CIRCUIT 750 WDG

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **CIRCUIT 750 WDG**
Other identifier: **Sulfosulfuron 750 WDG**
Recommended use: Herbicide
Restrictions on use: Agriculture

Supplier: **Universal Crop Protection (Pty) Ltd.**
Co. Reg. No.: 1983/008184/07
PO Box 801,
Kempton Park, 1620, South Africa
Telephone: (011) 396 2233
Fax: (011) 396 4666
Website: www.villacrop.co.za

Emergency telephone numbers:
24 Hr Transport / Spill emergency no:
(Hazcall24) +27 86 044 4411
(Client: Villa Crop Protection)
Griffon Poison Information Centre +27 82 446 8946
(Client: Villa Crop Protection)
Poisoning Emergency telephone numbers:
Griffon Poison Information Centre +27 82 446 8946
Poisons Information Centre +27 861 555 777

2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	**Hazard categories**	**H-statements**
Health		
Dermal	Skin Irritation 3	H316
Eye	Eye irritation 2/2A	H319
Inhalation	Acute Toxicity 4	H332
Environment		
Aquatic acute	Aquatic Acute 1	H400
Aquatic chronic	Aquatic Chronic 1	H410

The most important adverse effects:
Physiochemical effects:
None known
Human health effects:
Causes mild skin irritation.
Causes serious eye irritation.
Harmful if inhaled.
Label elements:

Signal word: Warning.

Hazard statements:
H316: Causes mild skin irritation.
H319: Causes serious eye irritation.
H332: Harmful if inhaled.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
Precautionary statements:
P261: Avoid breathing dust, mists, vapours or spray.
P264+P265: Wash hands thoroughly after handling. Do not touch eyes.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release into the environment.
P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
P304+P340+P317: IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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.
P332+P317: If skin irritation occurs: get medical help.
P337+P317: If eye irritation persists: Get medical help.
P391: Collect spillage.
P501: Dispose of content/container to suitable landfill in accordance with local regulations.
Other hazards:
None known.
Toxicity:
Classification according to GHS: Category 4

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture
Composition:

Chemical Name	CAS	Conc. (m/m %)	Classification EC 1272/2008
Sulfosulfuron	141776-32-1	75 %	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Sodium dodecyl sulfate	151-21-3	<5	Acute Toxicity 4 (H302) Skin Irritation 2 (H315) Eye Damage 1 (H318) Aquatic Chronic 3 (H412)
Sodium phosphate dodecahydrate	10101-89-0	<1%	Skin irritation 2 (H315) Eye irritation 2 (H319)

4. FIRST AID MEASURES

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure.
Inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. **Obtain medical attention**.
Skin: Remove contaminated clothing and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. **Obtain medical attention if irritation occurs.**
Eyes: Flush eyes with clean water for at least 15 – 20 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. **Obtain medical attention if eye irritation persists.**
Ingestion: Seek medical attention or call a poison control centre for treatment advice. Do not induce vomiting unless instructed to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person. If the person is alert, rinse mouth thoroughly with water.
Anticipated acute effects:
Causes mild skin irritation.
Causes serious eye irritation.
Harmful if inhaled.
Anticipated delayed effects: None known.
Most important symptoms/effects: None known.
Advice to physician: Treat symptomatically and supportively. No specific antidote known.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use carbon dioxide or dry chemical for small fires and water fog or foam for large fires.
Unsuitable Extinguishing Media: High volume water jet. Use a water jet only to cool heated containers.
Specific hazards: None known.
Special fire-fighting procedures: Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Remain upwind of fire. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.
Personal protective equipment: Wear NIOSH / MSHA approved self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Harmful if inhaled. Avoid contact with skin and eyes. Do not breathe in spray mist or dust. Ventilate area of spill or leak, especially in contained areas.
Protective equipment: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.
Emergency procedures: Alert firefighting personnel, evacuate unprotected personnel and animals.
Environmental Precautions: Prevent spilled product from entering sewers, waterways or ground water. This product is classified as very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into watercourses should be reported immediately to the police and the Department of Water / Environmental Affairs.
Methods and Materials for Containment: Contain spilled product by diking area with sand or earth.
Methods and Materials for Clean-up: Contain spilled product by picking up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal. Do not create a powder cloud by using a brush or compressed air. Label containers with the contents and dispose of according to local regulations. Do not place spilled material back in original container. Do not re-use spilled material. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. Collect washings and add to the drums already collected. Do not flush spilled material or washings into drains or waterways. See section 13 for disposal considerations.

7. HANDLING AND STORAGE

Handling:
Precautions for safe handling: Harmful if inhaled. Avoid contact with skin and eyes. Ensure adequate ventilation during handling and use. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4.
General occupational hygiene: Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used.
Storage:
Conditions for safe storage: Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original, labelled container, tightly closed in an isolated, dry, cool and well- ventilated area. Avoid excess heat. Not to be stored next to foodstuffs, feed and water supplies. Avoid cross contamination with other pesticides and fertilisers.

Incompatible substances and mixtures: Refer to product label.
Packaging material: Plastic/foil containers/bags or water-soluble bags.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration:

Components	Exposure limits	Type of exposure limit	Source
Kaolin	Total dust: 10 mg/m^3 Respirable fraction: 2 mg/m^3 (no asbestos, < 1% crystalline silica)	TWA	*"www.osha.gov"*

Engineering Controls:
It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations.
Personal Protective Equipment:
Respiratory Protection: For most well-ventilated conditions, no respiratory protection should be needed. If used in a poorly ventilated area (airborne concentrations exceed exposure limits), use a NIOSH approved, air-purifying respirator with cartridges / canisters approved for organic vapours.
Hand Protection: The use of chemically protective impervious gloves is recommended to prevent against skin contact.
Eye Protection: Employees must wear chemical safety goggles to prevent against eye contact. Contact lenses are not protective eye devices.
Skin and Body Protection: Employees must wear appropriate protective impervious clothing, rubber boots, hat and equipment to prevent repeated or prolonged skin contact with this substance.
Emergency eyewash: Where there is any possibility that an employee's eyes may be exposed to this mixture; the employer should provide an eyewash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Off-white granules.
Odour: Odourless.
pH (1% aqueous dilution): 6.1 @ 20°C.
Melting point: Not available.
Freezing Point: Not available.
Boiling Point: Not available.
Flash Point: Not applicable to solids.
Flammability: Not available.
Upper/lower explosion limits: Not applicable to solids.
Vapour Pressure (mm Hg): Not available.
Relative Vapour Density: Not available.
Density/Relative density: Not available.
Solubility: Disperses in water.
n-octanol/water partition coefficient: Not available.
Auto-ignition temperature: Not applicable to solids.
Decomposition temperature: Not available.
Viscosity: Not applicable to solids.

10. STABILITY AND REACTIVITY

Chemical stability: The product is stable for two 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.
Reactivity: None known.
Possibility of hazardous reactions: Unlikely to occur.
Conditions to avoid: Extreme heat or exposure to flames.
Incompatible materials: Strong oxidizers, strong bases, strong reducing agents.
Hazardous decomposition products: Alcohols. carbon monoxide and carbon dioxide may form under burning conditions or with incomplete combustion.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Calculated according to GHS.
Oral LD_{50} (24 h) >6 000 mg/kg (rat).
Dermal LD_{50} (24 h) >6 000 mg/kg (rat).
Inhalation LC_{50} (4 h) >3 mg/ℓ (rat).
Skin Irritation/Corrosion: Causes mild skin irritation.
Eye Irritation/Corrosion: Causes serious eye irritation.
Skin Sensitization: Not classified.
Respiratory Sensitization: Not classified.
Reproductive 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.

Chronic Effects: Not classified.
POTENTIAL ADVERSE EFFECTS:
Inhalation: Harmful if inhaled.
Skin contact: Causes mild skin irritation.
Eye contact: May cause serious eye irritation.
Ingestion: Do not ingest.

12. ECOLOGICAL INFORMATION

This product is very toxic to aquatic organisms with long lasting effects.

ECOTOXICITY DATA:
Sulfosulfuron

Fish:		
LC_{50} (96 h) Salt solution	Rainbow trout	>95 mg/ℓ
	Bluegill sunfish	>96 mg/ℓ
	Carp	>91 mg/ℓ
	Sheepshead minnows	>101 mg/ℓ
Daphnia:		
LC_{50} (48 h)		>96 mg/ℓ
Algae:		
E_bC_{50} (3 d)	Green algae	0.221 mg/ℓ
E_rC_{50} (3 d)		0.669 mg/ℓ
EC_{50} (5 d)	Blue-green algae	0.77 mg/ℓ
	Diatoms	0.77 mg/ℓ
Birds:		
Acute oral LD_{50}	Bobwhite quail and Mallard ducks	>2250 mg/kg
Bees:		
LD_{50} contact		> 25 µg/bee
LD_{50} oral		> 30 µg/bee
Worms:		
LD_{50} (14 d)		>848mg/kg dry soil

ENVIRONMENTAL EFFECTS:
Based on information for the active ingredient:
Plants: Residues in wheat grain were negligible. The major component in wheat forage and straw from the post-emergence treatment was unmetabolised sulfosulfuron. The major metabolite, a sulfonamide, resulted from cleavage of the sulfonylurea bridge. Minor metabolites resulted from oxidative demethylation to yield desmethyl sulfosulfuron and the ring-opened guanidine analogue. Minimal uptake was observed in rotation crops, with the major metabolite being free and conjugated sulfonamide.

Persistence and degradability: The primary degradation pathway in soil is the hydrolytic cleavage of the sulfonylurea linkage to yield the corresponding sulfonamide and dimethoxypyrimidinamine. DT_{50} (lab.) 32 d (silt loam, pH 7.6, 0.8% o.m.), 35 d (sandy loam, pH 6.8, 1.6% o.m.), 53 d (loamy sand, pH 5.8, 3.9% o.m.); DT_{50} was longer in some other soils. Photodegradation is also a mode of environmental dissipation, DT_{50} 3 d. In field studies at eleven sites in Europe, mean DT_{50} after application to bare soil 24 d (range 11–47 d); mean DT_{90} 261 d. Despite rapid degradation, rotational injury to sensitive crops can be expected; see S. K. Parrish *et al., Proc. Br. Crop Prot. Conf. - Weeds*, 1995, 1, 667.
Bio-accumulative Potential: Degradation in water/sediment system was fairly rapid. Extensively absorbed and rapidly excreted; at low doses, the major excretion route was the urine (77–87%), but at high doses, the faeces (55–63%).
Mobility in soil: Mean K_{oc} 33; mean K_d 0.36. Mobility was limited, based on the results of field dissipation studies and an EU lysimeter study.
Other adverse effects: Not determined.

13. DISPOSAL CONSIDERATIONS

Waste: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal. The product may be taken to a registered waste disposal site or incineration plant.
Container: Emptied containers retain product residues. Do not re-use the empty container for any other purpose.
Empty containers by inverting the empty container over the spray or mixing tank. Thereafter, rinse the container three times with a volume of water equal to a quarter of that of the container. 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. Observe all labelled safeguards until container is destroyed.

14. TRANSPORT INFORMATION

UN Number: **3077**
Road Transport ADR/IRD:
Class: 9
Packaging group: III
UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUSBSTANCE SOLID, N.O.S. (**Sulfosulfuron** 750 g/kg)
Maritime Transport IMDG/IMO:

Class: 9
Packaging group: III
UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUSBSTANCE SOLID, N.O.S. (**Sulfosulfuron** 750 g/kg)
Marine Pollutant (Y/N): **Yes**
Air Transport IATA/ICAO:
Class: 9
Packaging group: III
UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUSBSTANCE SOLID, N.O.S. (**Sulfosulfuron** 750 g/kg)
Special / Environmental Precautions: Wedge drums tightly to avoid movement.
Transport in bulk: Refer to MARPOL 73/78, Annex II and the IBC code.

15. REGULATORY INFORMATION

Safety, health and environmental regulations / legislation for the mixture:
OHSA 1993 Regulations for Hazardous Chemical Substances.
Relevant information regarding restrictions: None.
EU regulation: Regulation EC1272/2008 (EU-GHS/CLP)
Other national regulations: None.
Chemical Safety Assessment carried out? No

16. OTHER INFORMATION

Packaging: Packed in 5, 10, 20, 40, 50, 80, 100, 200, 250, 500 grams and 1, 2, 2.5, 5, 10, 20, 25 and 50 kilogram Plastic/foil containers/bags or water-soluble bags. labelled according to South African regulations and guidelines.
Other hazard statements, abbreviations and explanations:
H302: Harmful if swallowed.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H412: Harmful to aquatic life with long lasting effects.
IATA: International Air Transport Association.
IBC: International Bulk Chemical.
ICAO: International Civil Aviation Organization.
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization.
LD_{50} value: The median lethal dose or the amount of a toxic agent that is sufficient to kill 50 percent of a population within a certain period of time.
OEL/RL: Occupational exposure limit-recommended limit.
PEL: Permissible Exposure Limits.
TWA: Time-weighted average – The average exposure over a specified period, usually a nominal eight hours.
ST/STEL: Short-term exposure limits.
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.

END OF DOCUMENT

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For detailed information on revisions, contact the Registration holder.