


SAFETY DATA SHEET

Issue No: 1.2	Revision date: 16 January 2024 First print date: 3 March 2021
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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	SunFlo 800 SC
Other means of identification:	Sulphur 800 g/ℓ
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	Acute Toxicity Oral – Category 5 Acute Toxicity Dermal – Category 5 Skin Corrosion/Irritation – Category 2 Eye Damage/Irritation – Category 2B
Label Elements	
Classification and Labelling of Chemicals (GHS) Rev 9, 2021; Regulation EC No. 1272/2008 [EU-GHS/CLP]	
Signal word	WARNING
Hazard Statements	H315 – Causes skin irritation H320 – Causes eye irritation
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, face and exposed skin thoroughly after handling. Do not touch eyes. P280: Wear protective gloves/protective clothing/eye and face protection.
Response Precautionary Statements	P302 + P352: IF ON SKIN: Wash with plenty of clean water and non-abrasive soap. P332 + P317: If skin irritation occurs: Get medical help. P301 + P317: IF SWALLOWED: Get medical help. P302 + P317: IF ON SKIN: Get medical help. 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. P321: For specific treatment, see first aid measures in section 4. P362 + P364: Take off contaminated clothing and wash it before reuse. 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/v)	CLASSIFICATION EC1272/2008
Sulphur	7704-34-9	80	Skin Irritation Category 2, H315 Flammable Solid Category 2, H228
Poly(oxy-1,2-ethanediyl), alpha-sulfo-omega-[2,4,6-tris(1-phenylethyl)phenoxy]-, ammonium salt	119432-41-6	< 10	Eye Damage Category 1, H318 Aquatic Chronic Category 3, H412

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-statements not mentioned in section 2.

4. FIRST AID MEASURES

Show this SAFETY DATA SHEET to a doctor.

INHALATION:

- 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.
- DO NOT perform mouth-to-mouth resuscitation if victim ingested or inhaled the substance; wash face and mouth before giving artificial respiration. Use a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- Have a qualified person administer oxygen if victim's breathing is difficult or irregular. Get medical help if you feel unwell.

SKIN:

- Remove and isolate contaminated clothing, shoes, and leather goods and take a shower.
- Rinse affected areas 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:

- Rinse eyes IMMEDIATELY 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.
- Do not rub eye/s. Seek immediate medical help if irritation continues.

INGESTION:

- If swallowed, rinse mouth thoroughly with water. DO NOT induce vomiting, unless instructed to do so by poison control centre or doctor.
- If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomits, keep on giving fluids.
- Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN:

- There is no specific antidote. All treatments should be based on observed signs and symptoms of distress in the patient.

POTENTIAL HEALTH EFFECTS, ACUTE AND DELAYED:

- Causes skin and eye irritation. Effects from exposure to sulphur may include ulceration of the skin, conjunctivitis, inflammation of the nasal mucosa, shortness-of-breath, headache, nausea, and vomiting.

5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:

Small fires: Water spray or fog is recommended. Dry chemical powder can also be used on small fires if water is not available.

Large fires: Water spray, fog, carbon dioxide (CO₂) and alcohol-resistant foam. Note: foam and dry chemicals will minimize the environmental impact in case of fire.

FIRE INVOLVING TANKS:

Cool containers with flooding quantities of water until well after fire is out. DO NOT get water inside containers. 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 and the spreading of burning material.

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:

Combustion and/or pyrolysis of the product in case of fire could generate irritating, toxic and corrosive fumes (or gasses). Sulphur produces poisonous gasses in fire including hydrogen sulphide, sulphur dioxide and sulphur trioxide.

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:

- 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 vapours/mist/spray.

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.

ENVIRONMENTAL PRECAUTIONS:

PREVENT spilled material from entering waterway 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:

Small Spills: Collect by using absorbent material. Shovel up (using non-sparking tools) and place into labelled waste containers for disposal. Seal the container and dispose of the collected spilt material as hazardous waste. Wash contaminated surfaces to remove any residues. Minimize use of water to prevent environmental contamination. **Large Spills:** Prevent spillage or further leakage if it is safe to do so. Do not wash away into sewers. Contain spillage with absorbent socks/cushions from the Spill Kit. Flush spill area with water to remove any residues and contain the wash water. Keep product and wash water out of drains, sewers, ditches and waterways. Dig up heavily contaminated soil. Dispose of the spill residues as hazardous waste.

SECONDARY DISASTER PREVENTION MEASURES:

NA

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING:

- Suitable Technical Measures
- Suitable Precautions
- Prevention of contact

- Read the label before use. Use in a well ventilated area (preferably outdoors). Prevent contact with eyes, skin and clothing. Do not breathe in vapours/spray/mist.
- Always store pesticides in their original containers, which include the label listing ingredients, directions for use, and first aid steps in case of accidental poisoning.
- Never transfer pesticides to soft drink bottles or other containers. Children or others may mistake them for something to eat or drink.
- Wear suitable protective clothing which include 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.

CONDITIONS FOR SAFE STORAGE:

- Suitable Technical Measures
- Separation measures from incompatible substances and mixtures

- Keep out of reach of unauthorized persons, children, and animals. Always store pesticides in their original containers, which include the label listing ingredients, in a cool, dry, and well-ventilated area out of direct sunlight.
- Segregate from foods and animal feeds.

PACKAGING MATERIAL

• DO NOT reuse the container for any other purpose.

FIRE PRECAUTIONS:

HDPE Fluorinated Containers

Not applicable

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

ADI – Acceptable Daily Intake

None allocated

ARfD – Acute Reference Dose

None allocated

AOEL – Accepted Operator Exposure Level

None allocated

NATIONAL EXPOSURE STANDARDS:

None allocated

BIOLOGICAL LIMIT VALUES:

None allocated

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. Ensure adequate ventilation when the product is used in confined areas.

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: Wash hands, forearms and face thoroughly after handling the product, before eating, smoking and using the lavatory and at the end of the working period. 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.

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:

Liquid

COLOUR:

Light yellow

ODOUR:

Slight chemical odour

MELTING POINT / FREEZING POINT °C:

118 – 120 °C

BOILING POINT:

444.6 °C

DECOMPOSITION TEMPERATURE (a.i):

Decomposes at boiling temperature

FLAMMABILITY:

Not available

FLASH POINT:

Not available

EXPLOSIVE LIMITS:

Not available

AUTO-IGNITION TEMPERATURE (a.i):

240 °C

pH (1% IN WATER):

6.0 – 8.0

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:

1.43 g/ml

SOLUBILITY - WATER (a.i):

0.00001 g/l at 22 °C – OECD Test Guideline 105

N-OCTANOL / WATER PARTITION COEFFICIENT (a.i):

Not available

VAPOUR PRESSURE (a.i):

1.0 x 10⁻⁰⁶ mPa at 20 °C

RELATIVE VAPOUR DENSITY:

Not available

10. STABILITY AND REACTIVITY

REACTIVITY:

Product is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

CHEMICAL STABILITY:	Hazardous polymerization will not occur. Stable for a minimum of 2 years under recommended storage and handling conditions.
HAZARDOUS REACTION:	No information available for the product. Sulphur reacts explosively with oxidizing agents such as peroxide, permanganates, chlorates, etc.
CONDITIONS TO AVOID: (e.g. – heat, pressure, static discharge, shock, or vibration)	Avoid excessive heat.
INCOMPATIBLE MATERIALS:	Sulphur is not compatible with ammonia, charcoal, hydrogen and with metals and metal powders (e.g., zinc, copper and tin).
HAZARDOUS DECOMPOSITION PRODUCTS:	Does not decompose when used for intended uses. Could decompose when heated. Under burning conditions, the product may form toxic and irritating fumes including oxides of sulphur. See section 5.

11. TOXICOLOGICAL INFORMATION

ANIMAL ACUTE TOXICITY DATA (ATE)

ORAL:	LD ₅₀ (rat) > 2 000 mg/kg bw	Category 5
DERMAL:	LD ₅₀ (rat) > 2 000 mg/kg bw	Category 5
INHALATION:	LC ₅₀ (4h) rat > 5.43 mg/ℓ	Not Classified
SKIN IRRITATION / CORROSION:		Category 2
SERIOUS EYE IRRITATION / DAMAGE:		Category 2B
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:

SULPHUR	Birds: LD ₅₀ (oral)	<i>Colinus virginianus</i> (Bobwhite Quail) Acute LD ₅₀ > 2000 mg/kg bw/day LC ₅₀ /LD ₅₀ > 1335 mg/kg bw/day diet
	Fish: LC ₅₀	<i>Oncorhynchus mykiss</i> (Rainbow trout) Acute (96h) LC ₅₀ > 0.063 mg a.i./ℓ NOEC > 0.063 mg a.i./ℓ (21-day)
	Aquatic invertebrates – <i>Daphnia</i>	<i>Daphnia magna</i> (Water flea) Acute (48h) EC ₅₀ > 0.063 mg a.i./ℓ
	Algae – EC ₅₀	<i>Selenastrum subspicatus</i> Acute (72h) EC ₅₀ > 0.063 mg a.i./ℓ
	Bees	<i>Apis mellifera</i> Acute contact 48-hour LD ₅₀ > 100 (µg.bee ⁻¹) Acute oral 48-hour LD ₅₀ > 106.8 (µg.bee ⁻¹)
	Earthworms: LC ₅₀	<i>Eisenia fetida</i> Acute (14-day) LC ₅₀ > 2000 mg a.i./kg d.w. soil Chronic NOEC > 1000 mg a.i./kg d.w. soil

AQUATIC TOXICITY: Not classified

PERSISTENCE, DEGRADABILITY AND MOBILITY: Sulphur is a naturally occurring substance, non-persistent in the soil and slightly mobile. In soil, elemental sulphur will slowly be converted to sulphate by the action of autotrophic bacteria. Elemental sulphur leaches in soil as sulphate at a slow rate.
DT₅₀ = 25 days (non-persistent)
K_{oc} = 1950 (slightly mobile)

BIO-ACCUMULATIVE POTENTIAL: Accumulation in organisms is not to be expected. The product will not be readily bioavailable due to its insolubility in water.

SOIL MICRO-ORGANISMS:	BCF = Low risk LogP < 3	
	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 must be completely emptied before being disposed of. Invert the empty container over the spray or mixing tank and drain for at least 30 seconds until the flow has slowed down to a drip. Thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank. Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za). Do not bury, burn, or donate the container to any other parties that may use it as a container for food or beverages.

14. TRANSPORT INFORMATION

UN NUMBER:	Not regulated
UN PROPER SHIPPING NAME:	Not applicable
TRANSPORT HAZARD CLASS(ES):	Not applicable
PACKAGING GROUP:	Not assigned
GHS PICTOGRAM:	-
ENVIRONMENTAL HAZARDS:	No
TRANSPORT IN BULK:	Not applicable
SPECIAL PRECAUTIONS FOR USER:	Not applicable

15. REGULATORY INFORMATION

Conforms to South Africa Regulation for Hazardous Chemical Agents, 2021.

South African Registration number L11000, 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:

H228 – Flammable solid

H318 – Causes serious eye damage

H412 – Harmful to aquatic life with long lasting effects

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.

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END of SDS