

# VILLA BOUND 200 SL

# SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** BOUND 200 SL  
**Other identifier:** Glufosinate-ammonium 200 SL  
**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 4777

**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. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	H-statements
<b>Health</b>		
Inhalation	Acute Tox. 4	H332
Reproductive Toxicity	Repr. 1B	H360Fd
STOT RE	STOT RE 2	H373

### The most important adverse effects:

#### Physiochemical effects:

None known.

#### Human health effects:

May damage fertility or the unborn child.

#### Label elements:



**Signal word:** Danger.

### Hazard statements:

H332: Harmful if inhaled.

H360Fd: May damage fertility or the unborn child.

H373: May cause damage to organs through prolonged or repeated exposure.

### Precautionary statements:

P271: Use only outdoors or in a well-ventilated area.

P202: Do not handle until all safety precautions have been read and understood.

P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.

P308/313: If exposed or concerned: Get medical attention.

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: Cat. 4

Classification according to WHO: Cat. III

Classification according to GPIC (Active): Cat. III

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Substance/Mixture:** Mixture.

### Composition:

Chemical Name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Glufosinate-ammonium (Tech 95%)	77182-82-2	20%	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) STOT RE 2 (H373) Repr. 1B (H360Fd)
Alkyl hydroxyl-poly (oxyethylene) sulfate salt	9004-82-4	<5%	Acute Tox. 4 (H302) Eye Irrit. 2 (H319)

## 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 if symptoms persist.

# VILLA BOUND 200 SL

# SAFETY DATA SHEET

**Skin:** Remove contaminated clothing, shoes and leather goods. Wash skin gently and thoroughly with cold water and non-abrasive soap.

**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.

**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.

**Anticipated acute effects:**

Harmful if inhaled.

**Anticipated delayed effects:**

May damage fertility or the unborn child.

May cause damage to organs through prolonged or repeated exposure

**Most important symptoms/effects:** None known.

Advice to physician: There is no specific antidote available. Treat symptomatically and supportively. Symptoms may be delayed by up to 48 hours following ingestion.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:** Extinguish small fires with carbon dioxide or dry chemical. Extinguish large fires with foam or water.

**Unsuitable Extinguishing Media:** Water jet.

**Specific hazards:** In a fire, irritant and toxic fumes containing oxides of carbon and nitrogen, hydrogen chloride, sulphur dioxide and other substances may be generated.

**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. 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.

## 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.

**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:** 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:** Plastic containers and PE lined metal drums.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Permissible concentration:** No occupational exposure limits has been determined for the significant ingredients in this product.

# VILLA BOUND 200 SL

# SAFETY DATA SHEET

## 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 product will be used in an area that is not well ventilated.

**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:** Blue to bluish-green liquid.

**Odour:** Weakly pungent odour.

**pH (1% aqueous dilution):** 6.0 to 7.0.

**Melting point:** Not available.

**Freezing Point:** Not available.

**Boiling Point:** Not available.

**Flash Point:** Not available.

**Flammability:** Not flammable.

**Upper/lower explosion limits:** Not explosive.

**Vapour Pressure (mm Hg):** Not available.

**Relative Vapour Density:** Not available.

**Density:** 1.07 to 1.09 g/cm<sup>3</sup>

**Solubility:** Soluble 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 2 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:** Exposure to extreme heat and moisture.

**Incompatible Materials:** None known.

**Hazardous Decomposition Products:** Toxic oxides of carbon and nitrogen are released when the product decomposes on heating.

## 11. TOXICOLOGICAL INFORMATION

**ACUTE TOXICITY:** Calculated according to GHS.

**Oral LD<sub>50</sub> (24 h) rat** > 8000 mg/kg.

**Dermal LD<sub>50</sub> (24 h) rat** > 25 000 mg/kg.

**Inhalation LC<sub>50</sub> (4 h) rat** > 3.9 mg/l.

**Skin Irritation/Corrosion:** Not available.

**Eye Damage/Irritation:** Not available.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Reproductive cell mutagenicity:** Not available.

**Carcinogenicity:** Not available.

**Reproductive toxicity:** May damage fertility or the unborn child.

**Specific target organ toxicity – single exposure:** Not available.

**Specific target organ toxicity – repeated exposure:** May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard:** Not available.

**Chronic Effects:** Not available.

### POTENTIAL ADVERSE EFFECTS:

**Inhalation:** Harmful by inhalation.

**Skin contact:** Not available.

**Eye contact:** Not available.

**Ingestion:** Not available.

## 12. ECOLOGICAL INFORMATION

**ECOTOXICITY DATA:** Based on the active ingredient.

**Glufosinate-ammonium.**

### Fish:

LC <sub>50</sub> (96 h)	Rainbow trout	710 mg/l.
	Carp,	>1000 mg/l.
	bluegill sunfish,	
	golden orfe	

### Daphnia:

LC <sub>50</sub> (48 h)		560-1000 mg/l.
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### Algae:

LD <sub>50</sub>	<i>Scenedesmus subspicatus</i>	≥1000 mg/l.
	<i>Selenastrum capricornutum</i>	37 mg/l.

# VILLA BOUND 200 SL

# SAFETY DATA SHEET

## Birds:

Dietary LC<sub>50</sub> (8 d) Japanese quail >5000 mg/kg.

## Bees:

Not hazardous to bees;

>100 µg/bee.

LD<sub>50</sub>

## Worms:

LD<sub>50</sub> Earthworms >1000 mg/kg soil.

**Plants:** Non-selective use: only the metabolite, 3-(methyl) phosphinoylpropionic acid (3-MPP), is taken up in traces from the soil. Desiccation: most of the residues consist of parent glufosinate-ammonium, with minor amounts of metabolite 3-MPP. Selective use: the principal metabolite is *N*-acetylglufosinate, with lesser amounts of parent and 3-MPP.

## ENVIRONMENTAL EFFECTS:

**Animal:** Rapidly excreted, predominantly via faeces (90%). The principal metabolite is 3-(methyl) phosphinoylpropionic acid. A further faecal metabolite is *N*-acetylglufosinate, formed by intestinal microorganisms.

**Persistence and degradability:** Rapidly degraded in surface levels of soil, and in water. Because of polarity, it and its metabolites do not bioaccumulate. Metabolism in soil and water reviewed (E. Dorn *et al.*, *Z. Pflanzenkr. Pflanzenschutz*, 1992, Sonderheft XIII, pp. 459-468). Degraded to 3-(methyl) phosphinoylpropionic acid and 2-(methyl) phosphinoylacetic acid, and ultimately to CO<sub>2</sub> and bound residues. In soil, DT<sub>50</sub> 3-10 d (lab.), 7-20 d (field); DT<sub>90</sub> 10-30 d (lab.); DT<sub>50</sub> of metabolites 7-19 d (lab.). DT<sub>50</sub> in water c. 2-30 d. Lysimeter studies and model calculations show that neither a.i. nor metabolites leach into groundwater; this appears to be due to rapid degradation, and adsorption to certain soil elements. Adsorption is more correlated with clay content than organic matter, K<sub>clay</sub> 2-115, K<sub>oc</sub> 10-1230 (A. Zumdick *et al.*, *Proc. 9<sup>th</sup> IUPAC Int. Congr. Pestic. Chem.*, London, 1998, 2, 6A-023; *idem, ibid.*, 6D-034).

**Bio-accumulative Potential:** Not determined.

**Mobility in soil:** Not determined.

**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 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. Destroy the container by perforating and flattening and dispose of through an approved waste dump site, incineration plant or recycling company. Observe all labelled safeguards until container is destroyed.

## 14. TRANSPORT INFORMATION

**UN Number:** 3082

**Road Transport ADR/IRD:**

Class: 9

Packaging group: III

UN Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S. (Glufosinate-ammonium)

**Maritime Transport IMDG/IMO:**

Class: 9

Packaging group: III

UN Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S. (Glufosinate-ammonium)

**Marine Pollutant (Y/N):** Yes, Considered a marine pollutant.

**Air transport IATA/ICAO:**

Class: 9

Packaging group: III

UN Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S. (Glufosinate-ammonium)

**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:**

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

## VILLA BOUND 200 SL

## SAFETY DATA SHEET

### 16. OTHER INFORMATION

**Packaging:** Packed in 1, 5, 10, 20, 25 and 50 litres plastic containers or PE lined drums and labelled according to South African regulations and guidelines.

**Additional H-statement (s) (formulants)**

**H302:** Harmful if swallowed.

**H312:** Harmful in contact with skin.

**H319:** Causes serious eye irritation.

**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.

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### END OF DOCUMENT

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For detailed information on revisions, contact the Registration holder.