



# SAFETY DATA SHEET

## PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: HARVEST GLYPHOSATE 540 SL  
ACTIVE: **GLYPHOSATE (GLYCINE) 540G/L (GLYPHOSATE POTASSIUM SALT) 665 G/L**  
REGISTRATION HOLDER: HARVEST CROP SOLUTIONS (PTY) LTD.  
DISTRIBUTOR: HARVEST CHEMICALS (PTY) LTD.  
ADDRESS: 25 DAN PIENAAR ROAD KLOOF, KWAZULU-NATAL 3610  
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## **SECTION 2: HAZARDS IDENTIFICATION**

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### **Hazard classification**

Hazardous Substance: Non-Dangerous Goods.

### **Hazard category**

N: Dangerous for the environment

### **Risk phrase(s)**

R5 I: Toxic to aquatic organisms

R53: May cause long-term adverse effects in the aquatic environment.

### **Safety phrase(s)**

S2: Keep out of reach of children.

S13: Keep away from food, drink and animal feeding stuffs. S20/21: When using, do not eat, drink or smoke.

S36: Wear suitable protective clothing.

S37/39: Wear suitable protective gloves and face protection (faceshield) when handling or applying the concentrate.

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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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Composition	CAS No.	Content, g/l
Glyphosate (present as the potassium salt)	1071-83-6	540±25
Other ingredients		Up to 1L

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### SECTION 4: FIRST AID MEASURES

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**If swallowed:** If the victim is convulsing or unconscious, administer a glass of water; ensure that the victim's airway is open and if symptoms developed, call a physician immediately.

**If in eyes:** Immediately rinse eyes with a large amount of running water for at least 15 minutes. Hold eyelids apart to rinse the entire surface of the eyes and the lids. Call a physician immediately if symptoms developed.

**If on skin or clothing:** Remove all contaminated clothing. Wash with plenty of soap and water, including hair and under fingernails. Call a physician immediately if symptoms developed.

**If inhaled:** Move person to fresh air. If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.

**Note to Physician:** No special advice. Treat symptoms.

**Medical Condition Likely to be aggravated by Exposure:** None known.

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### SECTION 5: FIRE-FIGHTING MEASURES

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**Fire hazards/conditions of flammability:** This material may burn when exposed to extreme heat, flame and other ignition sources. Closed containers may build up pressure if exposed to excess heat. Product can react with iron, galvanized steel or unlined steel to produce flammable hydrogen gas. Flammable hydrogen gas can produce a highly combustible mixture with air and this mixture could flash or explode if ignited by heat, sparks and flame.

**Flash point (Method):** >235°F / 113°C (Estimated).

**Auto-ignition temperature:** Not available

**Lower flammable limit (% by volume):** Not available **Upper flammable limit (% by volume):** Not available **Sensitivity to mechanical impact:** Not sensitive.

**Sensitivity to static discharge:** Not expected to be sensitive to static discharge. **Suitable extinguishing media:** For small fires, use dry chemical or carbon dioxide. For large fires, use water spray or foam.

**Special Fighting Procedures:** Firefighters should wear proper chemically protective equipment and self-contained breathing apparatus operated in positive pressure mode. Move containers from fire area if it can be done without risk. Dike area to prevent water run-off. Water spray may be useful in

cooling equipment and containers. Avoid spreading burning material with water jet.

**Hazardous combustion products:** Carbon oxides, nitrogen oxides, phosphorous oxides.

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## SECTION 6: ACCIDENTIAL RELEASE MEASURES

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**Personal precautions:** Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. All persons dealing with clean-up should wear the appropriate chemically protective equipment. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

**Environmental precautions:** Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

**Spill response/Cleanup:** Eliminate all sources of heat, sparks and flame. Ventilate area of release. Stop leak if you can do so without risk. For spills on the floor or other impervious surfaces, absorb spill with inert, non-combustible absorbent material, such as hydrated lime, Fuller's earth or other absorbent clays. Scoop up and place contaminated absorbent material into suitable containers for later disposal (see Section 13). Clean the spill area with soap and water, then rinse thoroughly. Do not flush to sewer or allow to enter confined spaces. Large spills that soak into the ground should be dug up, placed in suitable containers and disposed of appropriately (see Section 13). Notify the appropriate authorities.

**Prohibited materials:** Do not use containers made of iron, galvanized steel or unlined steel.

**Special spill response procedures:** If a spill/release in excess of EPA reportable quantity is made into the environment, immediately notify the national response center.

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## SECTION 7: HANDLING AND STORAGE

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**Handling:** This material is a harmful liquid. Wear appropriate protective equipment during handling. Use only in well ventilated area. Avoid contact with eyes, skin and clothing. Do not inhale vapors or mists. Keep away from all unprotected persons and children. Do not use near sources of heat, flame or ignition sources. This product should be mixed, stored or applied using only stainless steel, fiberglass, plastic or plastic-lined containers and equipment. This product can react with containers made of iron, galvanized steel and unlined steel to produce flammable hydrogen gas which may form a highly combustible gas mixture with air. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high-water mark. Keep away from bases and incompatibles. Use caution when opening containers. Keep container tightly closed when not in use. Wash

thoroughly after handling.

**Storage:** Store in a cool, dry, well ventilated area away from incompatibles. Protect container from physical damage. No smoking in the area. Inspect containers periodically for damage or leaks.

**Special packaging materials:** Always keep in containers made of the same materials as the supply container.

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## SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

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**Ventilation and engineering controls:** If handled indoors, general room ventilation may not be enough. Provide mechanical exhaust ventilation to keep concentrations below specified TLV's and PEL's.

**Eye Contact:** Wear safety glasses with side shields or chemical splash goggles to prevent vapors or mists from entering the eyes. If using a full-face shield, always use safety glasses or goggles along with the face shield to ensure adequate protection of the eyes.

**Skin Contact:** Wear impervious chemical gloves, such as barrier laminate, butyl rubber, nitrile rubber or viton. Advice should be sought from glove suppliers.

**Inhalation:** This product is not likely to present an airborne exposure concern during normal handling. In the event of an accidental discharge of the material during manufacturing or handling, which produces a heavy vapor or mist, workers should put on respiratory protection. Wear respirators approved by MSHA/NIOSH. Advice should be sought from respiratory protection specialists.

**Other protective equipment:** Wear appropriate protective clothing to prevent skin contact. Other protective equipment, such as an eyewash station and safety shower, may be required depending on exposure and on workplace standards.

**General hygiene considerations:** Avoid breathing vapors or mists. Avoid contact with eyes, skin and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash before re-use.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**Physical state:** liquid

**Color:** Blue

**pH range:** 4.0-8.5

**Solubility:** Miscible in water

**Specific gravity (water= 1):** 1.165 g/cm<sup>3</sup> @ 68°F/20°C

**Boiling point:** 235°F / 113°C

**Freezing point:** <0°C

**Vapour pressure:** 1.75 x 10<sup>-7</sup> mmHg (1.31 x 10<sup>-5</sup> Pa) @ 77°F / 25°C (free Glyphosate acid).

**Coefficient of n-Octanol/water distribution:** P = 4.5 x 10<sup>-4</sup> (free Glyphosate acid); Log P = -3.3 (free Glyphosate acid)

**Diluted Stability:** Stable after 200times **Flammability:** Not flammable  
**Explosivity:** Not explosive

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## SECTION 10: STABILITY AND REACTIVITY

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**Stability:** Stable under normal conditions

**Hazardous Polymerization:** Will not occur.

**Conditions to avoid:** Avoid heat, flame and direct sunlight.

**Materials to avoid (incompatibles):** Alkalies, iron, galvanized steel and unlined steel.

**Hazardous decomposition products:** None known. Refer to 'Hazardous combustion products' Section

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## SECTION 11: TOXICOLOGICAL INFORMATION

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### Acute Toxicity:

**Oral toxicity** LD<sub>50</sub> in rat >5000mg/kg **Dermal toxicity** LD<sub>50</sub> in rat >5000mg/kg

**Inhalation:** >2.0mg/L

**Eye contact:** May cause irritation

**Skin contact:** Not irritating to the skin.

**Skin Sensitization:** Non-sensitizing to guinea pig

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## SECTION 12: ECOLOGICAL INFORMATION

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**Ecotoxicological information:** This product is a herbicide and therefore toxic to all green plants. The product is harmful to fish, aquatic invertebrates and aquatic plants. It is considered to be less harmful to birds and soil micro- and macro-organisms. The acute toxicity of the product is measured to be:

**Birds:** Acute oral LD<sub>50</sub> for Japanese quail 1900 mg/kg; 5-day dietary LDS<sub>0</sub>, Japanese quail (*Coturnix japonica*) >5000 ppm in feed.

**Fish:** LC<sub>50</sub> (96 h) for Rainbow trout 18.6 mg/l; LC<sub>50</sub> (96h) for bluegill sunfish 11.9mg/l

**Daphnia:** EC<sub>50</sub> (48 h) 21.6 mg/l; NOEC (21d) 1.5mg/l

**Algae:** IC<sub>50</sub> (72 h) for green algae (*Selenastrum capricornutum*) 17.4 mg/l, IC<sub>50</sub> (96 h) 2.2 mg/l.

**Bees:** 48-Hr LD<sub>50</sub>, Worker honey-bees (*Apis mellifera*), acute oral >100 Lig/bee.

24-Hr LD<sub>50</sub>, Worker honey-bees (*Apis mellifera*), topical >20 Lig/bee

**Plants:** 7-day EC<sub>50</sub>, Duckweed (*Lemna gibba*) 27 mg/L.

**Earthworms:** 14-day LCS<sub>0</sub>, (*Eisina foetida*) >1000 mg/kg dry soil.

**Bacteria:** IC<sub>50</sub>, Activated sludge >100 mg/kg.

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## SECTION 13: DISPOSAL CONSIDERATIONS

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**Handling for disposal:** Handle waste according to recommendations in Section 7.

**Methods of disposal:** Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Triple rinse (or equivalent) containers, then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill. Disposal must be in compliance with all Federal, State and local regulations. Contact your local, state or federal environmental agency for specific rules.

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#### **SECTION 14: TRANSPORT INFORMATION**

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**Road and rail transport:** Not classified as Dangerous Goods by the criteria of the Chinese Dangerous Goods Code for transport by Road and Rail.

**Marine Transport:** Not classified as dangerous Goods by the criteria of the International Maritime Dangerous Goods code (IMDG Code) for transport by sea.

**Air Transport:** Not classified as dangerous by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for the transport by air.

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#### **SECTION 15: REGULATORY INFORMATION**

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Regulations on Safety Management of Hazardous Chemicals (issued by Chinese State Council on March 2, 2011)

Regulations on Safety Use of Chemicals at Work (issued by Chinese Ministry of Labor in 1996)

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#### **SECTION 16: OTHER INFORMATIONS**

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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 and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It

is the responsibility of persons on 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 formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.

**THE END OF SAFETY DATA SHEET**