


# MSF600

## 1. PRODUCT & COMPANY IDENTIFICATION

<b>Product Identification/Name:</b>	MSF600
<b>Product Use:</b>	Herbicide
<b>Company Identification:</b>	Rainbow & Brown Limited 68A Tallyho Street, Rotorua, New Zealand  PO Box 10049, Mail Centre, Rotorua, 3046
<b>Telephone:</b>	+64 7 350 2009
<b>Fax:</b>	+64 7 350 2008
<b>Toll-Free Phone:</b>	0508 299 299
<b>After Hours Emergency</b>	+64 27 498 2574
<b>National Poisons Centre</b>	0800 764 766
<b>Website:</b>	<a href="http://www.rainbowbrown.co.nz">www.rainbowbrown.co.nz</a>
<b>Date of Issue:</b>	27 November 2018
<b>Latest Revision Date:</b>	27 November 2018

## 2. HAZARDS IDENTIFICATION

<b>Classification of the substance or mixture (HSNO):</b>	6.3B – Mild skin irritant 6.4A – Eye irritant 9.1A – Very ecotoxic in the aquatic environment. 9.2A – Very ecotoxic in the soil environment.
<b>Classification of the substance or mixture (GHS):</b>	Skin corrosion/irritation Category 3 Serious eye damage/eye irritation Category 2 Aquatic toxicity (chronic) Category 1 There is no GHS equivalent for soil toxicity.
<b>Label Elements:</b>	
<b>Pictogram</b>	
<b>Signal Word</b>	<b>WARNING</b>

<b>Hazard Statements</b>	H316 Causes mild skin irritation H319 Causes serious eye irritation H410 Very toxic to aquatic life with long lasting effects. H421 Very toxic to the soil environment.
<b>Precautionary Statements</b> <b>Prevention:</b>  <b>Response:</b>  <b>Disposal:</b>	P264 – Wash hands, exposed skin, thoroughly after use. P280 – Wear eye protection/face protection. P273 – Avoid release to the environment.  P332 + P313 – If skin irritation occurs: Get medical advice/attention. P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 – If eye irritation persists: Get medical advice/attention. P391 – Collect spillage.  P501 - In accordance with the EPA Hazardous Substances (Disposal) Notice 2017. Refer to Section 13 of this SDS.
<b>Other:</b>	Must not be applied onto or into water without permission from the authority.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Main Component	CAS Number	Concentration
Metsulfuron-methyl	74223-64-6	60%
Ingredients not contributing to hazard		Balance

### 4. FIRST AID MEASURES

<b>Eye Contact:</b>	Hold eyes open, flush with water for at least 15 minutes. Seek medical attention if irritation develops and persists.
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<b>Skin:</b>	Wash skin with plenty of soap and water. Wash contaminated clothing before re-use. Seek medical attention if skin irritation develops and persists.
<b>Ingestion:</b>	Do not induce vomiting unless high doses have been swallowed. Drink plenty of water to dilute. Contact a doctor or Poisons Information Centre (0800 POISON, 0800 764 766)
<b>Inhalation:</b>	If dust is inhaled, remove to fresh air. If effects persist seek medical attention.
<b>Advice to Doctor:</b>	No specific antidote. Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

<b>Flash Point:</b>	None
<b>Flammable Limits:</b>	Not flammable
<b>Extinguishing Media:</b>	Water spray, dry chemical, foam, CO <sub>2</sub>
<b>Fire &amp; Explosion Hazards:</b>	Not a fire or explosion hazard.
<b>Fire Fighting Equipment:</b>	Use self-contained breathing apparatus.
<b>Fire Fighting Instructions:</b>	Hazchem Code 2X. Addition of water may increase contamination area. If conditions permit, allow fire to burn itself out. Do not allow runoff to drains.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions:</b>	Clear area of all unprotected personnel. Keep unnecessary and unprotected personnel from entering area. Use appropriate protective clothing and equipment.
<b>Spills:</b>	<p>Ensure there is appropriate and adequate personal protective equipment, trained personnel and clean up materials for management of accidental release. Avoid release to the environment.</p> <p>Shovel or sweep up spill and place into a container for disposal. Do not flush with water. If spill area is onto soil near valuable trees, remove top 50mm of soil after initial cleanup.</p> <p>Label disposal containers. Dispose of waste in accordance with Section 13.</p>

## 7. HANDLING AND STORAGE

<b>Label:</b>	Read the storage/handling precautions on the product label.
<b>Handling:</b>	Avoid contact with skin and eyes. Avoid inhaling dust. Do not eat, drink or smoke when using this product. Remove contaminated clothing and wash hands and face before entering eating areas. Wash clothing after use.
<b>Storage:</b>	Store in tightly closed original container in a cool, dry, well-ventilated and secure area when not in use. Do not store with food, feedstuffs, seeds or fertilisers.

## 8. EXPOSURE CONTROLS & PERSONAL PROTECTION

<b>Exposure Guidelines:</b>	The EPA has set a TEL in drinking water of 0.04 mg/L
<b>Engineering Controls:</b>	Normal room ventilation is sufficient.
<b>Respiratory Protection:</b>	No special precautions are necessary for respiratory protection under normal handling conditions. If exposed to unusually high dust concentrations, then use an approved dust respirator.
<b>Skin Protection:</b>	Wear overalls and chemical resistant gloves while mixing or during application.
<b>Eye Protection:</b>	Wear face shield/goggles while mixing or during application.
<b>Dust:</b>	Recommend TWA of 10mg/m <sup>3</sup> for dust exposure as a safe guideline.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Off white/grey-brown granule
<b>Odour:</b>	No definitive odour
<b>Odour Threshold:</b>	Not determined
<b>Boiling Point:</b>	Not available
<b>Melting point:</b>	158°C
<b>Freezing point:</b>	Not applicable
<b>pH:</b>	6-8 (1% solution)
<b>Solubility:</b>	Dispersible
<b>Evaporation rate:</b>	Not determined

<b>Flash Point:</b>	Not applicable
<b>Flammability:</b>	Not flammable or combustible
<b>LEL/UEL:</b>	Not applicable
<b>Vapour Pressure:</b>	3.3 x 10 <sup>-7</sup> Pa at 25°C (as Flumetsulam)
<b>Decomposition Temperature:</b>	Not determined
<b>Autoignition Temperature:</b>	Not determined
<b>Bulk Density:</b>	700 g/cm <sup>3</sup>
<b>Partition Coefficient:</b>	Not determined
<b>Viscosity:</b>	Not applicable

## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable under normal conditions.
<b>Reactivity:</b>	Not reactive under normal conditions of use.
<b>Conditions to Avoid:</b>	Damp conditions, direct sunlight.
<b>Incompatibility:</b>	Strong oxidisers. Keep away from food, feedstuffs, seeds and fertilisers.
<b>Hazardous Decomposition Products:</b>	Oxides of carbon may be formed.
<b>Hazardous Polymerisation:</b>	Will not occur.

## 11. TOXOLOGICAL INFORMATION

<b>ACUTE EFFECTS:</b>	
<b>Acute Effects: Ingestion:</b>	LD <sub>50</sub> > 5000 mg/kg (rat)
<b>Acute Effects: Inhalation:</b>	Not expected to be harmful by inhalation under normal conditions of use.
<b>Acute Effects: Skin:</b>	Mild skin irritant.
<b>Acute Effects: Eye:</b>	Eye irritant.
<b>Sensitisation:</b>	Not expected to be a respiratory or skin sensitiser.
<b>CHRONIC EFFECTS:</b>	
<b>Carcinogenicity, Reproductive Toxicity, or Mutagenicity:</b>	No known carcinogenic, reproductive/developmental or mutagenic effects.
<b>Specific Target Organ Toxicity:</b>	No known effects.

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity:</b>	EC <sub>50</sub> (algal) 0.00016 mg/L (Metsulfuron-methyl).  Very toxic to aquatic life with long lasting effects. Avoid losses to the environment wherever possible.
<b>Persistence/degradability:</b>	Not readily biodegradable
<b>Bioaccumulation:</b>	Not bioaccumulative
<b>Soil toxicity:</b>	EC <sub>25</sub> (rice, 16 day) 0.00071 lb/acre (Metsulfuron-methyl).  Very toxic in the soil environment. Soil DT <sub>50</sub> > 30 days.
<b>Terrestrial vertebrates:</b>	No evidence of toxicity
<b>Terrestrial invertebrates:</b>	No evidence of toxicity
<b>Mobility:</b>	No data

## 13. DISPOSAL CONSIDERATIONS

<b>Disposal Method:</b>	Do not dispose of product down drains or sewers. Dispose via an approved waste disposal contractor.
<b>Container Disposal:</b>	Triple rinse empty containers before disposal. Recycle through an approved recycling facility or dispose of via an approved waste disposal contractor.

## 14. TRANSPORT INFORMATION

<b>Dangerous Goods Classification:</b>	Classified as a Dangerous Good for transport in accordance with NZS5433:2012, IMDG or IATA.
<b>Shipping Name:</b>	Environmentally hazardous substance, solid, N.O.S. (Metsulfuron-methyl)
<b>Class:</b>	9
<b>UN Number:</b>	3077
<b>Packaging group:</b>	III
<b>Marine Pollutant:</b>	Yes
<b>EmS Code:</b>	F-A S-F
<b>Transport limitations:</b>	Up to 3kg may be carried on a public passenger vehicle. No limitation on non-passenger vehicles.

	Must be transported in original sealed and labelled container.
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## 15. REGULATORY INFORMATION

<b>ACVM Registration No:</b>	P7027
<b>EPA Approval No:</b>	HSR000063
<b>Assignment description:</b>	Water dispersible granule containing 600g/kg metsulfuron-methyl.
<b>Exposure Thresholds:</b>	TEL (drinking water) 0.04 mg/L EEL (water) 0.0084 µg metsulfuron-methyl/L EEL (soil) 0.52 µg metsulfuron-methyl/kg dry wt soil
<b>Certified Handler:</b>	Not required
<b>Tracking:</b>	Not required
<b>Compliance Certificate:</b>	Not required
<b>Quantity that must be secured:</b>	Not required
<b>Emergency Response Plan:</b>	100kg
<b>Secondary Containment:</b>	Not a pooling substance.
<b>Signage:</b>	100kg
<b>Fire Extinguishers:</b>	No fire extinguisher requirement specified.
<b>Training requirements:</b>	All workplace personnel handling this substance are required to be trained on the safe handling and PPE requirements for the hazards associated with this substance in accordance with Clause 4.5 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.  In addition, any person preparing the product for application or applying the product must be a qualified loader, contractor or person as applicable. Refer to EPA Hazardous Substances (Hazardous Property Controls) Notice 2017 Part 4, Subpart C.
<b>Other regulatory requirements:</b>	In accordance with regulations 77A and 95A of the HSNO Act permission must be obtained from the EPA to apply onto or into waterways.  There is a requirement to ensure that the application does not harm any aquatic farm manufacturing food items or any irrigation water. There are limits on application into static water.  There are additional requirements for signage, notification, incident reporting and annual reporting when this substance is applied onto or into waterways.

	The formulated product must not contain nonyl-phenol ethoxylates when being applied onto or into waterways.
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## 16. OTHER INFORMATION

<b>Glossary</b>	
<b>AEL</b>	Acceptable Exposure Limit
<b>DT<sub>50</sub></b>	Time (days) for 50% loss
<b>EC<sub>50</sub></b>	Median effective concentration
<b>EEL</b>	Environmental Exposure Limit
<b>EPA</b>	Environment Protection Authority
<b>GHS</b>	Globally Harmonised System
<b>HSNO</b>	Hazardous Substances & New Organisms Act
<b>Koc</b>	Organic carbon partition coefficient
<b>LFL</b>	Lower Flammability Limit
<b>LC<sub>50</sub></b>	Lethal Concentration in air or water for 50% of test organisms
<b>LD<sub>50</sub></b>	Lethal Dose for 50% of test organisms
<b>NOEL</b>	No Observable Effect Level
<b>OSHA</b>	Occupational Safety & Health Administration (USA)
<b>OSH or Worksafe</b>	Worksafe New Zealand
<b>PEL</b>	Permissible Exposure Level
<b>Pow</b>	Octanol water partition coefficient (ratio of concentration of a chemical in octanol and water at equilibrium and at a specified temp.)
<b>pH</b>	Measure of acidity/alkalinity of a substance on a 1-14 scale (1=strong acid, 14 = strongly alkali)
<b>STEL</b>	Short Term Exposure Limit
<b>TEL</b>	Tolerable Exposure Limit
<b>TLV</b>	Threshold Limit Value – an exposure limit set by a competent authority
<b>TWA</b>	Time Weighted Average – average concentration of a chemical in air over a total exposure time (usually 8 hours)
<b>UFL</b>	Upper Flammability Limit
<b>WES</b>	Workplace Exposure Standard – set by WorkSafe NZ



The data in this Safety Data Sheet relates only to this product alone, and not to its use in combination with other substances or products. In such circumstances, assuming the combination is permitted (refer to product labels, and contact manufacturer if in doubt), be guided by the most hazardous of the substances involved and observe the more stringent of all hazard controls applicable to the products used.

Date of Safety Data Sheet: 27 November 2018

Reason for Revision: Review and update to new legislative requirements.

Further Information:                      Rainbow & Brown Limited  
    Toll-Free Phone (0508) 299 299

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