

# Spyder

## SAFETY DATA SHEET

### 1. PRODUCT & COMPANY IDENTIFICATION

**Product Name:** Spyder  
**Pesticide Classification:** Herbicide  
**UN No.:** 3077

**Supplier**

Enviro Bio-Chem (Pty) Ltd  
Co. Reg. No.: 2013/194774/07  
44 Kerk Street, Lichtenburg  
North West, South Africa 2740

**Registration Holder**

Erintrade CC t/a RT Chemicals  
Co. Reg. No.: CK2001/036403/23  
44 Kerk Street, Lichtenburg  
North West, South Africa 2740

**Telephone:** +27 87 231 7261  
**Fax:** 086 541 7948  
**Website:** www.envirobiochem.co.za

**24 Hr Emergency Number:** Bateleur: +27 83 123 3911

**In case of Poisoning:**

Poison Information Centre: +27 82 446 8946  
Tygerberg Hospital: (+27 21) 931 6129  
Poison Emergency Enquiries: (+27 21) 689 5227

**Common Name:** Chlorsulfuron 750 g/kg WG  
**Chemical Name:** 2-Chloro-N-[[[4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]benzene sulfonamide  
**Empirical formula:** C<sub>12</sub>H<sub>12</sub>ClN<sub>5</sub>O<sub>4</sub>S  
**CAS No.:** 64902-72-3  
**RSA Reg. No.:** L7679 Act/Wet No. 36 of/van 1947

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### 2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Ingredient Name</u>	<u>Concentration</u>
Chlorsulfuron	≥75 % (w/w)
Inert ingredients	≤25 % (w/w)

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### 3. HAZARD IDENTIFICATION

**Hazard Class:** WHO Class III -Slightly hazardous.

**Main Hazard:** Prolonged contact with the concentrate may cause skin and eye irritation.

**Flammability:** Non-flammable, combustible solid.

**Chemical Hazard:** Under severe dusting conditions, this material may form explosive mixtures in air.

**Biological Hazard:** Product mobility in soil is expected to be high.

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### 4. FIRST AID MEASURES AND PRECAUTIONS

If poisoning is suspected, do not wait for symptoms to develop. Contact a physician, the nearest hospital, or the nearest Poison Control Centre.

**Symptoms of Human Poisoning:** Possible symptoms of exposure include includes nausea, vomiting and headaches.

#### First Aid Measures:

**Skin Contact:** Remove contaminated clothing and wash the affected area with soap and clean water. If soap is not immediately available, rinse for 15 minutes with clean water. Contact a physician if a rash or other symptom of over-exposure appears.

**Eye Contact:** Immediately flush gently with copious volumes of clean, clear running water, holding the eyelids apart to ensure rinsing of the entire surface of the eyes and the eyelids. Remove contact lenses if present and continue for a minimum of 15 minutes. Contact a physician if irritation occurs or persists.

**Ingestion:** Contact a physician immediately. Immediately give clean water to drink, a little at a time and induce vomiting. Do not give anything by mouth to an unconscious person and do not induce vomiting if unconscious. If vomiting occurs spontaneously, keep the airways clear and lower the head below waist level to prevent fluid from entering the lungs.

**Inhalation:** Immediately get the affected persons out of the contaminated area to fresh, ventilated air and allow to rest. Contact a physician when breathing difficulties persist.

**Advice to Physician:** On the basis of animal feeding studies urea-substituted herbicides appear to have low systemic toxicity. Severity of poisoning should be based on clinical findings of nausea, vomiting, diarrhoea and/or irritation of the urinary tract. Methemoglobinemia may be noted in large ingestions (cyanosis unresponsive to oxygen therapy may be noted) accompanied by CNS depression and hypoxemia. Treat symptomatically and supportively.

**Antidote:** After oral exposure, activated charcoal may be administered as a slurry (30 g charcoal/240 ml water). The usual dose of activated charcoal is 25 to 100g in adults/adolescents, 25 to 50g in children (1 to 12 years) and 1 g/kg in infants (less than 1 year old). Methemoglobinemia may be treated by administering 1 to 2 mg/kg of 1% methylene blue slowly IV in symptomatic patients (additional doses may be required). If cough or difficult breathing develops after inhalation, evaluate for respiratory tract irritation, bronchitis, or pneumonitis. Administer oxygen and assist ventilation as required. Treat bronchospasm with inhaled beta 2-agonist and oral or parenteral corticosteroids.

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### 5. FIRE FIGHTING MEASURES

**Flammability:** Non-flammable, combustible solid.

**Extinguishing Agents:** Use water fog or spray, foam, dry chemical or carbon dioxide (CO<sub>2</sub>). Do not use a water jet.

**Firefighting:** Wear complete firefighting gear including protective gloves, eye protection and a self-contained breathing apparatus. Stay upwind if possible. Do not breath fumes, dust and smoke. Use water spray to cool containers exposed to fire. Contain run-off. Wash clothing and equipment before re-use. Runoff from fire control will be a pollution hazard. If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contamination.

**Special hazards:** Under severe dusting conditions, this material may form explosive mixtures in air. Hazardous fumes of hydrogen chloride (HCl), carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), sulphur dioxide (SO<sub>2</sub>), phosgene (Cl<sub>2</sub>C=O) and unidentified organic compounds may be emitted when the product is heated excessively or burned.

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## 6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

**Personal Precautions:** Prevent exposure to the product or its dust. Wear suitable protective clothing as described in Section 8. Avoid producing excessive dust during any clean-up operations. If exposure occurred, see Section 4 for first aid measures.

**Environmental Precautions:** Do not use water to dilute the spill. Contain the spill and keep it out of the municipal sewers or open bodies of water. Do not feed animals with contaminated fodder. If contamination of crops or water bodies has occurred, advise the emergency services and inform the National Department of Agriculture.

**Small spills:** First, carefully sweep up or vacuum the spilled product as completely as possible into a secure container for re-use or appropriate disposal according to Section 13. Wash the surface with plenty of soap and water, but do not dispose of the wash-water into the sewer system.

**Large spills:** Evacuate the area of non-essential personnel. Cover waste with damp absorbent (inert material, sand or soil). Scoop or shovel most of the spilled product into suitable containers for re-use or appropriate disposal according to Section 13. Avoid generating dust. Carefully sweep up (or vacuum, if possible) the remaining spilled material as completely as possible. Only then can water be used to dilute and wash away remaining residues. Prevent water from entering the sewer, streams or drinking water supplies.

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## 7. HANDLING AND STORAGE REQUIREMENTS

**Handling:** Keep children, uninformed persons and pets away. Use only as directed on the product label and heed all warnings and precautions. Wear suitable protective clothing as described in Section 8. Do not eat, drink or smoke whilst mixing or applying. Do not inhale dust, fumes or spray mist. Do not handle or apply the product under strong windy conditions. Prevent drift of spray mist onto other crops, grazing, rivers, dams or areas not under treatment. Wash thoroughly with soap and water after handling the product. Clean the applicator immediately after use and dispose of the wash water where it will not contaminate crops, grazing, dams, streams or underground water.

**Storage:** Store in the original container in a cool, dry, ventilated, locked place out of direct sunlight and out of the reach of children. Store away from food, feed and drinking water and where streams and underground water cannot be accidentally contaminated. Keep the container closed when not in use.

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## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

**Acceptable Daily Intake (ADI):** 0.05 mg/kg body weight.

**Engineering Controls:** Use process enclosures, local exhaust ventilation or other suitable systems to minimise airborne levels, especially when user operations generate dust, fumes or mist.

### Personal Protective Equipment:

**Clothing:** Wear a long-sleeved overall or laboratory coat (over long pants) and shoes (or boots) plus socks. A chemical resistant apron is highly recommended whenever pesticides and other hazardous chemical products are handled. Keep clothes worn during handling of the product separately from other laundry and wash them with detergent and hot water. Never use contaminated clothing until it has been laundered properly.

**Gloves:** Use rubber gloves. Remove and replace them immediately if there is any indication of damage or degradation. Rinse and remove the gloves immediately after use and wash hands with soap and water.

**Eye Protection:** Use safety glasses with side shields. If eye discomfort is experienced, use chemical goggles compatible with the respiratory protection employed, or use a full-face respirator. 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.

**Respiratory:** Work only in a well-ventilated area and wear a clean dust-mask that properly fits over the nose and mouth. If the ventilation is insufficient to keep exposure to product dust to a minimum, a properly fit-tested respirator fitted with organic vapour cartridges and dust filters is required.

**Other Protection:** Do not eat, drink or smoke while handling this product. Prevent contamination of food, feeds, drinking water and eating utensils. After using this product wash hands and face before eating. Take extreme care to avoid drift. Wash accurately (preferably a shower) after work shift. Wash hands during breaks and at the end of the work with soap and water.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Solid granules.

**Solubility in Water (Product - Chlorsulfuron 750 g/kg WG):** Disperses in water.

**Solubility in Water (Chlorsulfuron):** Approximately 30 g/l at pH 7, but < 1 g/l at pH 5 (both at 25 °C).

**Partition Coefficient (Chlorsulfuron):** (*n*-octanol/water) reported values for log P at 25 °C: -1.3 to -1.0 (pH 7), 0.3 to 0.7 (pH 5), -1.4 (pH 9)

**Melting Range (Chlorsulfuron):** 170 to 173 °C (with decomposition starting at ca 150 °C)

**Boiling Range:** Decomposes without boiling.

**Decomposition Temperature (Chlorsulfuron):** From ca 150 °C

**Vapour Pressure at 25 °C (Chlorsulfuron):**  $3 \times 10^{-6}$  mPa ( $2.3 \times 10^{-11}$  mmHg).

**Vapour Density:** Heavier than air.

**Henry's Law constant estimate:**  $3 \times 10^{-9}$  Pa m<sup>3</sup> mol<sup>-1</sup>

**Flammability:** Non-flammable, but combustible. Will decompose in direct flames.

**Explosive Properties:** Under severe dusting conditions, this material may form explosive mixtures in air.

**Auto-ignition Temperature:** Will not auto-ignite under normal storage conditions.

**Hydrolysis:** Hydrolysed in strong acidic or alkaline media. In aqueous solutions, DT<sub>50</sub> = 4 to 8 weeks (at pH 5.7–7.0) and DT<sub>50</sub> > 31 days (at pH 9). Significant degradation in 24 to 48 hours at pH < 5 (DT<sub>50</sub> = 6 days, pH 5 at 35 °C). Hydrolysis is promoted by polar organic solvents, e.g. methanol and acetone.

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## 10. STABILITY AND REACTIVITY

**Stability:** The product is stable when stored under normal storage conditions at normal temperatures. None of the components contain highly reactive functional groups and the active ingredient, Chlorsulfuron, will only react at an appreciable rate under extreme conditions of pH when it will be hydrolysed.

**Conditions to Avoid:** Store away from strong oxidising agents. Store separate from and prevent contact with alkalis and acids which will destroy the product. Keep the product dry as moisture will hydrolyse the active ingredient.

As with any dry material, pouring or allowing the product to free fall or to be conveyed through chutes or pipes can generate electrostatic sparks, potentially causing ignition of any flammable materials which may come in contact with the material. Under severe dusting conditions, this material may form explosive mixtures in air.

**Incompatible Materials:** The product will be decomposed by strong acids and bases. No other specific incompatibility can be foreseen.

**Decomposition Products:** Chlorsulfuron is slowly broken down in most soils (DT<sub>50</sub> 14 to 168 days) and *N*-(2-chlorobenzene sulfonyl) carbamic acid was identified as a breakdown product. Mobility in sandy soils is expected to be high, but at lower pH and higher clay and organic content, the rate of leaching will be decreased. Chlorsulfuron will also be degraded in water.

Hazardous fumes of hydrogen chloride (HCl), carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), sulphur dioxide (SO<sub>2</sub>), phosgene (Cl<sub>2</sub>C=O) and unidentified organic compounds may be emitted when the product is heated excessively or burned.

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## 11. TOXICOLOGICAL INFORMATION

Acute toxicity based on the active ingredient toxicity.

**Acute Oral LD<sub>50</sub> (rat):** 5 545 mg/kg

**Acute Dermal LD<sub>50</sub> (rabbit):** >5 000 mg/kg

**Acute Inhalation LC<sub>50</sub> (rat, 4 hr):** >5.9 mg/l air.

**Skin and Eye Irritation (rabbit):** Prolonged contact with the concentrate may cause skin and eye irritation.

**Skin Sensitization (guinea pig):** Not a skin sensitizer.

**Chronic Effects:** No information available, no chronic effects expected.

**Carcinogenicity:** Not classifiable as a human carcinogen.

**Mutagenicity:** Animal testing did not show any mutagenic effects.

**Reproductive Hazard:** No toxicity to reproduction.

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## 12. ECOLOGICAL INFORMATION

No ecotoxicological information is available on this product. The toxicity data below are based on properties published for the active ingredient. The other components are not expected to contribute significantly to adverse environmental effects.

**Aquatic Toxicity Fish LC<sub>50</sub> (96 hr):** 250 mg/l (rainbow trout); 300 mg/l (bluegill sunfish). Not acutely toxic to fish.

**Aquatic Toxicity Daphnia EC<sub>50</sub> (48 hr):** 370 mg/l (daphnia magna).

**Aquatic Toxicity Algae EC<sub>50</sub> (5 days):** 150 µg/l (blue-green algae); 50 µg/l (green algae)

**Avian Toxicity LD<sub>50</sub> (9 days):** >2 150 mg/kg. Practically non-toxic to birds.

**Bee Toxicity LD<sub>50</sub>:** >100 µg/bee (contact); > 130 µg/bee (oral).

**Biodegradability:** In water and soil, chlorsulfuron will be degraded both due to biodegradation and chemical hydrolysis. The rate by both processes will increase with an increase in temperature and decrease in pH and will be somewhat faster in soil with greater organic matter. Little photolysis and volatilization from soil are expected. DT<sub>50</sub> of chlorsulfuron in soil is 14 to 168 days.

**Bio-accumulation:** The Partition coefficient (*n*-octanol/water) is log P= -1.3 to -1.0 at pH 7; 0.3 to 0.7 at pH 5 and -1.4 at pH 9 all at 25 °.

**Mobility:** The Soil adsorption (K<sub>oc</sub>) estimate is 239.2 (log K<sub>oc</sub> = 2.379). Although the mobility in soil is expected to be high, decrease in soil pH and increase in clay and organic carbon content will decrease the rate of leaching. Chlorsulfuron may also be adsorbed by iron oxides present. Experiments showed that leaching from some soils is indeed low.

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## 13. DISPOSAL CONSIDERATION

**Product Disposal:** 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, dispose of waste product as hazardous waste via a licensed disposal contractor to an approved landfill. Do not discharge into drains or sewers. Do not contaminate crops, grazing, rivers or dams with chemical or used container. Waste resulting from the use of this product that cannot be re-used or reprocessed should be disposed of in a landfill approved for pesticide disposal in accordance with applicable local procedures. Comply with any local legislation applying to waste disposal.

**Container Disposal:** Thoroughly rinse the containers and add rinsate to the spray tank. Dispose of containers as hazardous waste via a licensed disposal contractor to an approved landfill.

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## 14. TRANSPORT INFORMATION

**UN No.:** 3077

**Class:** 9

**Packing Group:** III

**Proper Shipping Name:** Environmentally Hazardous Substance; Solid; N.O.S. (contains Chlorsulfuron).

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## 15. REGULATORY INFORMATION

**Risk Phrases:** Not a dangerous product to handle.

**Safety Phrases:** **S20/21-** When using do not eat or drink/smoke.

**S22-** Do not breathe dust.

**S23-** Do not breathe spray.

**S24/25-** Avoid contact with skin/eyes.

**S29/35-** Do not empty into drains/Dispose of material and container in a safe way.

**National Legislation:** This product is registered under Act 36 of 1947 of the Republic of South Africa. It is a violation of South African law to use this product in any manner inconsistent with its approved labelling. Read and follow all label directions.

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## 16. OTHER INFORMATION

**Note:** Read and understand all the information on the product label before using the product.

**Disclaimer:** The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product, nor where instructions or recommendations are not followed. All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

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