

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Deliver
Other identifier: Deliver
Recommended use: Insecticide
Restrictions on use: Agriculture
Supplier **Rolfes Agri (Pty) Ltd**
 288 Mundt Street
 Waltloo
 Pretoria, South Africa
Telephone: +27(0)12 803 0145
E-mail Address: info@rolfesagri.co.za
Emergency Phone Numbers:
Office hour poisoning helpline
 Rolfes Agri (Pty) Ltd +27 (12) 803 0145
Spill Response and Transport Incidents
 Spill Tech, 086 100 0366, www.spilltech.co.za
 Oil and chemical pollution control 083 253 6618

2. HAZARDS IDENTIFICATION

South Africa - GHS classification and labelling of chemicals and the Regulations for Hazardous Chemical Agents - 2021.

Hazard class	Hazard category	H-statement
Physical Hazards		
None		
Health Hazards		
Skin Irritation	Category 3	H316
Skin Sensitization	Category 1	H317
Eye Damage	Category 1	H318
Respiratory Sensitization	Category 1	H334
Environmental Hazards		
None		

The most important adverse effects:
Physiochemical effects: None known.

Human health effects:
 Causes mild skin irritation (Skin Irrit. 3)
 May cause an allergic skin reaction (Skin sens.1)
 Causes serious eye damage (Eye Dam.1)
 May cause allergy or asthma symptoms or breathing difficulties if inhaled (Resp. sens.1)

Pictograms:



Signal word: Danger.

Hazard statements:

H316: Causes mild skin irritation.
 H317: May cause allergic skin reaction.
 H318: Causes serious eye damage.
 H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements:

P101: If medical advice is needed, have product container or label at hand.
 P102: Keep out of reach of children.
 P103: Read carefully and follow all instructions.
 P261: Avoid breathing dust/fumes/gas/mist/vapours/spray.
 P264 + P265: Wash hands and affected area thoroughly after handling. Do not touch eyes.
 P272: Contaminated work clothing should not be allowed out of the workplace.
 P280: Wear protective gloves protective clothing/eye protection.
 P284: In the case of inadequate ventilation, wear respiratory protection.
 P302 + P352: IF ON SKIN: Wash with plenty of water.
 P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P305 + P354 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P321: Specific treatment (see first aid treatment on this SDS).
 P333 + P317: If skin irritation or a rash occurs: Get medical help.
 P342 + P316: If experiencing respiratory symptoms: Get emergency medical help immediately.
 P362 + P364: Take off contaminated clothing and wash it before reuse.
 P501: Empty all pesticides from the container by placing it upside down over the spray tank and holding it there for at least 30 seconds. Puncture the rinsed container to render it useless and send to a recycler.

Special labelling of certain mixtures:

None known.

Other hazards:

None known.

Toxicity:

Classification according to GHS: Not classified.

3. COMPOSITION / INFORMATION ON INGREDIENTS**Ingredients with Hazard Concerns (GHS):** According to UN GHS criteria

Hazardous Component	CAS Number	Conc. (m/m) %	GHS Classification
Bacillus thuringiensis subspecies kurstaki	68038-71-1	>60%	Skin Sens. 1, Resp. Sens. 1
Dioctyl sodium sulfosuccinate	532-32-1	<10%	Eye Dam. 1, Skin Irrit. 2.

4. FIRST AID MEASURES

General Advice: The symptoms resulting from direct exposure to the product could appear a while after exposure. If there is persistent discomfort, seek medical attention. Provide this SDS to medical personnel for treatment. Immediately remove contaminated clothing and remove the affected person from the contamination area. Keep the person warm, calm and covered up. First Aid personnel should pay attention to their own safety.

Eye contact: If in eyes: Rinse cautiously with large amount of flowing cold water for at least 15 -20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing if eye irritation persists get medical advice/attention.

Skin contact: If on skin: Wash with plenty of water and non-abrasive soap. If skin irritation or rash occurs, get medical advice/attention.

Inhalation: If inhaled: If breathing is difficult, remove victim to fresh air and keep at rest in position comfortable for breathing. If signs/symptoms persist, get medical advice/attention.

Ingestion: If swallowed: Call a Poison Centre or doctor/physician if you feel unwell. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed: Symptoms of exposure to the product include allergic skin reaction.

Notes to physician: Treat symptomatically and supportively. No specific antidote known.

5. FIRE FIGHTING MEASURES**Suitable (and unsuitable) extinguishing media:**

Use carbon dioxide, dry chemical for small fires and alcohol resistant foam or water fog for large fires. Do not use water jets.

Specific hazards arising from the chemical including thermal decomposition products: Fires involving the product may produce irritating or poisonous smoke, or other products of combustion.

Special protective equipment and precautions for firefighters: Firefighters must wear emergency equipment including positive pressure self-contained breathing apparatus with a full-face mask. Remove unaffected containers from fire area if possible.

Additional provisions: Act in accordance with the site's Internal Emergency Plan and the Workplace Specific Procedures for actions to be taken after an accident or other emergencies.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Ventilate the area of the spill or leak, especially when in confined areas. Do not touch or walk through spilled material as slippery when spilt. Contain spills if it can be done without risk and clean-up immediately.

Wear appropriate protective clothing recommended in Section 8 of the SDS.

Environmental Precautions:

Prevent spillage or further leakage if safe to do so.

Do not allow the spilt product to enter water courses and drains and avoid contact with soil. Do not allow the spilt product to spread to other areas - keep the spilt material contained and isolated. Report spills and releases as required to appropriate authorities if the spilt product has caused environmental pollution (sewers, water ways, soil or air).

Methods for cleaning up:

For small spills, sweep up with damp earth or sand or other suitable absorbent, such as sawdust, taking care not to raise a dust cloud. Place the material into a clean, dry container and cover for subsequent disposal. All contaminated cleaning materials should be placed in closeable receptacles. In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains.

For large spills, DO NOT wash away into sewer. Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place (extra personal protection: P2 filter respirator for harmful particles).

Reference to other sections:

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.

7. HANDLING AND STORAGE REQUIREMENTS

Precautions for safe handling

Always provide good ventilation in the work area. Prevent contact with eyes, skin and clothing. Do not breathe in dust. Wear protective clothing and equipment during handling as described in Section 8 of the SDS.

Do not eat or drink during use. Wash the hands and face thoroughly with soap after handling. Keep containers closed when not in use. Do not permit smoking in use or storage areas. Locate emergency showers and eye-rinsing facility near the work/handling area. Maintain good normal industrial hygiene and housekeeping practices in areas where the product is used/handled.

Conditions for safe storage, including any incompatibilities

Always store locked up and keep containers/bags tightly closed when not in use. Store in a cool, dry and well-ventilated place, out of direct sunlight. Check storage containers/bags regularly for leaks and protect it from physical damage. Store in the original container/bag, avoid cross contamination with other agricultural products. Keep out of reach of children, uninformed persons, and animals. Do not contaminate water, food, or feed by storage or disposal.

It is recommended to have appropriate spill control kits equipped with absorbent material in close proximity to storage areas (see Section 6).

Specific end use(s)

Use as directed. Use original container or bag.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

National Occupational Exposure Limits – Restricted limits for hazardous chemical agents.

Component	Type	Control Parameter	Update	Reference
N/A	OEL-eight hour TWA	N/A	2021	South African RELs*
	OEL-STEL/C	N/A	2021	South African RELs*

Appropriate engineering controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory protection: Respiratory protection selection must be based on known or anticipated exposure levels,

the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted and well-maintained particulate filter respirator, complying with an approved standard. Respirator selection and use should be based on contaminant type, form and concentration. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

Skin and Hand Protection: Select skin and hand protection based on the task being performed and the risks involved with the task. The gloves should be replaced immediately in case of damage or signs of wear. The personal protective clothing must be properly fitted and well maintained.

Eye/Face Protection: Select safety eye/face protection based on the task being performed and the risks involved with the task. Wear tightly fitted and well-maintained safety eyewear compliant with an approved standard.

Hygiene Measures: Wash the hands and/or face before breaks, eating, smoking, or using the lavatory and at the end of the shift/working period. Eye wash fountains and safety showers should be available and easily accessible. Wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/physical state: Solid.

Odour: Fishy.

Colour: Pale Brown.

Boiling Point: Not applicable.

Vapour Pressure (mm Hg): Not applicable.

Evaporation Rate: Not applicable.

Relative Vapour Density: Not applicable.

Solubility in water: Not available.

Decomposition temperature: Not applicable.

Melting point/freezing point: Not applicable.

pH: 6-0 – 6.5 (1% dilution)

Density at 20°C: 19 -21 Lb / cu ft.

Flammability: Not flammable.

Flash Point: Not flammable (>60 °C).

Flammable limits-LEL: Not applicable.

Auto-ignition temperature: Not applicable.

Viscosity: Not applicable.

10. STABILITY AND REACTIVITY

Reactivity: The product is stable under normal conditions.

Chemical Stability: This 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.

Possibility of Hazardous Reactions: None known under conditions of normal use.

Conditions to Avoid: Avoid extreme temperatures (>50°C). Keep away from heat and ignition sources.

Incompatible Materials: Incompatible with: Avoid strong oxidizing agents and acids.

Hazardous Decomposition Products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Waste handling and disposal: Dispose product related waste in accordance with all local regulations and prevent the contamination of water, food, or feed by storage or disposal of the waste. The product container/bags may be taken to a registered waste disposal site or incineration plant.

General container handling: Empty all pesticides from the container by placing it upside down over the spray tank and holding it there for at least 30 seconds. Puncture the rinsed container to render it useless and send to a recycler.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY: Calculated.

Acute Toxicity Oral: Not classified.

Acute Toxicity Dermal: Not classified.

Acute Toxicity Inhalation: Not classified.

Skin Corrosion/Irritation: Causes mild skin irritation.

Eye Damage/Irritation: Causes serious eye damage.

Skin Sensitization: May cause allergic skin reaction.

Respiratory Sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity: Not classified.

Carcinogenicity: Not classified.

Reproductive toxicity: Not classified.

Specific target organ toxicity – single exposure: Not classified.

Specific target organ toxicity – repeated exposure: Not classified.

Aspiration hazard: Not classified.

Symptoms related to the physical, chemical, and toxicological characteristics.

None.

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

None.

ENVIRONMENTAL EFFECTS:

Persistence and degradability:

No information available.

Bio-accumulative Potential:

No information available.

Mobility in soil:

No information available.

Other adverse effects:

None known.

13. DISPOSAL CONSIDERATIONS

14. TRANSPORT INFORMATION

	Land Transport (ADR/RID)	Inland Waterways (AND/ADNR)	Sea Transport (IMDG)	Air Transport (ICAO-TI / IATA-DGR)
UN Number	Not regulated	Not regulated	Not regulated	Not regulated
UN Proper Shipping Name	-	-	-	-
Transport Hazard Class	-	-	-	-
Transport Hazard Class Pictogram	-	-	-	-
Packing Group	-	-	-	-
Environmental Hazard	-	-	-	-

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation for the mixture.

South Africa

Regulations for Hazardous Chemical Agents – 2021 – SA Occupational Health and Safety Act. - Handling, labelling and Safety Data Sheets for hazardous and GHS classified substances and mixtures. Occupational Exposure Limits.

Hazardous Substances Act, 1973 (Act No.15 of 1973) - Requirements on the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of hazardous substances. Occupational Health and Safety Act No. 85 of 1993.- Occupational Health and Safety Standards for employers and users working with and around hazardous chemical substances. National Road Traffic Act, 1996 (ACT NO. 93 of 1996). - The identification and classification of dangerous goods for transport by road and rail modes.

Botswana

Pesticides and Toxic Substances Regulations. 1994 (2006) - Control and management of pesticides and other toxic substances. Environmental and Pollution Control Act. 1990 - Hazardous waste disposal, hazardous substances, pesticides, and effluent wastewater/discharge.

Namibia

Labour Act 11 of 2007 - Hazardous substances classification, labelling, Chemical Safety Data Sheets and Occupational Exposure Limits. Notification of the use of carcinogens and other controlled substances. Regulations relating to the Health and Safety of Employees at Work Government Notice 156 of 1997. Labour Act 11 of 2007 schedule, item 2(2). - Occupational Health and Safety Standards for employers and users working with and around hazardous chemical substances.

16. OTHER INFORMATION

Packaging: Packed in 60 g and 120 g plastic containers or plastic bags; and labelled according to South African regulations and guidelines.

Relevant classification and H-Statements:

Skin Irritation - Category 3

H316: Causes mild skin irritation.

Skin Sensitization – Category 1

H317: May cause allergic skin reaction.

Eye Damage – Category 1

H318: Causes serious eye damage.

Respiratory Sensitization - Category 1

H334: May cause allergy or asthma symptoms or breathing difficulty if inhaled.

Key to Abbreviations

AND European Provisions concerning the International Carriage of Dangerous Goods by inland Waterways

ADR The European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE Acute Toxicity Estimate

COD Chemical Oxygen Demand

GHS Globally Harmonised System of Classification and Labelling of Chemicals

IATA International Air Transport Association

ICAO International Civil Aviation Organisation

IMDG International Maritime Dangerous Goods

Log_{Pow} Logarithm of the octanol/water partition coefficient

LD₅₀ Lethal Dose 50

LC₅₀ Lethal Concentration 50

RID The Regulations concerning the International

Carriage of Dangerous Goods by Rail

SDS Safety Data Sheet

UN United Nations

Notice to Reader

The information contained in this Safety Data Sheet relate only to the specific product and do not relate to the use of the product in combination with any other product or process. Information in the SDS is supplied to the best of **ROLFES AGRI (PTY) LTD's** knowledge and are believed to be current and correct as of the date on this SDS. All reasonable efforts were exercised to compile this SDS in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

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END OF SAFETY DATA SHEET
