SANONDA
(AUSTRALIA) PTY LTD

Ph: 03 9863 8081/ Fax: 03 9863 8083
Suite 822, St Kilda Road Tower,
1 Queens Road, Melbourne, VIC 3004
email@sanondaoz.com
www.sanondaoz.com

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1. Product identifiers

Product name : STRIKER 500 SC Selective Herbicide by Sanonda

Active ingredient : Diuron

Product code : 7095

1.2. Other means of identification

Chemical name (IUPAC) : 3-(3,4-dichlorophenyl)-1,1-dimethylurea

1.3. Recommended use of the chemical and restrictions on use

For the control of weeds in asparagus, bananas, cereals, citrus, coffee, commercial and industrial areas, cotton, lucerne, lupins, pawpaws, perennial grass seed crops, pineapples, pulse crops, rights-of-way, sugar cane, vineyards.

1.4. Details of the supplier of the safety data sheet

Sanonda (Australia) Pty Ltd (ABN 23 059 813 973)

Address: Suite 822, St Kilda Road Towers, No. 1 Queens Road, Melbourne, Victoria 3004 Australia.

TEL: +61 3 9863 8081

FAX: +61 3 9863 8083

email@sanondaoz.com

1.4. Emergency telephone number

Emergency number : +61 3 9863 8081

SECTION 2: Hazards identification

2.1. GHS classification of the substance or mixture

Acute toxicity : Category 4

Acute aquatic toxicity : Category 1

Carcinogenicity : Category 2

Hazardous to the aquatic environment (chronic) : Category 4

2.2. Label elements

Signal word : Warning

Hazard statements (CLP) : H302: Harmful if swallowed.

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H351: Suspected of causing cancer.

H400 - Very toxic to aquatic organisms.

H413 - May cause long-term adverse effects in the aquatic environment.

Precautionary statements : P102: Keep out of reach of children.

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P260: Do not breathe fumes, mists, vapours or spray.

P262: Do not get in eyes, on skin, or on clothing.

P264: Wash contacted areas thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P281: Use personal protective equipment as required.

P337: If eye irritation persists: seek medical attention.

P352: Wash with plenty of soap and water.

P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P370+P378: Not combustible. Use extinguishing media suited to burning materials.

Hazard pictogram : Environment Exclamation mark

SECTION 3: Composition/information on ingredients

Identity of chemical ingredients	CAS	Concentration
Diuron	330-54-1	500g/L
Ethylene glycol	107-21-1	4.0%
Other non-hazardous ingredients	-	Balance

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SECTION 4: First aid measures

4.1. Description of first aid measures

General advice

In Case Of Emergency Dial 000 and/or Poisons Information Centre: Phone: +61 3 9863 8081 and speak to a Poisons Information Specialist with a copy of this SDS or chemical Label.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Remove contaminated clothing and wash affected areas thoroughly with soap and water. Seek medical attention if symptoms persist.

In case of eye contact

If product gets in eyes, remove contact lenses if wearing and wash it out immediately with water for several minutes. Seek medical attention.

If swallowed

If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

Advice to Doctor

Treat symptomatically. No specific antidote.

4.2. Most important symptoms and effects, both acute and delayed

Some of the symptoms of diuron poisoning incudes Methemoglobinemia, Eye irritation, Skin irritation, Nose irritation, Throat irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Call a physician or poison control center immediately.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog.

Unsuitable extinguishing media

No additional information available

5.2. Special hazards arising from the substance or mixture

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Fire hazard	: Hazardous decomposition products may be released during prolonged heating like smokes, Carbon oxides, nitrogen oxides (NOx) and Chlorides.
Explosive hazard	: Product is not explosive.
Reactivity	: The product is stable at normal handing-and storage conditions.

5.3. Advice for firefighters

Fire fighters should wear Safe Work Australia approved self-contained breathing apparatus (AS/NZS 1715/1716) and full protective equipment.

Keep unnecessary people away.

If it can be done safely, remove intact containers from the fire. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of extinguishing agent and spillage safely later. Contamination of water bodies should be avoided.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Protective equipment	: Use personal protective equipment, as a minimum, wear overalls, goggles and gloves. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2. Environmental precautions

Avoid contamination of waterways, drains and sewers.

6.3. Methods and materials for containment and cleaning up

In the event of a major spill, prevent spillage from entering drains or water courses. Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly.

After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Safe work practices are recommended.

Avoid contact with eyes and skin.

When opening the container and preparing spray wear appropriate PPE (refer Section 8).

Do not spray under high wind conditions.

Hygiene measures:

When using products, do not eat, drink or smoke.

Contaminated work clothing should not be allowed out of the workplace.

Wash hands thoroughly with soap and water after use and before eating, drinking, smoking/using tobacco, chewing gum, using the toilet or applying cosmetics.

After each day's use, wash gloves, face shield or goggles and contaminated clothing.

Avoid contact with eyes and skin.

7.2. Conditions for safe storage, including any incompatibilities

Keep out of reach of children, unauthorised persons and animals.

Store in tightly sealed original containers in a dry secure place away from fertilizers, feed and food.

Store out of direct sunlight and extreme temperature.

Always read the label and any attached leaflet before use.

7.3. Specific end uses

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

	SWA Exposure Limits	TWA (mg/m3)	STEL (mg/m3)
Diuron	10	not set	
Ethylene glycol	60	120	

8.2. Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. When opening the container, preparing the spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow length PVC chemical resistant and face shield or goggles. Wash hands before breaks and at the end of workday.

8.3. Personal Protection Equipment

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Eye/face protection

Face shield or goggles.

Clothing: Cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat.

Gloves: Elbow-length chemical resistant PVC gloves.

Respiratory: If airborne concentrations are likely to exceed the exposure standards above or if exposed to dust, an AS/NZS 1715/1716 approved respirator should be worn.

Recommended to use Australian and New Zealand Standard PPE:

Overalls AS 3765, Clothing for protection against Hazardous chemicals

Gloves: AS/NZS 2161, Industrial safety gloves and mittens (not electrical and medical gloves)

Goggles and face shield As/NZS 1337, Eye protectors for industrial applications.

Footwear AS/NZS 2210, Occupational protective footwear

Respirators AS NZS 1715 Selection, Use and Maintenance of Respiratory Protective Devices

AS/NZS 1716, Respiratory Protective Devices

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

a) Appearance	: Thick white pasty liquid.
b) Odour	: Mild unspecific odour.
c) pH	: 7.5-8.5 (1% in water)
d) Initial boiling point and boiling range	: Not available.
e) Flash point	: >100°C.
f) Vapour pressure	: Negligible at 25°C.
g) Vapour density	: 1.10-1.13.
h) Relative density	: No data.
i) Solubility (ies)	: Forms suspension in water.
j) Partition coefficient n- octanol/water	: K_{ow} logP = 2.85±0.03 (25 °C) (Diuron)
k) Viscosity	: Not available

9.2. Additional parameters

Persistent foam	: 20mL maximum, after 1 min.
Suspensibility	: ≥70.0%

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SECTION 10: Stability and reactivity

10.1. Reactivity

This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

10.2. Chemical stability

Stable under normal conditions.

10.3. Incompatible materials and possible hazardous reactions

Strong acids, strong bases and strong oxidising agents.

10.4. Conditions to avoid

Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

10.5. Hazardous decomposition products

This product is likely to decompose only after heating to dryness, followed by further strong heating. Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

SECTION 11: Toxicological information

11.1. Information on routes of exposure and symptoms related to exposure

No harmful effects are expected if the precautions on the label and the SDS are followed.

Eyes exposure may cause irritating effects.

11.2. Immediate, delayed and chronic health effects from exposure

Acute toxicity of Diuron:

LD_{50} oral rats	>2000 mg/kg
LD_{50} dermal rabbits	>2000 mg/kg for 80% WG
LC_{50} inhalation rats, rabbits, guinea pigs or cats	>7 mg/l (rats)
Eye irritation	Mild eye irritant (WP formulation) (rabbits)
Skin irritation	Non-irritating to intact skin (50% aqueous paste) (guinea pigs)
Skin sensitization	Non-sensitising to skin (guinea pigs).

Germ cell mutagenicity

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The majority of tests have shown that diuron does not produce mutations in animal cells or in bacterial cells. It is likely that, at levels of exposure normally encountered in the environment, diuron would not pose a mutagenic threat to humans.

Carcinogenicity

Limited evidence indicates that diuron, at low exposure levels, does not cause cancer in rats. There is no evidence to suggest it causes cancer in humans.

Reproductive toxicity

Daily low doses of diuron fed to female rats through three successive generations (pregnancies) caused no effects except on body weight of offspring which significantly decreased in the second and third litters. The fertility rate remained unaffected.

Specific target organ toxicity (single exposure)

Low doses of diuron over extended periods of time can cause enlargement to the liver and the spleen. The compound does not cause significant irritation to intact skin, and in test animals does not cause skin sensitization.

11.3. Exposure Levels/Chronic effects

Male rats given extremely high doses of diuron over a 2-week period showed changes in their spleen and bone marrow. Other chronic effects attributed to moderate to high doses of the pesticide over time included changes in blood chemistry, increased mortality, growth retardation, abnormal blood pigment, and anemia. When fed small amounts of diuron in food for 2 years, animal species showed no adverse effects.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Ecotoxicity

Diuron	
LC_{50} fish	LC_{50} (96 h) for rainbow trout 14.7, sheepshead minnows 6.7, fathead minnows 14 mg/l.
LC_{50} daphnia	EC_{50} (48 h) 1.4 mg/l.
EC_{50} algae	EC_{50} (120 h) for *Selenastrum capricornutum* 0.022 mg/l.
Other Organisms	Practically non-toxic to bees. LD_{50} (contact) 145 mg/kg. LC_{50} (14 d) for Worms >400 mg/kg (based on studies with diuron metabolites).

12.2. Persistence and degradability

Diuron is moderately to highly persistent in soils, and enzymic and microbial demethylation of the nitrogen atom and hydroxylation at position 2 of the benzene ring occur. Duration of activity in soil is *c.* 4–8 months, depending on soil type and humidity; DT_{50} 90–180 days. Residue half -lives are from 1 month to 1 year. Some pineapple

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fields contained residues 3 years after the last application. In California, Diuron has been found in groundwater in the 2 to 3 ppb range. It has also been found in Ontario groundwater where it has been linked with land applications.

Diuron is relatively stable in neutral water. Microbes are the primary agents in the degradation of Diuron in aquatic environments.

Diuron is readily absorbed through the root system of plants and less readily through the leaves and stems.

12.3. Bioaccumulative potential

Diuron has a low to moderate tendency to bioaccumulate in aquatic organism (National Library of Medicine 2202). Call et al (1987) found the bioaccumulation in fathead minnows (Pimephales promelas) to be between144 and 157 times the concentration in the surrounding water, with 76 percent eliminated within 24 hours after return to clean water. These results suggest that diuron has a low tendency to bioaccumulate in these fish.

12.4. Mobility in soil

Mobility in the soil is related to organic matter and to the type of the residue. The metabolites are less mobile than the parent compound.

12.5. Other adverse effects

No information

SECTION 13: Disposal considerations

13.1. Safe handling and disposal methods

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 who hold periodic collections of unwanted chemicals (ChemClear®).

13.2. Disposal of any contaminated packaging

Do not use this container for any other purpose. Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations.

13.3. Environmental regulations

drumMUSTER is the national program for the collection and recycling of empty, cleaned, non-returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMUSTER symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program. If recycling, replace cap and return clean containers to recycler or designated collection point. If not

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recycling, puncture or shred and bury containers in local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

SECTION 14: Transport information

14.1. UN number

UN-No. : 3082

14.2. UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

14.3. Transport hazard class(es)

Class (UN) : 9

Hazard labels (UN) : 9

14.4. Packaging group

Packing group (UN) : III

14.5. Environmental hazards

Dangerous for the environment:

IMDG Marine pollutant : Yes

Other information : No

14.6. Special precautions for user

No information

14.7. Hazchem Code

3Z

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Under the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP), this product is not a scheduled poison. This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product

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Registration No. 47661. This product is classified as a Hazardous Substance under the criteria of Safe Work Australia. Xn: Harmful.

This product is not classified as a Dangerous Good according to the ADG Code (7 th Ed).

15.2. Poisons Schedule number

The product is not a scheduled poison.

SECTION 16. OTHER INFORMATION

16.1. Date of preparation or last revision of SDS

Revised 06/12/2016

Revisions Highlighted: The SDS was reviewed to include GHS requirements.

16.2. Contact Point

Sanonda (Australia) Pty Ltd

Suite 822, St Kilda Road Towers,

No.1 Queens Road, Melbourne, VIC 3004

Telephone: 03 9863 8081

Facsimile: 03 9863 8083

16.3. Key/legend to abbreviations and acronyms used in the SDS

ADG Code: Australian Dangerous Goods Code (for the transport of dangerous goods by Road and Rail)

IMDG Code: International Maritime Dangerous Goods

This SDS contains only safety-related information. For other data see product literature.

All due care and skill, so far as practicable, has been applied in the preparation and collation of the information in this SDS. Each user of the Product named in this SDS should read and consider the information contained in this SDS in the context of how the Product will be stored, handled, used or applied in the workplace. In all circumstances, it is the responsibility of the user of the Product to ensure that they have sought out the relevant safety data appropriate to their particular situation. Nothing contained in this SDS shall be construed as a representation or recommendation to the user about the suitability or otherwise of the Product named in this SDS for the user's particular situation. If the user requires any clarification or further information, the user should contact Sanonda (Australia) Pty Ltd.

National Poisons Information Centre: Dial 13 11 26 (from anywhere in Australia)

Please read all labels carefully before using product.