Material Safety Data Sheet

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: RAMROD Flowable Herbicide

Classified as hazardous

2. HAZARDS IDENTIFICATION

Hazard Classification

Classified as hazardous
HAZARDOUS SUBSTANCE.
NON-DANGEROUS GOODS.
Hazard classification according to the criteria of NOHSC.
Dangerous goods classification according to the Australia Dangerous Goods Code.

Risk Phrase(s)

Classified as hazardous
R22 Harmful if swallowed.
R36/38 Irritating to eyes and skin.
R43 May cause sensitization by skin contact.

Safety Phrase(s)

S13 Keep away from food, drink and animal feeding stuffs.
S2 Keep out of reach of children.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S46 If swallowed, seek medical advice immediately and show this container or label.

Other Information

Poisons Schedule S6

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization

Ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propachlor</td>
<td>1918-16-7</td>
<td>480 g/L</td>
</tr>
<tr>
<td>Propylene glycol</td>
<td>57-55-6</td>
<td>0-10 %</td>
</tr>
<tr>
<td>Other Ingredients</td>
<td></td>
<td>Balance</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Inhalation

Over-exposure by inhalation is improbable. Check for other causes of observed symptoms and seek medical advice.

Ingestion

If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26 (Aust). Make every effort to prevent vomit from entering the lungs by careful placement of the patient.
The above first aid instructions are mandated by the Commonwealth Department of Health and Ageing via the National Drugs and Poisons Schedule. These instructions are suitable for ingestion of spray solution and small amounts of concentrate; however, if SUBSTANTIAL AMOUNTS of the concentrate have been swallowed (more than about 15ml) AND if medical assistance is more than 30 minutes away, the induction of vomiting should be CONSIDERED, preferably based...
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Product Name RAMROD Flowable Herbicide

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media
Water fog, foam, carbon dioxide or dry chemical.

Hazards from Combustion Products
If involved in a fire, the dehydrated components may emit oxides of carbon, oxides of nitrogen and hydrogen chloride.

Special Protective Equipment for fire fighters
Breathable air apparatus should be worn when fighting a fire in which this product is involved.

Specific Hazards
Considered low risk due to water content, however upon evaporation of water the product is combustible.

STOP FIRE WATER FROM ENTERING DRAINS OR WATER BODIES.

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal
Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite).
Collect spilled material and waste in sealable open-top type containers for disposal.
On-site disposal of concentrate is not acceptable.

Personal Protection
For appropriate personal protective equipment (PPE), refer Section 8.
If product has dried out and the possibility of dust generation exists, wear a suitable respirator.

Environmental Precautions
Prevent from entering drains, waterways or sewers.

7. HANDLING AND STORAGE

Conditions for Safe Storage
Do not store for prolonged periods in direct sunlight.

Other Information
Always read the label and any attached leaflet before use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards
Safe Work Australia has set the following exposure standard for propylene glycol (vapour and particulates): TLV (TWA) 474 mg/m3, STEL -.
Handle in well ventilated areas, generally natural ventilation is adequate.

Respiratory Protection
Do not inhale spray mist.

Personal Protective Equipment
When opening the container, preparing the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat, nitrile or elbow-length PVC gloves and face shield or goggles.

Hygiene Measures
After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.
After each day's use, wash contaminated clothing and safety equipment.

Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

9. PHYSICAL AND CHEMICAL PROPERTIES
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**Form**
Liquid

**Appearance**
White suspension.

**Odour**
Odourless.

**Solubility in Water**
Disperses in water.

**Specific Gravity**
1.108

**pH Value**
7.5

**Vapour Pressure**
10 mPa (25°C, propachlor)

**Octanol/Water Partition Coefficient**
Kow Log P is 1.4 - 2.3

**Flammability**
Non combustible material.

10. STABILITY AND REACTIVITY

**Incompatible Materials**
Not compatible with iron and mild steel.
Avoid contact of the concentrate with strong acids and bases.

**Hazardous Polymerization**
Hazardous polymerisation is not possible.

11. TOXICOLOGICAL INFORMATION

**Inhalation**
May cause irritation to mucous membranes.

**Ingestion**
May cause irritation to mouth, throat and stomach.

**Skin**
Will irritate the skin.
May cause pain, redness and a burning sensation.

**Eye**
May irritate the eyes.
Possible symptoms include redness, swelling, tearing and pain.

**Chronic Effects**
Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

**Acute Toxicity - Oral**
LD50 (rat) 1191 mg/kg for a similar formulation

**Acute Toxicity - Dermal**
LD50 (rat) >5000 mg/kg for a similar formulation

**Acute Toxicity - Inhalation**
LC50 concentration not reached.

**Eye Irritation**
The product is an eye irritant.

**Skin Irritation**
The product is a skin irritant.

**Respiratory Irritation**
The product may be a mild respiratory irritant.

**Other Information**
The Australian Acceptable Daily Intake (ADI) for propachlor for a human is 0.02 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 2 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing Office of Chemical Safety and Environmental Health, 'ADI List', December 2011).

12. ECOLOGICAL INFORMATION

**Persistence / Degradability**
Half life in soil is typically 4 days.

**Known Harmful Effects on the Environment**
The product is a marine pollutant for sea transport.

**Effects on the Other Precautions**
Harmful to fish and other aquatic organisms.
Moderate toxicity to birdlife.
Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.
Spray drift should be avoided, read the label for more information.

**Acute Toxicity - Fish**
The following is data for a similar product.
LC50 (96hr) for rainbow trout is 0.42 mg/l.
LC50 (96hr) for bluegill sunfish is 1.6 mg/l.
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Acute Toxicity -
Daphnia
EC50 (48hr) is 13 mg/l.

Acute Toxicity -
Other Organisms
LD50 for bobwhite quail is 91 mg/kg

13. DISPOSAL CONSIDERATIONS

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, approach local authorities who hold periodic
collections of unwanted chemicals (ChemClear®).

Container Disposal
Do not use this container for any other purpose.
Triple or preferably pressure rinse containers before disposal. Add rinsings
to the spray tank.
Do not dispose of undiluted chemicals on site.
If recycling, replace cap and return clean containers to recycler or
designated collection point.
If not recycling, break, crush or puncture and deliver empty packaging for
appropriate disposal at an approved waste management facility.
If an approved waste management facility is not available, bury the empty
packaging 500mm below the surface in a disposal pit specifically marked and
set up for this purpose clear of waterways, desirable vegetation and tree
roots, in compliance with relevant local, state or territory government
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.
DO NOT burn empty containers or product.

14. TRANSPORT INFORMATION

Storage and
Transport
Considered non dangerous for road and rail transport (in packaging, including
IBCs not greater than 3000 Lt each) by the Australian Code for the Transport
of Dangerous Goods by Road and Rail. Ref: ADG7; SP No. AU01.

For bulk shipments as Class 9, use UN 3082, HazChem code 22.

UN Number (Sea
Transport)
3082

IMO Class/Packing
Group
Class 9; Packing Group III

IMO Marine
Pollutant
Marine Pollutant

IMO Proper
Shipping Name
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(contains Propachlor)

15. REGULATORY INFORMATION

Poisons Schedule
S6

Packaging &
Labelling
POISON
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Harmful,Irritant

Other Information
This product is registered with the Australian Pesticides and Veterinary
Medicines Authority (APVMA). APVMA product number: 57018.

16. OTHER INFORMATION

Date of preparation
or last revision of
MSDS
Revised 08/05/2012
This SDS replaces document dated May 2011.

Contact
Normal Hours: Mrs Kathleen Marsh Phone: +61 3 9282 1000
After Hours: Shift Supervisor Phone: 1800 033 498

Revisions
The MSDS was reviewed. Various changes were made to the information.
Changes to sections 3, 13, 15 and 16.
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...End Of MSDS...