. Keep out of reach of unauthorized persons, children and animals. Avoid breaking the containers, spillage or leaks. Comply with the local regulations.

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## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

Provide adequate 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.

Acceptable exposure limit for Mancozeb:

AEL (8 hour TWA, total dust): 2 mg/m<sup>3</sup>;

AEL (12 hour TWA, total dust): 1.5mg/m<sup>3</sup>;

### PERSONAL PROTECTIVE EQUIPMENT:

**Respirator:** Wear an approved full-face respirator suitable for protection from dusts and mists of pesticides is required. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

**Clothing:** Wear appropriate chemical-resistant protective clothing or other impervious clothing. Wear boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing. Wash clothing after use.

**Gloves:** Wear appropriate chemical-resistant protective gloves whenever the product is handled to prevent contact with this substance. Wash gloves after use.

**Eye protection:** Use safety goggles and face-shield, which is compatible with respiratory equipment.

**Emergency eye wash:** Where there is any possibility that an employee's eyes may be exposed to this substance, an eye wash fountain or appropriate alternative within the immediate work area for emergency use, must be provided.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Pale pink powder.

**Odour:** Odourless.

**Explosive properties:** Dust-air mixtures may explode when in contact with moisture.

**Bulk density:** Tap density is 0.67.

**Solubility in organic solvents:** Insoluble in most organic solvents.

**Melting point:** Decomposes at temperatures >192.2°C.

## 10. STABILITY AND REACTIVITY

**Stability:** Considered stable in unopened original packages, under normal, dry storage conditions. Slowly decomposed by heat and moisture.

**Storage stability:** Stable for up to 2 years when stored in a dry, cool covered warehouse in original, well-labelled containers. Store at low temperature conditions, below 50°C, preferably below 30 °C and not for prolonged periods in direct sunlight.

**Incompatibility:** Avoid contact with oxidizing agents and acids. Keep away from moisture, heat or flame. Compatible with most commonly used fungicides and insecticides, used at recommended rates. Always perform a compatibility test before using with other products. Do not physically mix concentrate directly with other pesticide concentrates, always dilute first.

**Thermal decomposition:** May yield toxic oxides of carbon, nitrogen and sulphur. Avoid temperatures above 50 °C.

## 11. TOXICOLOGICAL INFORMATION

**Acute oral LD<sub>50</sub>:** > 5000 mg/kg in rats.

**Acute dermal LD<sub>50</sub>:** ≥2500 mg/kg in rats.

**Acute inhalation LC<sub>50</sub>:** > 5.26 g/m<sup>3</sup> in rats.

**Dermal sensitization:** **Mancozeb** causes skin sensitization in guinea pigs. Consequently, the product may have a weak potential for skin sensitization in humans.

**Skin irritation:** Non-irritant.

**Eye irritation:** Slight irritant to rabbit eyes (EPA classification), effect is reversible.

**Carcinogenicity:** Animal studies did not detect any carcinogenic activity. No human data available.

**Mutagenicity:** Animal studies did not detect any mutagenic activity. No human data available.

**Teratogenicity:** Results taken from animal studies suggest that the product induces large-scale chromosomal aberrations rather than small large-scale chromosomal aberrations or point mutations.

## 12. ECOLOGICAL INFORMATION

**Degradability:** **Mancozeb** is rapidly degraded in the environment by hydrolysis, oxidation, photolysis, and metabolism. Is strongly adsorbed to soil, and half-life in soil is 3 to 11 days (clay and loam soil).

**Mobility:** The product has low mobility and is not likely to leach. **Accumulation:** The product shows little tendency to bioaccumulation. Bioaccumulation: log P<sub>ow</sub> = 0.66 (pH 7).

### ECOTOXICOLOGY:

**Birds:** Practically non-toxic.

LD<sub>50</sub>: 10 day dietary: Japanese quail: >2000 mg/kg

**Fish:** Toxic.

96 h LC<sub>50</sub>: 4600 mg/l: Rainbow Trout. 0.666 mg/l: Carp.

**Honeybees:** Not toxic.

Contact LD<sub>50</sub> (24 h and 48h): > 100 µg/bee

Oral LD<sub>50</sub> (24 h and 48h): > 129 µg/bee

**Daphnia:** Toxic. EC<sub>50</sub> (48h): 0, 900 mg/L

**Algae (*Selenastrum capricornutum*):**

EbC<sub>50</sub> (0-72h; inhibition of growth): 0.011 mg/l

ErC<sub>50</sub> (0-72h; inhibition of growth rate): 1.16 mg/l

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**Earthworms:** Low toxicity to *Eisenia foetida*.

LC<sub>50</sub> (14d): > 1000 mg/kg.

**Soil micro-organisms:** Not toxic to a range of soil micro-organisms.

### 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.

**Package product wastes:** Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed. Empty the container of excess product into the container of the applicator. Destroy the emptied containers by perforation and flattening. Bury in an approved, designated landfill. Do not re-use the empty container for any other purpose. Do not burn the empty container. Comply with any local legislation applying to disposal.

### 14. TRANSPORT INFORMATION

**UN NUMBER:** 3077

**ADR/IRD:**

Class: 9  
 Shipping name: Environmentally Hazardous Substance, Solid, N.O.S. (Mancozeb 80 %)

**IMDG/IMO:**

Packaging group: III  
 Class: 9  
 Shipping name: Environmentally Hazardous Substance, Solid, N.O.S. (Mancozeb 80 %)

**MARINE POLLUTANT**

**ICAO/IATA:**

Class: 9  
 Packaging group: III  
 Shipping name: Environmentally Hazardous Substance, Solid, N.O.S. (Mancozeb 80 %)

### 15. REGULATORY INFORMATION

**Symbol:** Xi, N

**Indication of danger:** Irritant and Environmentally dangerous substance.

**Risk phrases:**

**R37** Irritating respiratory system.

**R 43** May cause sensitization by skin contact.  
**R 50/53** Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.

**Safety phrases:**

**S 2** Keep out of the reach of children.  
**S 24** Avoid contact with the skin.  
**S 35** Keep away from food, drink and animal feeding stuffs.  
**S 20/21** When using do not eat or drink.  
**S 22** Do not breathe dust.  
**S 24/25** Avoid contact with skin and eyes.  
**S 36/37** Wear suitable protective clothing and gloves.

### 16. OTHER INFORMATION:

**Packing and Labelling:** Packed in 100g plastic bags and in 5, 10, 20 & 25 kg metal drums. Labelled according to South African regulations and guidelines.

**Declaration:** All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith believed to be correct. This information applies to the product as such. In case of formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons in receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulation(s) containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.

### END OF DOCUMENT

**Compiled:** February 2008

**Reviewed:** March 2019

**Revision no.:** (2)

**Next revision date:** March 2024

For detailed information on revisions, contact the Registration holder.



Co Reg No 1992/002474/07

Subject: IFAX 800 DS  
Document no: 166VK  
Effective Date: February 2008  
Revision: March 2019 (2)  
Product Code: FMANC600DS/VK

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