

**SAFETY DATA SHEET**

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**Product Name:** ACTICELL CITRUS  
**Other identifier:** ACTICELL CITRUS  
**Recommended use:** Fertiliser  
**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](mailto: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](http://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
<b>Health</b>		
Eye Damage	Category 1	H318
Acute Toxicity – Inhalation	Category 4	H332
Reproductive Toxicity	Category 1B	H360FD
<b>Environment</b>		
Hazardous to the Aquatic Environment – Short-Term (Acute) Hazard	Category 1	H400
Hazardous to the Aquatic Environment – Long-Term (Chronic) Hazard	Category 1	H410

**The most important adverse effects:**

**Physiochemical effects:** None known.

**Human health effects:**

Causes serious eye damage (Eye Dam. 1)

Harmful if inhaled. (Acute Tox. 4)

May damage fertility or the unborn child (Repr. 1B)

**Pictograms:**



**Signal word:** Danger.

**Hazard statements:**

H318: Causes serious eye damage.

H332: Harmful if inhaled.

H360FD: May damage fertility or the unborn child.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long-lasting effects.

**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.

P203: Obtain, read, and follow all safety instructions before use.

P261: Avoid breathing dust/fumes/gas/mist/vapours/spray.

P264+P265: Wash hands and affected area thoroughly after handling. Do not touch eyes.

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

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305 + P354 + P338: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P318: IF exposed or concerned, get medical advice.

P391: Collect spillage.

P405: Store locked up.

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: Category 4.

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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Ingredients with Hazard Concerns (GHS):** According to UN GHS criteria.

Hazardous Component	CAS Number	Conc. (m/v) %	GHS Classification
Boric Acid	10043-35-3	<30%	Repr. 1B H360FD
Zinc Oxide	1314-13-2	<30%	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Copper Hydroxide	20427-59-2	<10%	Acute Tox. 4 (H302) Eye Dam. 1 (H318) Acute Tox. 2 (H330) Aquatic Acute 1 (H400) M=10 Aquatic Chronic 1 (H410) M (Chronic) =10

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### 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:** Flush eyes immediately with flowing cold water for 15 – 20 minutes, until no evidence of chemical remains. If irritation persists, get medical help.

**Skin contact:** Remove all contaminated clothing and shoes. Gently wipe off residual chemical and wash skin thoroughly with non-abrasive soap.

**Inhalation:** Remove the affected victim from exposure to an area with fresh air. If breathing has stopped, administer artificial respiration with the aid of a pocket mask equipped

with a one-way valve or other proper respiratory medical device. If irritation persists, get medical help.

**Ingestion:** If exposed or concerned, rinse mouth thoroughly with large amount of water and get treatment advice.

**Most important symptoms/effects, acute and delayed:**

No information available.

**Notes to physician:** In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments:** Treat symptomatically.

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### 5. FIRE FIGHTING MEASURES

**Suitable (and unsuitable) extinguishing media:**

Use carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol resistant foam, water mist or fog. Do not use water jets.

**Specific hazards arising from the chemical including thermal decomposition products:** Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. During fire, irritating and toxic gases will be released due to thermal decomposition or combustion.

**Special protective equipment and precautions for fire-fighters:** 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 Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

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### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment, and emergency procedures:**

Isolate leaks provided that there is no additional risk for the people performing the task. Personal protection equipment must be used against potential contact with the spilt product (see section 8).

Evacuate the area and keep out those who do not have protection.

**Environmental Precautions:**

Do not discharge into drains, water courses or onto the ground. Remove any intact containers. Advise local authority that none of the affected water should be used until natural dilution returns the levels to its normal environmental background level.

### Methods for cleaning up:

**For small spills**, soak up with damp earth or sand, or other non-combustible absorbent material. Place into a labelled waste container subsequent reclamation or disposal. Keep the wash water out of drains, sewers, and waterways.

**For large spills**, contain the spillage with absorbent material (non-combustible for flammable products). Sweep up with absorbent material, contain and collect spilt product in suitable containers for proper disposal. Keep the wash water out of drains, sewers, and waterways.

### 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 mist or vapours. 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 affected area 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 tightly closed when not in use. Store in a cool, dry, and well-ventilated place, out of direct sunlight. Check storage containers regularly for leaks and protect containers from physical damage. Store in the original container, 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 containers.

## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

### Public exposure

Zinc Oxide:

**PNEC** - Fresh water; 0.0206 mg/l

- Marine water; 0.0061 mg/l

- STP; 100 µg/l

- Sediment (Freshwater); 235.6\* mg/kg sediment dw.

- Sediment (Marinewater); 113\* mg/kg sediment dw.

- Soil; 106.8\*\* mg/kg

The units are expressed in 'mg/µg' of: Zinc.

These PNECs are added value PNECs- they are to be added to the natural background levels of: Zinc.

- in the appropriate compartments (e.g. soils, sediments).

(\* ) A generic bioavailability factor of 0.5 is applied by default, according to the EU risk assessment (ECB 2008). (\*\* ) by default this value was multiplied by '3' to take into account "lab-to-field" differences in toxicity.

(STP) The PNEC for STP was derived by applying an assessment factor to the lowest relevant toxicity value (5.2mg Zn/L). (Dutka et al., 1983).

Copper (II) hydroxide:

TWA: 1 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States] - as copper dusts or mists. TWA: 1 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] - as copper dusts or mists.

Consult local authorities for acceptable exposure limits.

**Appropriate engineering controls:** No special ventilation requirements. 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:** Suspension liquid.  
**Odour:** Pungent odour.  
**Colour:** Light Blue.  
**Boiling Point:** >100°C.  
**Vapour Pressure (mm Hg):** Not applicable.  
**Upper/lower explosion limits:** Not explosive.  
**Evaporation Rate:** Not applicable.  
**Relative Vapour Density:** Not applicable.  
**Solubility in water:** Soluble in water.  
**Decomposition temperature:** Not applicable.  
**Melting point/freezing point:** Not available.  
**pH:** 6.0 – 7.0  
**Density :** 1.48 g/mL.  
**Flammability:** Not flammable.  
**Flash Point:** Non-Flammable (>60°C).  
**Flammable limits-LEL:** Not applicable.  
**Auto-ignition temperature:** Not applicable.  
**Viscosity:** Not applicable.

## 10. STABILITY AND REACTIVITY

**Reactivity:** No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.  
**Chemical Stability:** 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:** Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.  
**Conditions to Avoid:** Avoid excessive heat. Avoid exposure to high moisture conditions for prolonged periods.

**Incompatible Materials:** Avoid strong Acids and Alkalis.

**Hazardous Decomposition Products:** Decomposes in high temperature to CuO+H<sub>2</sub>O.

## 11. TOXICOLOGICAL INFORMATION

**ACUTE TOXICITY:** Calculated.  
**Acute Oral Toxicity LD<sub>50</sub>:** >4100 mg/kg.  
**Acute Dermal Toxicity LD<sub>50</sub>:** >3600 mg/kg.  
**Acute Inhalation Toxicity LC<sub>50</sub>:** 3.9 mg/L.  
**Skin Corrosion/Irritation:** Not classified.  
**Eye Damage/Irritation:** Causes serious eye damage.  
**Skin Sensitization:** Not classified.

**Respiratory Sensitization:** Not classified.  
**Germ cell mutagenicity:** Not classified.  
**Carcinogenicity:** Not classified.  
**Reproductive toxicity:** May damage fertility or the unborn child.  
**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.**  
No information available.

## 12. ECOLOGICAL INFORMATION

**ECOTOXICITY DATA:** Copper (II) hydroxide.

Species	Exposure	Results
Fathead Minnows	LC <sub>50</sub>	0,023 mg/l (96 h)
Rainbow trout		0,08 mg/l (24 h)
Bluegill sunfish		>180 mg/l (96 h)
Bobwhite quail	LC <sub>50</sub>	3400 mg/kg
Mallard duck		>5000 mg/kg
Bobwhite Quail		>10000 ppm
Mallard Duck		>10000 ppm
Daphnia magna	EC <sub>50</sub>	6.5 ppm

### ENVIRONMENTAL EFFECTS:

**Plants:** No information available.  
**Persistence and degradability:** The product contains mainly inorganic substances which are not biodegradable.  
**Bio-accumulative Potential:** Copper is strongly bio-accumulated.  
**Mobility in soil:** For zinc (like for other metals) the transport and distribution over the different environmental compartments e.g. the water (dissolved fraction, fraction bound to suspended matter), soil (fraction bound or complexed to the soil particles, fraction in the soil pore water) is described and quantified by the metal partition coefficients between these different fractions. In the CSR, a solids-water partitioning coefficient of 158.5 l/kg (log value 2.2) was applied for zinc in soils (CSR zinc 2010).

Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

**Other adverse effects:** According to the criteria of the European classification and labelling system, the substance does not require classification as hazardous for the environment.

## 13. DISPOSAL CONSIDERATIONS

**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/bottles 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.

#### 14. TRANSPORT INFORMATION

	Land Transport (ADR/RID)	Inland Waterways (AND/ADNR)	Sea Transport (IMDG)	Air Transport (ICAO-TI / IATA-DGR)
UN Number	3082	3082	3082	3082
UN Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S
Transport Hazard Class	9	9	9	9
Transport Hazard Class Pictogram				
Packing Group	III	III	III	III
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 0,1; 0,2; 0,25; 0,5; 1; 5; 10; 20; 25; 200; 210; 1000 L Plastic bottles/Drums and labelled according to South African regulations and guidelines.

##### Relevant classification and H-Statements:

Eye Damage: Category 1  
H318: Causes serious eye damage.

Acute Toxicity – Inhalation: Category 4  
H332: Harmful if inhaled.

Reproduction Toxicity: Category 1B  
H360FD: May damage fertility or the unborn child.

Hazardous to the Aquatic Environment – Short-Term (Acute) Hazard: Category 1  
H400: Very toxic to aquatic life.

Hazardous to the Aquatic Environment – Long-Term (Chronic) Hazard: Category 1  
H410: Very toxic to aquatic life with long-lasting effects.

##### Key to Abbreviations

<b>AND</b>	European Provisions concerning the International Carriage of Dangerous Goods by inland Waterways
<b>ADR</b>	The European Agreement concerning the International Carriage of Dangerous Goods by Road
<b>ATE</b>	Acute Toxicity Estimate
<b>COD</b>	Chemical Oxygen Demand
<b>GHS</b>	Globally Harmonised System of Classification and Labelling of Chemicals

<b>IATA</b>	International Air Transport Association
<b>ICAO</b>	International Civil Aviation Organisation
<b>IMDG</b>	International Maritime Dangerous Goods
<b>Log<sub>Pow</sub></b>	Logarithm of the octanol/water partition coefficient
<b>LD<sub>50</sub></b>	Lethal Dose 50
<b>LC<sub>50</sub></b>	Lethal Concentration 50
<b>RID</b>	The Regulations concerning the International Carriage of Dangerous Goods by Rail
<b>SDS</b>	Safety Data Sheet
<b>UN</b>	United Nations

sold, risk passes to the purchaser in accordance with the specific terms and conditions of sale. Accordingly, Rolfes Agri Proprietary Limited will not be responsible for damages resulting from use or reliance upon this information.

**END OF SAFETY DATA SHEET**

#### **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).

The SDS only provides information applicable to the health, safety and environmental hazards of this product at the date of issue in order to facilitate the safe use, handling, storage and transport of this product and does not replace any product information or product specifications.

It is not possible for **ROLFES AGRI (PTY) LTD** to anticipate or control all conditions under which this product, this product may be used, handled, stored or transported. The obligation of the user, receiver, handler or transporter remains to review the content of the SDS prior to potentially exposing persons/employees to the product and to consider any risks that may associated with the hazards of the product during use, handlings, storage or transportation. Appropriate health, safety and environmental protection risk mitigating measures must be in place and such information must be communicated to all persons that might be involved with and exposed to this product.

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