

ZOLIAR® 800 DF HERBICIDE



Date of Issue: December 2016

1. IDENTIFICATION
Product Identifier: Zoliar® 800 DF Herbicide
Other Means of Identification: Norflurazon

Recommended Use of the Chemical and Restrictions on Use: Herbicide

Details of Manufacturer or Importer: AgNova Technologies Pty Ltd
 Suite 3/935 Station Street
 Box Hill North Vic 3129 Australia
 (03) 9899 8100
www.agnova.com.au
Emergency Phone Number: 1800 033 111 (24 hrs)

2. HAZARD(S) IDENTIFICATION
GHS Classification of the Active Substance:

Pictogram	Hazard Statements	Precautionary Statements
	Harmful if swallowed Causes skin irritation Causes eye irritation	Wash face and hands thoroughly after handling. Do not eat, drink or smoke when using this product. If swallowed: Call a poison centre if you feel unwell. Rinse mouth. If skin irritation occurs: Get medical advice. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice. Take off contaminated clothing and wash it before reuse.
	May cause damage to organs through prolonged or repeated exposure	Do not breathe dust. Wash hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. If exposed or concerned: Seek medical advice Dispose of contents and container in accordance with local regulations

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Other Hazard Statements: May form combustible dust concentrations in air.

Signal Word - Warning

ADG Classification: Not classified as Dangerous Goods for land transport under the Australian Code for Transport of Dangerous Goods by Road and Rail – refer section 14

SUSMP Classification: Not scheduled
(Standard for Uniform Scheduling of Medicines and Poisons)

3. COMPOSITION AND INFORMATION ON INGREDIENTS
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Ingredients:	CAS Number:	Concentration (% w/w):
Norflurazon	27314-13-2	78.6

4. FIRST AID MEASURES

<p>If poisoning occurs, immediately contact a doctor or Poisons Information Centre (Phone 13 11 26), and follow the advice given. Show this Safety Data Sheet to a doctor.</p>

Description of Necessary First Aid Measures:

- Ingestion:** Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control centre or doctor. Do not give anything by mouth to an unconscious person.
- Inhalation:** Move person to fresh air. If person is not breathing, call 000, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.
- Skin Contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.
- Eye Contact:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.
- First Aid Facilities:** Provide washing facilities in the workplace.

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Symptoms Caused by Exposure: No data available

Medical Attention and Special Treatment: Not specified

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Equipment: Use dry chemical, foam or CO₂. If water is used to fight fire, dike and collect runoff.

Specific Hazards Arising from the Chemical: This material can be thermally unstable at elevated temperatures. During a fire, irritating and possible toxic gases may be generated by thermal decomposition or combustion.

Special Protective Equipment and Precautions for Fire Fighters: Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes, or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Follow exposure controls/personal protection outlined in Section 8.

Environmental Precautions: Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Inform respective authorities in case of seepage into water course or sewage system.

Methods and Materials for Containment and Cleaning Up: Clean up spills immediately, observing precautions outlined in Section 8. Sweep up material and place in a compatible disposal container. Scrub area with hard water detergent (e.g. All Clear DS). Pick up wash liquid with additional absorbent and place into compatible disposal container. Seal container and dispose contaminated material as waste according to section 13.

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7. HANDLING AND STORAGE

Precautions for Safe Handling:	This material is capable of forming flammable dust clouds in air, which, if ignited, can produce a dust cloud explosion. Flames, hot surfaces, mechanical sparks and electrostatic discharges can serve as ignition sources for this material. Electrical equipment should be compatible with the flammability characteristics of this material. The flammability characteristics will be made worse if the material contains traces of flammable solvents or is handled in the presence of flammable solvents. This material can become readily charged in most operations. Avoid prolonged or repeated exposure.
Conditions for Safe Storage, including any Incompatibilities:	Store in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages, or tobacco products in the storage area.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Personnel who handle this product in its end-use application should use this product in accordance with its pesticide labelling.

Exposure Standards:	Chemical	OSHA - PEL	ACGIH TLV	Other
	Norflurazon	Not Established	Not Established	3 mg/m ³ TWA

Biological Monitoring: No data available

Engineering Controls: Use effective engineering controls to comply with occupational exposure limits.

Individual Protection Measures, for example, Personal Protective Equipment (PPE): Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Store protective clothing separately.

Hand and Skin Protection for use in situations where PPE is required to minimise exposure:
Wear butyl rubber, natural rubber, nitrile rubber, or neoprene gloves. Wear long-sleeved shirt and long pants, waterproof shoes and socks.
Wash contaminated clothing before reuse.

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Eye Protection for use in situations where PPE is required to minimise exposure:

Wear tightly sealed goggles.

Respiratory Protection if local ventilation is inadequate:

Use NIOSH approved, dual cartridge respirators for dusts or mists if local ventilation is inadequate (N, R or P class filter media with NIOSH approved prefix TC-84A).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light brown to dark brown granules
Odour:	Odourless
Vapour Pressure:	1.0 x 10 ⁽⁻⁵⁾ mmHg @ 24°C, norflurazon
Vapour Density:	Not available
Relative Density:	705 kg/m ³
Boiling Point:	Not applicable
Melting/Freezing Point:	174-180°C
Solubility:	33.7 ppm @ 25° C, norflurazon
pH:	7.7 (5% suspension in H ₂ O)
Flash Point:	Not applicable
Flammability:	Combustible powder
Flammability (explosive) Limits:	Not applicable
Auto-Ignition Temperature:	Not available
Decomposition Temperature:	Not available

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal use and storage conditions
Possibility of Hazardous Reactions:	Will not occur
Conditions to Avoid:	None known
Incompatible Materials:	None known

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Hazardous Decomposition Products: None known

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:

Oral Toxicity: LD₅₀ Rat 1140 mg/kg

Dermal Toxicity: LD₅₀ Rabbit >2000 mg/kg

Inhalation Toxicity: LC₅₀ Rat 2.6 mg/L (4 hr exposure)

Skin Corrosion/Irritation: Slightly irritating (rabbit)

Serious Eye Damage/Irritation: Mildly irritating (rabbit)

Respiratory or Skin Sensitisation: Not a skin sensitizer (guinea pig)

The information below is based on the active ingredient: Norflurazon

Germ Cell Mutagenicity: No data available

Carcinogenicity: None of the ingredients is listed as a carcinogen.

Reproductive Toxicity: Delayed ossification (rabbit); Maternal toxicity at 750 ppm (rat)

Specific Target Organ Toxicity (STOT) – single exposure: No data available

Specific Target Organ Toxicity (STOT) – repeated exposure: No data available

Aspiration Hazard: No data available

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Chronic/Subchronic Exposure: Accelerated aging changes in rats at high dose levels (1025 ppm). Effects in pituitary, adrenals, uterus and ovaries (rats). Hepatocellular hypertrophy in high dose (male mice). Slight increase in liver weight at 200 ppm (male dogs).

12. ECOLOGICAL INFORMATION

This information is based on the active ingredient: Norflurazon

Ecotoxicity:

Aquatic Toxicity: 96 hr LC₅₀ Rainbow trout = 8.1 ppm
5 day EC₅₀ Freshwater algae = 18 ppb

Daphnia Toxicity: 48 hr EC₅₀ Water flea (*Daphnia magna*) = 15 ppm
Bird Toxicity: 14 day Oral LD₅₀ Bobwhite quail >1000 mg/kg

Persistence and Degradability: Persistent in soil. Stable in water.

Bioaccumulative Potential: Low bioaccumulation potential

Mobility in Soil: Moderate mobility in soil

Other Adverse Effects: Floats in water (after 24 h)

13. DISPOSAL CONSIDERATIONS

Disposal Containers and Methods: Store in the closed, original container in a dry, well ventilated area, as cool as possible, out of direct sunlight. Keep out of reach of children.
Single rinse containers before disposal. Add rinsings to the spray tank. DO NOT dispose of undiluted chemicals on site. Puncture and bury the containers in a local authority landfill. If not available, bury the containers below 500 mm 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.

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14. TRANSPORT INFORMATION

Transport Classification:	Road and Rail Transport: Not dangerous goods under the ADG7 when being transported in IBCs or other receptacles <500 L (kg), (Special Provision AU01). Marine and Air: Classified as Dangerous Goods for transport by sea and air according to the criteria of the UN Model Regulations for Transport of Dangerous Goods 13 th Edition
UN Number:	3077
Proper Shipping Name or Technical Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (norflurazon)
Transport Hazard Class:	9
Packing Group:	III
Environmental Hazards for Transport Purposes:	Marine pollutant
Special Precautions for User:	Not specified
Additional Information:	Not specified
Hazchem Code:	2Z

15. REGULATORY INFORMATION

APVMA	Registered according to the Agricultural and Veterinary Chemicals Act 1988. APVMA Product Number: 63329
SUSMP	Not scheduled

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16. OTHER INFORMATION

Trademark Information:	Zoliar® is a registered trademark of Tessenderlo Kerley, Inc. All rights reserved.
Abbreviations and Acronyms:	ACGIH – American Conference of Governmental Industrial Hygienists, Inc. ADG7 – Australian Dangerous Goods Code for Road and Rail Transport, 7 th Edition APVMA – Australian Pesticides and Veterinary Medicines Authority GHS - Globally Harmonized System of Classification and Labelling of Chemicals IBC – Intermediate Bulk Container NIOSH – National Institute for Occupational Safety and Health (USA) OSHA – Occupational Safety & Health Administration (USA) PEL – Permissible Exposure Limit SUSMP – Standard for the Uniform Scheduling of Medicines and Poisons TLV – Threshold Limit Value TWA – Time Weighted Average
Date of Preparation or Revision:	December 2016
Reason for Revision:	Update to include GHS
Data Sources:	Manufacturer product safety data and published data

This 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 the product will be handled and used in the workplace including in conjunction with other products.

The opinions expressed herein are those of qualified experts with the manufacturer. Since the use of this information and of these opinions and the conditions of use of this product are not within the control of AgNova Technologies Pty Ltd, it is the user's obligation to determine the conditions of safe use of the product.

END OF SDS