

Infosafe No™ 3NUFF	Issue Date : December 2014	ISSUED by NUFARMNZ
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 Product Name **RELAY® SUPER S**

1. Identification

GHS Product Identifier	RELAY® SUPER S
Product Code	00920
Product Type	Herbicide
Company Name	Nufarm NZ
Address	6 Manu Street, Otahuhu Auckland 2024 New Zealand
Telephone/Fax Number	Tel: 0-9-270 4150 Fax: 0-9-270 4159
Emergency phone number	0800 651 911
Email	info@nz.nufarm.com
Recommended use of the chemical and restrictions on use	Selective herbicide for broadleaf weed control in pasture and turf.
Other Information	This SDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

2. Hazard Identification

Other Information	6.1D acute toxicant, 6.3B skin irritant, 6.5B sensitiser, 6.9A target organ toxicant, 9.1A aquatic toxicant, 9.2A soil toxicant, 9.3C terrestrial vertebrate toxicant, TOXICITY Harmful - may be harmful if swallowed, inhaled or absorbed through the skin. May cause mild skin irritation. May cause sensitisation from prolonged skin contact. May cause organ damage from repeated oral exposure at high doses. ECOTOXIC Very toxic to aquatic organisms with long-lasting effects. Selective herbicide - very toxic to some plant species. Harmful to terrestrial vertebrates.
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3. Composition/information on ingredients

Chemical Characterization	Liquid		
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	2,4-D (present as the ethyl hexyl ester)	1928-43-4	680 g/L
	Ingredients determined to be non-hazardous	-	0-10 %

4. First-aid measures

First Aid Measures	For advice contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth-to-nose rather than mouth-to-mouth. Obtain medical attention.
Inhalation	Remove patient to fresh air. Lay down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance immediately.
Ingestion	Never give anything by mouth to an unconscious person. If swallowed do NOT induce vomiting. For advice, contact the National Poisons Centre (0800 764 766). Seek medical assistance immediately.
Skin	Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Wash affected areas with soap and water. If a large area is affected seek medical assistance.
Eye contact	Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance. Remove contact lenses, if present and

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First Aid Facilities easy to do.
Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.

Advice to Doctor Treat symptomatically.
If vomiting occurs, surfactants present may cause pulmonary pneumonitis.

5. Fire-fighting measures

Suitable extinguishing media Water fog, foam, carbon dioxide or dry chemical.

Hazards from Combustion Products Although material is not flammable, the concentrate is combustible. May emit toxic fumes of hydrogen chloride or phosgene if involved in fires or exposed to extreme heat.

Special Protective Equipment for fire fighters Full protective clothing and self-contained breathing apparatus.

Specific Methods Keep up wind. Do not allow washings to reach sewage or effluent systems.

Specific hazards arising from the chemical Toxic fumes under fire conditions are emitted.

Hazchem Code 2X

Other Information Location Certificate: Not applicable
Hazardous Atmosphere Zone: Not applicable
Number of Fire Extinguishers: Not applicable

6. Accidental release measures

Spills & Disposal Wear protective clothing. Clear area of unprotected personnel. Contain spill and absorb with sand, soil or absorbent granules. If spill does enter waterways contact the local authority. Collect in an appropriate sealable container for disposal in an approved landfill.

Personal Protection For appropriate personal protective equipment (PPE), refer Section 8.

Environmental Precautions Prevent from entering drains, waterways or sewers.

7. Handling and storage

Precautions for Safe Handling Avoid skin and eye contact and inhalation of spray mist.
APPROVED HANDLER: This product must be under the control of an approved handler if applied in a wide dispersive manner, or used by a commercial contractor.
TRACKING: Is not required
RECORD KEEPING: Records of use as described in the NZS 8409 Management of Agrichemicals must be kept.
BEWARE: Spray drift hazard. Apply this product carefully. Spray drift may cause serious damage to other desirable plants.

Conditions for safe storage, including any incompatibilities Keep out of reach of children.
Store in original container tightly closed and in a locked, dry, cool area away from foodstuffs, fertilisers and seeds. Storage must be in accordance with NZS 8409 Management of Agrichemicals.
Stores containing 100L of RELAY SUPER S require secondary containment and are subject to signage, and more than 100L require emergency response plans.

Other Information Always read the label and any attached leaflet before use.
Aggregate Storage Volume Thresholds:
When stored with substances of the same hazard classification the aggregate quantity must be considered. For full details refer to the current NZS8409 Management of Agrichemicals and the HSNO Regulations.

8. Exposure controls/personal protection

Occupational exposure limit values No exposure standard has been established for this product.
WES TWA for 2,4-D = 10mg/m³

Appropriate engineering controls Handle in well ventilated areas, generally natural ventilation is adequate.

Personal Protective Equipment When opening the container, preparing spray and using the prepared spray wear safety goggles, waterproof gloves, cotton overalls buttoned to the neck and wrist, and boots.

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Hygiene Measures Do not eat, drink or smoke while using.
Remove protective clothing and wash hands and face thoroughly before meals and after work. Wash protective clothing daily after work.

9. Physical and chemical properties

Form	Liquid
Appearance	Clear brown liquid
Odour	Typical phenoxy odour
Melting Point	-5°C
Boiling Point	>200°C (2,4-D 2EHE)
Solubility in Water	Disperses. (2,4-D, 2 ethylhexyl ester has low water solubility (0.001g/100g @ 20°C)
Specific Gravity	1.14g/mL @ 20°C
pH	2.0 - 6.5
Vapour Pressure	0.48 mPa @ 25°C (2,4-D 2-ethylhexyl ester)
Partition Coefficient: n-octanol/water	Kow Log P is 5.78 (2,4-D 2EHE)
Flash Point	>100°C (pmcc)
Flammability	Combustible
Other Information	(EC) Emulsifiable concentrate

10. Stability and reactivity

Chemical Stability	Stable under normal conditions of handling and storage.
Incompatible Materials	Acids, alkalis and oxidising materials.
Hazardous Decomposition Products	Thermal decomposition products include: hydrogen chloride.
Possibility of hazardous reactions	Keep away from strong oxidising agents, may react violently.
Hazardous Polymerization	Not known to occur.

11. Toxicological Information

Acute Toxicity - Oral	LD50 (female rat): 1,045mg/kg for a similar formulation.
Acute Toxicity - Dermal	Dermal LD50 (rat): >5,000mg/kg for a similar formulation.
Ingestion	Ingestion of the concentrate in relatively large amounts can result in headache, nausea, lethargy, motor weakness and incoordination.
Inhalation	Mists may cause headaches and drowsiness.
Skin	Prolonged and repeated exposure may cause irritation, even burns. A single prolonged exposure is not likely to result in the material being absorbed through the skin in harmful amounts.
Eye	May cause slight transient irritation. Corneal injury is unlikely.
Skin Sensitisation	Contact sensitiser.
Carcinogenicity	Various animal cancer tests have shown no reliably positive association between 2,4-D exposure and cancer. Epidemiology studies have been both positive and negative with the majority being negative.
Reproductive Toxicity	Exposure levels having no effect on the mother should have no effect on the foetus. Excessive dietary levels of 2,4-D caused toxic effects (weight and viability reduction) in rats in a reproduction test.
Chronic Effects	Excessive exposure may cause liver, kidney, gastrointestinal and muscular effects. Signs and symptoms of excessive exposure may be nausea and/or vomiting and abdominal cramps and/or diarrhoea.

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Mutagenicity	Results of mutagenicity tests have been inconclusive. Has been shown to be negative in some in vitro ('test-tube') mutagenicity tests and positive in others.
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12. Ecological information

Ecotoxicity	Soil: EC25 <i>Lycopersicon esculentum</i> (tomato) = 0.00156mg/kg dry wt soil (for 2,4-D EHE)
Persistence and degradability	2,4-D EHE has a low water solubility, quickly degraded to the acid form, low persistence in natural systems is expected.
Environmental Fate	2,4-D EHE is rapidly hydrolysed in soil and water to the parent acid DT50 <1d
Bioaccumulative Potential	Yes. log KOW = 5.78 (2,4-D EHE)
Acute Toxicity - Daphnia	EC50 (48h) = 5.2mg/L (2,4-D EHE)
Acute Toxicity - Algae	EC50 = 0.23mg/L <i>skeletonema costatum</i> (2,4-D EHE)
Acute Toxicity - Other Organisms	Oral toxicity: >100µg/bee (2,4-D EHE) Oral LD50 mallard ducks = 663mg/kg (2,4-D EHE)

13. Disposal considerations

Product Disposal	Dispose of product only by using according to the label, or at an approved landfill.
Container Disposal	Triple rinse empty container and add rinsate to spray tank. Recycle empty container. Otherwise crush and bury in a suitable landfill.

14. Transport information

Transport Information	It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.
U.N. Number	3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. - (2,4-D, 68%)
Transport hazard class(es)	9
Hazchem Code	2X
Packaging Method	-
Packing Group	III
EPG Number	-
IERG Number	47
IMO Marine Pollutant	Yes. Environmentally Hazardous Substance mark required.
Other Information	Do not carry this product on a passenger service vehicle.
	Segregation: Check the latest Land Transport Rule Dangerous Goods Rule 45001 for additional information. Sea transport may require additional segregation. Refer NZS5433 sea segregation for details.

15. Regulatory information

National and or International Regulatory Information	Registered pursuant to the ACVM Act 1997, No. P7630 See www.foodsafety.govt.nz for registration conditions Approved pursuant to the HSNO Act 1996, Approval Code HSR000962 See www.epa.govt.nz for approval controls.
Packaging & Labelling	HARMFUL * ECOTOXIC - keep out of reach of children
Hazard Rating Systems	NFPA/HMIS: 2-1-1

16. Other Information



Safety Data Sheet

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**Date of preparation
or last revision of
SDS** September 2009

Contact Person/Point IN AN EMERGENCY, DIAL 111 - FIRE OR POLICE
24Hr Tollfree Emergency No: 0800 651 911

24Hr Emergency No: National Poisons Centre Phone: 0800 764 766

5 yearly review carried out. Various changes and updates made to document.

Revisions

Highlighted

Other Information Supersedes SDS issued September 2009

...End Of MSDS...

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