



MATERIAL SAFETY DATA SHEET

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Date of Issue 08/10/01
MSDS No. 1023

STATEMENT OF HAZARDOUS NATURE

Not classified as hazardous according to criteria of Worksafe Australia.

COMPANY DETAILS

Company Scotts Australia Pty. Ltd.
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Telephone Number (02) 8853 7300
Fax (02) 8853 7310
Emergency Telephone Number Australia: 1800 033 111
New Zealand: 0800 734 607

IDENTIFICATION

Product Name **ROUNDUP BIACTIVE WEEDKILLER CONCENTRATE**
Other Names Glyphosate
Manufacturers Product Code 199410,199435,199430,199475,199470
UN Number None allocated
Dangerous Goods Class Not a Dangerous Good
Sub-Risk Class Not applicable
Packaging Group Not applicable
Hazchem Code N/A
Poisons Schedule S5
Uses Non selective herbicide.

Physical Description /Properties

Appearance & Odour Green coloured liquid, earthy odour.
Melting point/softening point Approximately 0°C
Boiling Point Approximately 100°C
Vapour Pressure N/A
Flashpoint >90 TCC
Flammability Limits Not applicable. This product does not burn.
Solubility in Water Soluble
pH 1% solution in water: 4.6
Incompatibility
Specific Gravity 1.17
Bulk density N/A
Volatile Proportion Water
Corrosiveness See Reactivity data in Safe Handling Section.

Ingredients

Ingredient	Chemical Name	CAS Number	Proportion % w/v
Active ingredients	Glyphosate as the isopropylamine salt [glyphosate = N-(phosphonomethyl) glycine]	38641-94-0	36% (an acid equivalent)
Inerts	Surfactant Water	Not disclosed 7732-18-5	1-20% Balance

All constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

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HEALTH HAZARD INFORMATION

Health Effects

Acute

Swallowed No evidence is available for humans. Studies with rats show no acute effects after ingestion of up to 5000mg per kg body weight. Oral LD50 (Rat) >5000mg/kg.

Eye Studies with rabbits indicate mild irritant effects.

Skin Studies with mice indicate mild transient irritant effects. Studies with guinea pigs indicate no irritancy and no potential to produce skin sensitisation. Dermal LD50 (Rabbit) >5000mg/kg.

Inhaled The active ingredient has been in use for many years in Australia and in other countries. There are no reports of inhalation health effects in humans. No animal inhalation studies have been carried out. However, it may be mildly irritant to mucous membranes.

Chronic The active ingredient has been in use in Australia for many years and there are no reports of health effects in workers due to long term exposure to this ingredient. Animal studies of the active ingredient have indicated no cancer, mutagenic, teratogenic or neurotoxic effects.

Components: Isopropylamine salt of glyphosate

Data from studies with a formulation comprised of 62% isopropylamine salt of glyphosate (MON 0139) indicate the following:

In repeat dosing studies (6 month), dogs fed MON 0139 exhibited slight body weight changes. Following repeated skin exposures (3 week) to MON 0139, skin irritation was the primary effect in rabbits.

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Chronic

Additional toxicity information is available on glyphosate, the active herbicidal ingredient of MON 0139. Following repeated exposures (90 days) to glyphosate in their feed, decreased weight gains were noted at the highest test level in mice, while no treatment-related effects occurred in rats. Following repeated skin exposure (3 weeks) to glyphosate, slight skin irritation was the primary effect observed in rabbits. No skin allergy was observed in guinea pigs following repeated skin exposure. There was no evidence of effects on the nervous system, including delayed effects in chickens (repeat oral doses) or cholinesterase inhibition in rats (single oral doses). Reduced body weight gain and effects on liver tissues were observed with long-term (2 year) feeding of glyphosate to mice at high-dose level in one long-term (2 year) feeding study with rats, while no treatment-related effects occurred in a second study. No adverse effects were observed in feeding studies with dogs. Glyphosate did not produce tumours in any of these studies. Based on the results from the chronic studies, EPA has classified glyphosate in category E (evidence of non-carcinogenicity for humans). No birth defects were noted in rats and rabbits given glyphosate orally during pregnancy, even at amounts which produced adverse effects on the mothers. Glyphosate was fed continuously to rats at very high dose levels for 2 successive generations. Toxicity was reported in offspring from the high dose level, a level which also produced adverse effects on the mothers. In a 3-generation study conducted at lower dose levels, no effects were seen on the ability of male or female rats to reproduce. Glyphosate has produced no genetic changes in a variety of standard tests using animals and animal or bacterial cells.

Component Surfactant:

The surfactant components of this material are reported to cause irritation to the eyes.

First Aid

Swallowed

If poisoning occurs, contact a doctor or Poisons Information Centre (13 11 26).

Eye

Rinse eyes with clean water.

Skin

Wash skin with soap and water. If irritation occurs and persists, seek medical attention.

Inhaled

If vapors or mists have been inhaled and irritation has developed, remove to fresh air until recovered. If irritation persists, seek medical attention.

First Aid Facilities

Eye wash, water, soap.

Advice to Doctor

Not hazardous according to NOHSC Criteria. However, it is a mild eye irritant and may be mildly irritating to mucous membranes. If further treatment guidance is required, contact Emergency Response Number given under Company Details.

Medical conditions
which may be aggravated
by contact

None known.

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PRECAUTIONS FOR USE

Exposure Standards	No exposure limits have been established for this material or its components.
Engineering Controls	No specific precautions recommended.
Personal Protection	<p><u>Precautionary Measures:</u> Avoid contact with eyes, skin and clothing. Avoid contamination of fertilizers, spray materials, seed, feed, food stuffs or water by storage or disposal.</p> <p><u>Eye Protection:</u> Wear a face shield or chemical safety goggles to prevent eye contact with undiluted material where contact may occur. Have eye-flushing equipment available.</p> <p><u>Skin Protection:</u> Although this material does not present a significant skin concern, minimise skin contamination by following good industrial practice. When handling the undiluted material wear elbow-length PVC gloves. Wash hands and contaminated skin thoroughly after handling. Launder contaminated clothing and clean protective equipment before re-use.</p> <p><u>Respiratory Protection:</u> Respiratory protection should not be required for normal use/handling. Avoid breathing spray mist. During periods of abnormal exposure to heavy spray or mist, use of respiratory equipment approved for pesticide vapour/mist is recommended. The respirator use limitations specified by the manufacturer must be observed. Respirator programs must be in compliance with AS 1715 and AS 1716.</p>
Flammability	Water based solution. Not combustible or flammable.

SAFE HANDLING INFORMATION

Storage and Transport	Stable for at least 5 years under normal conditions of warehouse storage. Avoid contamination of fertilizers, spray materials, seed, feed, food stuffs or water by storage or disposal. This product is not a Dangerous Good.
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Spills and Disposal

Spill or Leakage Procedures:

Observe all PRECAUTIONS FOR USE. Use of rubber boots or rubber overshoes when cleaning up spills. Contain and absorb liquid spills on floor or other impervious surfaces with absorbent clays e.g. attapulgite, bentonite or kitty litter. Collect contaminated absorbent, place in plastic-lined metal drum and dispose of in accordance with instructions provided under Waste Disposal. Thoroughly scrub floor or other impervious surfaces with a strong industrial type detergent solution and rinse with water. Dig up liquid spills that soak into the ground, place in lined metal drums and dispose of as recommended under Waste Disposal. Separate leaking containers from non-leakers and transfer either the container or its contents to a plastic-lined drum or other non-leaking container and dispose of as recommended under Waste Disposal. Any recovered spilled liquid should be similarly collected and disposed of. Avoid contamination of fertilizers, spray materials, seed, feed, food stuffs or water by storage or disposal.

Waste Disposal:

If wastes cannot be used according to label instructions or chemically reprocessed, dispose of in a landfill approved for pesticide disposal or bury under at least 500 mm of soil in a non-crop, non-pasture area away from water sources or homes. Dispose of in accordance with all applicable local and state laws.

Containers:

Emptied containers retain material residue. Observe all labelled safeguards until container is cleaned, reconditioned or destroyed. Triple rinse container, replace cap, then offer for recycling or reconditioning. Otherwise, dispose of in an approved landfill or bury under at least 500mm of soil in a non-crop, non-pasture area away from water sources or homes. Avoid contamination of fertilizers, spray materials, seed, feed, food stuffs or water by storage or disposal

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Fire/Explosion Hazard Extinguishing Media:

Water spray, foam, dry chemical, carbon dioxide and/or any Class B extinguishing agent.

Special Fire Fighting Procedures:

Fire fighters or other exposed to products of combustion should wear full protective clothing including self-contained breathing apparatus. Thoroughly decontaminate equipment after use.

Unusual Fire and Explosion Hazards:

None.

Reactivity Data:

Stable for at least 5 years under normal conditions of warehouse storage. Hazardous polymerization does not occur. The product can react with caustic (basic) materials to liberate heat. This is not a polymerization but rather a chemical neutralization in an acid/base reaction. Non-corrosive to stainless steel, polyethylene and plastics. Corrosive to mild steel, galvanized steel, aluminium and zinc.

DO NOT MIX, STORE OR APPLY THE PRODUCT OR SPRAY SOLUTIONS OF THE PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS.

The product or spray solutions of the product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source. Spray solutions of the product should be mixed, stored and applied only in stainless steel, fibreglass, plastic and plastic-lined steel containers.

Hazardous Decomposition Products: None.

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OTHER INFORMATION

Environmental Protection ROUNDUP BIOACTIVE has been formulated specifically to reduce the toxicity of the product to certain aquatic organisms including frogs and is the preferred ROUNDUP formulation for use around dams, waterways and other aquatic situations. When controlling weeds in aquatic situations refer to label directions to minimise the entry of spray into the water. The product is absorbed by plant foliage and green stems. It is inactivated immediately in the soil and does not provide residual weed control.

Environmental Information

Animal Toxicity Data

Avian Toxicity:

LC50 Mallard Duck (*Anas platyrhynchos*) >5620 mg/kg diet
LC50 Bobwhite Quail (*Colinus virginianus*) >5620 mg/kg diet

Aquatic Toxicity:

LC50 Rainbow Trout (*Oncorhynchus mykiss*) >989 mg/L (96hr)
LC50 Common Carp (*Cyprinus carpio*) >895 mg/L (96hr)
LC50 Leopard frog tadpole (*Rana pipens*) >1040 mg/L (96hr)
EC50 Water Flea (*Daphnia magna*) >675 mg/L (48hr)
Green Algae (*Selenastrum capricornutum*) EfC50 (72hr)
150mg/L (growth inhibitions)
Green Algae (*Selenastrum capricornutum*) EfC50 (72hr)
393mg/L (growth rate)

Bee Toxicity:

LD50 Bee (contact) >25 ug/bee
LD50 Bee (dietary) >100 ug/bee

Earthworms:

LC50 Earthworms >1250 mg/kg

BCF (Bioaccumulation factor):

Tests in a variety of mammalian/avian/aquatic species have shown that glyphosate does not bioaccumulate.

Degradation:

A primary degradation rate of glyphosate was determined in water after 30 days: 87.7%. The surfactants in Roundup Biactive are readily biodegradable according to OECD/EEC tests.

APVMA 52816
Registration
Number

CONTACT POINT

Emergency Response for Transport and Exposure Scotts Australia Pty Ltd
Australia: 1800 033 111 11 Columbia Way
New Zealand: 0800 734 607 Baulkham Hills NSW 2153
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