

MATERIAL SAFETY DATA SHEET



SANONDA
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SANONDA HERBICIDE DIURON 900WG

1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

Product Name:	Sanonda Herbicide Diuron 900WG
Product Use:	Water insoluble herbicide for selective control of germinating grass and broad-leaved weeds in many crops.
Substance:	Phenylurea herbicide
Poison Schedule:	Not allocated.
Chemical Family:	3-(3,4-dichlorophenyl)-1,1-dimethylurea (IUPAC)
Supplier:	Sanonda (Australia) Pty Ltd
ACN:	059 813 973
Street Address:	Suite 822, St Kilda Rd Towers, No. 1 Queens Rd, Melbourne, VIC 3004
Telephone:	03 9863 8081
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Emergency phone number:	03 9863 8081

2. HAZARD IDENTIFICATION

Statement of Hazardous Nature

This product is classified as: Hazardous according to the criteria of SWA Australia.
Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases:

R48/22. Danger of serious damage to health by prolonged exposure if swallowed.

Safety Phrases:

S2, S13, S22, S37, S46, S60, S61.

Keep out of reach of children. Keep away from food, drink and animal feeding stuffs. Do not breathe dust. Wear suitable gloves. If swallowed, contact a doctor or Poisons Information Centre immediately and show this container or label. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/Safety Data Sheets.

SUSMP Classification:

Not allocated.

ADG Classification:

None allocated. Not a Dangerous Good under the ADG Code.

UN Number:

None allocated

MATERIAL SAFETY DATA SHEET

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredients	CAS No.	Concentration, %	TWA(mg/m ³)	STEL(mg/m ³)
Diuron	330-54-1	90	10	not set
Other non hazardous ingredients	Secret	to 100	not set	not set

4. FIRST AID MEASURES

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 11 26 from anywhere in Australia and is available at all times. Have this MSDS with you when you call.

Inhalation:

First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Skin Contact:

Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed.

Eye Contact:

Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed, while holding the eyelid(s) open. Obtain medical advice immediately if irritation occurs. Take special care if exposed person is wearing contact lenses.

Ingestion:

If product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or a doctor.

5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards:

There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.

This product is likely to decompose only after heating to dryness, followed by further strong heating. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media:

Water fog or fine spray is the preferred medium for large fires. Try to contain spills, minimise spillage entering drains or water courses.

Fire Fighting:

If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is liquid-tight chemical protective clothing and breathing apparatus.

Flash point:

Does not burn.

Upper Flammability Limit:

Does not burn.

Lower Flammability Limit:

Does not burn.

Autoignition temperature:

Not applicable - does not burn.

Flammability Class:

Does not burn.

MATERIAL SAFETY DATA SHEET

6. ACCIDENTAL RELEASE MEASURES

Accidental release:

In the event of a major spill, prevent spillage from entering drains or water courses. Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Wear full protective chemically resistant clothing including eye/face protection, gauntlets and self contained breathing apparatus. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. It should be fitted with a type G cartridge, suitable for agricultural chemicals.

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. Because of the toxicity of this product, special personal care should be taken in any cleanup operation. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. 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 MSDS 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.

7. HANDLING AND STORAGE

Handling:

Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage:

Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Check packaging - there may be further storage instructions on the label.

MATERIAL SAFETY DATA SHEET

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**
Protective Gloves: **AS 2161**
Industrial Clothing: **AS2919**
Industrial Eye Protection: **AS1336 and AS/NZS 1337**
Occupational Protective Footwear: **AS/NZS2210**

Exposure Limits	TWA (mg/m ³)	STEL (mg/m ³)
Diuron	10	not set

The ADI for Diuron is set at 0.007mg/kg/day. The corresponding NOEL is set at 0.7mg/kg/day. No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation:

This product should only be used where there is ventilation that is adequate to keep exposure below the TWA levels. If necessary, use a fan.

Eye Protection:

Eye protection is not normally necessary when this product is being used. However, if in doubt, wear suitable protective glasses or goggles.

Skin Protection:

The information at hand indicates that this product is not harmful and that normally no special skin protection is necessary. However, we suggest that you routinely avoid contact with all chemical products and that you wear suitable gloves (preferably elbow-length) when skin contact is likely.

Protective Material Types:

We suggest that protective clothing be made from the following materials: rubber, PVC.

Respirator:

If there is a significant chance that dusts are likely to build up in the area where this product is being used, we recommend that you use a suitable Dust Mask. Use a P1 mask, designed for use against mechanically generated particles eg silica & asbestos.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Description & colour: **Pale brown-beige coloured granulated solid.**
Odour: Characteristic sweetish odour.
Boiling Point: Not available.
Freezing/Melting Point: Solid at normal temperatures. Diuron melts at about 160°C
Volatiles: Expected to be low at 100°C.
Vapour Pressure: No data. Diuron 1.1×10^{-3} mPa at 25°C
Vapour Density: No data.
Specific Gravity: No data. Diuron technical is about 1.48
Water Solubility: Wettable and dispersible.
pH: No data.
Volatility: No data.
Odour Threshold: No data.

MATERIAL SAFETY DATA SHEET

Evaporation Rate:	No data.
Coefficient Oil/water Distribution:	No data
Autoignition temp:	No data.

10. STABILITY AND REACTIVITY

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.

Conditions to Avoid:

Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities:

Strong acids, strong bases, strong oxidising agents.

Fire Decomposition:

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. Hydrogen chloride gas, other compounds of chlorine. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death. Hydrogen cyanide poisoning signs and symptoms are weakness, dizziness, headache, nausea, vomiting, coma, convulsions, and death. Death results from respiratory arrest. Hydrogen cyanide gas acts very rapidly; symptoms and death can both occur quickly.

Polymerisation:

This product will not undergo polymerisation reactions.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Diuron is slightly toxic to mammals. The oral LD₅₀ in rats is 3400 mg/kg. The dermal LD₅₀ is greater than 2000 mg/kg. Some signs of central nervous system depression have been noted at high levels of diuron exposure. For humans, the only reported case of acute, oral exposure to the herbicide produced no significant symptoms or toxicity.

Chronic toxicity:

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.

Reproductive effects:

Daily low doses of diuron fed to female rats through three successive generations caused significantly decreased body weight of offspring in the second and third litters. The fertility rate remained unaffected. It is unlikely that diuron will cause reproductive effects in humans at expected levels of exposure.

Teratogenic effects:

Diuron is teratogenic at high doses. Administered to pregnant rats on days 6 through 15 of gestation, it produced no birth defects in the offspring at doses of up to 125 mg/kg/day. However, doses of 250 mg/kg/day caused wavy ribs, extra ribs, and delayed bone formation. There were also

MATERIAL SAFETY DATA SHEET

weight decreases in offspring at 500 mg/kg/day. There was no increase in the severity of the rib deformation at this higher dose. Pregnant mice given very high doses of diuron (nearly 2000 mg/kg/day) exhibited reproductive and embryotoxic effects. Developmental effects were found in their offspring.

Mutagenic effects:

Diuron does not appear to be mutagenic. The majority of tests have shown that diuron does not produce mutations in animal cells or in bacterial cells.

Carcinogenic effects:

Limited evidence indicates that low level exposures to diuron does not cause cancer.

Organ toxicity:

Low doses of diuron over extended periods of time can cause enlargement to the liver and the spleen.

Fate in humans and animals:

Diuron is excreted in the feces and urine of test animals. Breakdown of the compound is similar in animals, plants, and soil. Cows fed very low doses of diuron in their diets had small amounts of residues in whole milk. Cattle fed small amounts accumulated low levels of diuron in fat and muscle, liver, and kidney.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Effects on birds:

Diuron is slightly toxic to birds. In bobwhite quail, the dietary LC₅₀ is 1730 ppm. In Japanese quail and ring-necked pheasant, it is greater than 5000 ppm. The LC₅₀ is approximately 5000 ppm in mallard ducks.

Effects on aquatic organisms:

The LC₅₀ (48 hour) values for diuron range from 4.3 mg/L to 42 mg/L in fish, and range from 1 mg/L to 2.5 mg/L for aquatic invertebrates. The LC₅₀ (96-hour) is 3.5 mg/L for rainbow trout. Thus, diuron is moderately toxic to fish and highly toxic to aquatic invertebrates.

Effects on other organisms:

Diuron is non-toxic to bees.

Environmental Fate:

Breakdown in soil and groundwater:

Diuron is moderately to highly persistent in soils. Residue half-lives are from 1 month to 1 year. Some pineapple fields contained residues 3 years after the last application. 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. 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.

Breakdown in water:

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

Breakdown in vegetation:

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

MATERIAL SAFETY DATA SHEET

13. DISPOSAL CONSIDERATIONS

Disposal:

Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

14. TRANSPORT INFORMATION

ADG Code:

This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

U.N. Number	Not	Allocated
Proper Shipping Name	Not	Allocated
DG Class	Not	Allocated
Hazchem Code	Not	Allocated
Packing Group	Not	Allocated

15. REGULATORY INFORMATION

Poisons Schedule : Not allocated.

Packaging & Labelling: CAUTION

KEEP OUT OF REACH OF CHILDREN

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

AICS (Australia): All of the components in this product are listed on the Australian Inventory of Chemical Substances.

16. OTHER INFORMATION

This MSDS 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 MSDS. Each user of the Product named in this MSDS should read and consider the information contained in this MSDS 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 MSDS shall be construed as a representation or recommendation to the user about the suitability or otherwise of the Product named in this MSDS for the user's particular situation. If the user requires any clarification or further information, the user should contact Sanonda (Australia) Pty Ltd.

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

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

Please read all labels and booklets carefully before using product.