


SAFETY DATA SHEET

| | |
|---------------|----------------------------------|
| Issue No: 1.0 | First print date: 4 October 2023 |
|---------------|----------------------------------|

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

| | |
|--------------------------------|--|
| Product Name: | ICABOS 500 WG |
| Other means of identification: | Boscalid 500 g/kg |
| Recommended Use: | Agricultural fungicide |
| Supplier: | ICA International Chemicals (Pty) Ltd |
| Address: | 28 Planken Street Plankenbrug Industrial STELLENBOSCH · 7600 · SOUTH AFRICA |
| Telephone No: | +27-21 886 9812 |
| Fax No: | +27-21 886 8209 |
| Emergency Tel No: | Griffon Poison Information Centre: +27-82 446 8946 Human Poison Helpline: +27-861 555 777 |

2. HAZARD IDENTIFICATION

| | |
|--|--|
| GHS Classification of product | Skin Irritation – Category 3 Eye Irritation – Category 2/2A Chronic Aquatic Toxicity – Category 2 |
| Label Elements |  |
| Classification and Labelling of Chemicals (GHS) Rev 9, 2021; Regulation EC No. 1272/2008 [EU-GHS/CLP] | |
| Signal word | WARNING |
| Hazard Statements | H316 – Causes mild skin irritation H319 – Cause serious eye irritation H411 – Toxic to aquatic life with long lasting effects |
| General 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. |
| Prevention Precautionary Statements | P264 + P265: Wash hands and face thoroughly after handling. Do not touch eyes. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye and face protection. |
| Response Precautionary Statements | P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P317: If eye irritation persists: Get medical help. P332 + P317: If skin irritation occurs: Get medical help. P391: Collect spillage. |
| Disposal Precautionary Statements | P501: Dispose of contents and container in accordance with national regulations. |

3. COMPOSITION/INFORMATION ON INGREDIENTS

| INGREDIENT(S) | CAS NO: | CONCENTRATION % (w/w) | CLASSIFICATION EC1272/2008 |
|--------------------------------|-------------|--------------------------|---|
| Boscalid | 188425-85-6 | 50 | Aquatic Chronic Category 2, H411 |
| Sodium 1-naphthalene sulfonate | 130-14-3 | < 10 | Eye Irritation Category 2, H319 |
| Sodium dodecyl sulfate | 151-21-3 | < 10 | Acute Oral Toxicity Category 4, H302; Skin Irritation Category 2, H315; Eye Damage Category 1, H318 |

There are no additional ingredients present which, within the current knowledge of the provider of this SDS, and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. See section 16 for legend of additional H-phrases not in section 2.

4. FIRST AID MEASURES

Show this SAFETY DATA SHEET to a doctor.

| | |
|---|--|
| INHALATION: | <ul style="list-style-type: none"> • Remove the victim from immediate source of exposure. Move victim to fresh air, if it can be done safely, and keep comfortable. • If victim's breathing has stopped, perform artificial respiration. • Use a pocket mask equipped with a one-way valve or other proper respiratory medical device. • Administer oxygen if victim's breathing is difficult or irregular. • Get medical help. |
| SKIN: | <ul style="list-style-type: none"> • Remove and isolate contaminated clothing, shoes, and leather goods and take a shower. • Rinse affected areas (skin) cautiously with non-abrasive soap or mild detergent and large amounts of running water. Wash contaminated clothing before reuse. • Get medical help if irritation develops and persists. |
| EYES: | <ul style="list-style-type: none"> • Rinse eyes cautiously with clean running water for at least 15 minutes, while holding eyelids apart. Remove contact lenses after 5 minutes if present and easy to do. Continue rinsing while holding eyelids apart. • Seek medical help if irritation continues. |
| INGESTION: | <ul style="list-style-type: none"> • If swallowed, DO NOT induce vomiting, unless instructed to do so by poison control center or doctor. Have person sip a glass of water if able to swallow. • Never give anything by mouth to an unconscious person. • If vomiting does occur, keep on giving fluids. Get medical help. |
| NOTE TO PHYSICIAN: | <ul style="list-style-type: none"> • There is no specific antidote. All treatment should be based on observed signs and symptoms of distress in the patient. |
| POTENTIAL HEALTH EFFECTS, ACUTE AND DELAYED: | <ul style="list-style-type: none"> • Effects of exposure (inhalation, ingestion, or skin contact) to substance may be delayed. |

5. FIRE FIGHTING MEASURES

| | |
|---|---|
| SUITABLE EXTINGUISHING MEDIA: | <p>Small fires: Dry chemical powder, carbon dioxide (CO₂) or alcohol-resistant foam.</p> <p>Large fires: Water spray, fog, or alcohol-resistant foam</p> |
| FIRE INVOLVING TANKS: | Water spray can be used for cooling of unaffected stock but avoid water coming into contact with the product. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire. |
| UNSUITABLE EXTINGUISHING MEDIA: | DO NOT use high volume water jet, due to contamination risk. Solid stream may cause spreading. |
| SPECIFIC EXTINGUISHING METHODS: | Fight fire from maximum distance. For massive fire, use unmanned hose holder or monitor nozzles. Collect contaminated extinguishing water separately; do not allow contaminated water to reach the sewage or effluent systems. |
| SPECIFIC HAZARDS ARISING FROM COMBUSTION PRODUCTS: | Like most organic powders or crystals, under severe dusting conditions, this material may form explosive mixtures in air. Combustion or thermal decomposition will evolve toxic and form irritant vapours. |
| PRECAUTIONS FOR FIRE FIGHTERS: | Fire fighters should wear full protective gear including self-contained breathing apparatus (SCBA). Fight fire from safe distance. Contact with the fumes and vapours should be avoided by staying upwind. Clean all clothing before reuse. Severely contaminated clothing cannot be adequately decontaminated and must be disposed as a hazardous waste. Shower with soap and water after contact with chemical product. |
| FURTHER INFORMATION: | <ul style="list-style-type: none"> • If possible, safely move undamaged intact containers away from the area around the fire. • Keep containers cool by spraying with water if exposed to fire. • Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. • In case of fire and/or explosion do not breathe fumes. |

6. ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK:

| | |
|--|--|
| PERSONAL PRECAUTIONS: | Avoid contact with skin and eyes. Do not touch or walk through spilled material. Do not inhale spray or fumes. |
| PROTECTIVE EQUIPMENT: | Wear personal protective clothing and equipment (see section 8). |
| EMERGENCY PROCEDURES: | Keep people and animals away. Eliminate all ignition sources (no smoking, flares, sparks, or flames) from immediate area. All equipment used when handling the product must be grounded. Use water spray to reduce vapours or divert vapour cloud drift. |
| ENVIRONMENTAL PRECAUTIONS: | PREVENT spilled material from entering waterways and sewer systems, basements, and confined areas. If the product contaminates rivers and lakes or waterways immediately inform respective authorities. |
| METHODS AND MATERIALS FOR CONTAINMENT: | Contain and absorb liquid spills with inert material, remove by scoop or vacuum. Use approved industrial vacuum cleaner for removal and place in clearly marked waste containers. |
| METHODS AND MATERIALS FOR CLEANING UP: | Contain spillage, and then collect with non-combustible absorbent material, (e.g., sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). To decontaminate spill area, tools and equipment, wash with a suitable solution (i.e., organic solvent, detergent bleach). Add the solution to the drums already collected. Use clean, non-sparking tools to collect absorbed material. |
| SECONDARY DISASTER PREVENTION MEASURES: | NA |

7. HANDLING AND STORAGE

| | |
|--|--|
| PRECAUTIONS FOR SAFE HANDLING: | <ul style="list-style-type: none"> • Always store fungicides in their original containers, which include the label listing ingredients, directions for use, and first aid steps in case of accidental poisoning. • Never transfer fungicides to soft drink bottles or other containers. Children or others may mistake them for something to eat or drink. • Wear suitable protective clothing which includes chemical-resistant overalls, footwear, socks, dust mask, eye shields and gloves. • Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Wash hands, arms, and face after application. Wash gloves and contaminated protective clothing daily before reuse. • 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. |
| <ul style="list-style-type: none"> - Suitable Technical Measures - Suitable Precautions - Prevention of contact | |
| CONDITIONS FOR SAFE STORAGE: | <ul style="list-style-type: none"> • Keep out of reach of unauthorized persons, children, and animals. Always store fungicides in their original containers, which include the label listing ingredients, in a cool, dry, and well-ventilated area out of direct sunlight. Avoid excess heat. • Segregate from foods and animal feeds. • DO NOT reuse the container for any other purpose. |
| <ul style="list-style-type: none"> - Suitable Technical Measures - Separation measures from incompatible substances and mixtures | |
| PACKAGING MATERIAL | - |
| FIRE PRECAUTIONS: | Not applicable |

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

| | |
|--|--|
| ADI – Acceptable Daily Intake | Boscalid = 0.04 mg kg ⁻¹ bw day ⁻¹ |
| AOEL – Accepted Operator Exposure Level | Boscalid = 0.1 mg kg ⁻¹ bw day ⁻¹ |
| NATIONAL EXPOSURE STANDARDS: | Not available |
| BIOLOGICAL LIMIT VALUES: | Not available |
| ENGINEERING CONTROLS: | Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. If airborne mist/vapours are generated use local exhaust ventilation controls. Facilities should be equipped with an eyewash station and a safety shower. Where necessary, seek additional occupational hygiene advice. |

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection: Where exposure through inhalation may occur when handling and/or when preparing the spray mixture, wear a face mask. If the product is used in confined spaces a respirator suitable for protection from dusts and mists of pesticides is adequate.

Hand Protection: Wear chemical-resistant gloves made of any waterproof material such as nitrile rubber. Glove thickness: 0.5 mm

Eye Protection: The use of safety goggles (full-face shield) is recommended. Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

Skin and Body Protection: Wear suitable protective clothing which includes chemical-resistant overalls, footwear, socks, dust mask, eye shields and gloves. Remove and wash contaminated protective clothing daily.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|--|
| PHYSICAL STATE: | Granules |
| COLOUR: | Off-white to Beige |
| ODOUR: | Odorless |
| MELTING POINT / FREEZING POINT °C: | 140 °C |
| BOILING POINT: | Decompose before boiling |
| DECOMPOSITION TEMPERATURE (a.i): | 300 °C |
| FLAMMABILITY: | Not available |
| FLASH POINT: | 135 °C |
| EXPLOSIVE LIMITS: | ICABOS 500 WG is not considered an explosive |
| AUTO-IGNITION TEMPERATURE: | Not available |
| pH (1% IN WATER): | 5.0 – 9.0 |
| KINEMATIC VISCOSITY: | Not available |
| | $\text{Kinematic viscosity} = \frac{\text{Dynamic viscosity (mPa/s)}}{\text{Density (g/cm}^3\text{)}}$ |
| VISCOSITY: | Not available |
| DENSITY / RELATIVE DENSITY: | 1.381 g/mL |
| SOLUBILITY - WATER (a.i): | 4.6 mg/L (pH 7) 20 °C |
| N-OCTANOL / WATER PARTITION COEFFICIENT (a.i): | $\log P_{ow} = 2.96$ (pH 7) at 20 °C |
| VAPOUR PRESSURE (a.i): | 0.00072 mPa at 20 °C |
| RELATIVE VAPOUR DENSITY: | Not available |
| DENSITY (Active ingredient): | 1.381 g/mL |
| DUSTINESS: | Essentially no-dust |
| ATTRITION RESISTANCE: | 99.4% |

10. STABILITY AND REACTIVITY

| | |
|---|--|
| REACTIVITY: | Stable under normal conditions. |
| CHEMICAL STABILITY: | Stable under normal use and storage conditions. |
| HAZARDOUS REACTION: | Not available |
| CONDITIONS TO AVOID: (e.g. – heat, pressure, static discharge, shock, or vibration) | Avoid excessive heat and freezing. |
| INCOMPATIBLE MATERIALS: | None specified |
| HAZARDOUS DECOMPOSITION PRODUCTS: | When heated to decomposition, irritant or dangerous fumes/vapours may be emitted. See section 5. |

11. TOXICOLOGICAL INFORMATION

| | | |
|--------------------|---|----------------|
| | ANIMAL ACUTE TOXICITY DATA (ATE) | |
| ORAL: | LD ₅₀ (rat) | Not Classified |
| DERMAL: | LD ₅₀ (rat) | Not Classified |
| INHALATION: | LC ₅₀ (4h) rat | Not Classified |

| | | |
|---|----------------|----------------------|
| SKIN IRRITATION / CORROSION: | ≥ 1% but < 10% | Category 3 |
| SERIOUS EYE IRRITATION / DAMAGE: | ≥ 1% but < 10% | Category 2/2A |
| SKIN SENSITIZATION: | | Not Classified |
| 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 |

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

| | | |
|-----------------|--|--|
| BOSCALID | Birds: LD ₅₀ (oral) | <i>Colinus virginianus</i> (Bobwhite quail) Acute LD ₅₀ > 2000 mg/kg bw/day LC ₅₀ /LD ₅₀ > 5000 mg/kg diet Chronic 21-day (NOEL) = 25.4 mg/kg bw/day |
| | Fish: LC ₅₀ | <i>Oncorhynchus mykiss</i> (Rainbow trout) Acute (96h) LC ₅₀ = 2.7 mg a.i./ℓ <i>Oncorhynchus mykiss</i> (Rainbow trout) NOEC = 0.125 mg a.i./ℓ (21-day) |
| | Aquatic invertebrates - <i>Daphnia</i> | <i>Daphnia magna</i> (Water flea) Acute (48h) EC ₅₀ = 5.33 mg a.i./ℓ <i>Daphnia magna</i> (Water flea) Chronic (21-day) NOEC = 1.3 mg a.i./ℓ |
| | Aquatic Plant | <i>Lemna gibba</i> (Duckweed) Acute (7-day) EC ₅₀ > 3.9 mg a.i./ℓ |
| | Algae - EC ₅₀ / NOEC | <i>Pseudokirchneriella subcapitata</i> (Green alga) Acute (7-day) EC ₅₀ = 3.75 mg a.i./ℓ |
| | Bees | <i>Apis mellifera</i> Acute contact 48-hour LD ₅₀ > 200 (µg.bee ⁻¹) Acute oral 48-hour LD ₅₀ > 166 (µg.bee ⁻¹) Not toxic to bees |
| | Earthworms: LC ₅₀ /NOEC | <i>Eisenia fetida</i> Acute (14-day) LC ₅₀ > 500 mg a.i./kg d.w. soil Chronic (reproduction) NOEC = 1.97 mg a.i./kg |

AQUATIC TOXICITY:

Summation Method

Aquatic Chronic – **Category 2**

PERSISTENCE, DEGRADABILITY AND MOBILITY:

Boscalid is persistent to very persistent in the soil and slightly mobile.

DT₅₀ = 196 – 312 days

K_{loc} = 772 mL/g (slightly mobile)

BIO-ACCUMULATIVE POTENTIAL:

BCF = 107 ℓ/kg

SOIL MICRO-ORGANISMS:

Carbon transformation

No significant adverse/long-term effect

Nitrogen transformation

No significant adverse/long-term effect

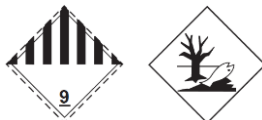
13. DISPOSAL CONSIDERATIONS

On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities.

TRIPLE RINSE THE EMPTY CONTAINER AS FOLLOWS: Containers with must be completely emptied before being disposed of. Invert and shake thoroughly into the applicator to ensure the container is empty. Triple rinse the empty container with clean water equal to a minimum of 30% of the volume of the container. Add rinsing to the contents of the spray tank. Offer container for recycling or puncture and dispose of at authorised landfill (www.croplife.co.za). Do not use container for any other purpose. DO NOT burn empty containers or product. DIP Disposal: According to local legislative requirements

14. TRANSPORT INFORMATION

| | |
|------------------------------------|---|
| UN NUMBER: | 3077 |
| UN PROPER SHIPPING NAME: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID (50% boscalid) |
| TRANSPORT HAZARD CLASS(ES): | Class 9 |
| PACKAGING GROUP: | III (low danger) |
| GHS PICTOGRAM: | |



| | |
|--------------------------------------|--|
| ENVIRONMENTAL HAZARDS: | Marine Pollutant: Yes – Category 2 |
| TRANSPORT IN BULK: | Not applicable, not to be transported in bulk. |
| SPECIAL PRECAUTIONS FOR USER: | Not applicable |

15. REGULATORY INFORMATION

Conforms to South Africa Regulation for Hazardous Chemical Agents, 2021.
 South African Registration number L10467, Act 36 of 1947.
 SDS valid for five years from date of issue.

16. OTHER INFORMATION

Legend: Full text of H-Statements referred to under sections 3:

H302 – Harmful if swallowed

H315 – Causes skin irritation

H318 – Causes serious eye damage

Key literature references and sources of data: Occupational Health and Safety Act 1993. Regulation for Hazardous Chemical Agents, 2021. Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Rev 9, 2021. UN Model Regulations Rev. 22 (2021). EU REGULATION (EC) No. 1272/2008.

This Safety Data Sheet (SDS) summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how to prevent accidents in the normal workplace including in conjunction with other products.

The information was obtained from sources which we believe are reliable. However, the information is provided in good faith. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and for these reasons we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used for this product only.

First Edition Date: 4 October 2023

END of SDS