

Safety Data Sheet

Infosafe No™ 3NUDK Issue Date : December 2021 ISSUED by NUFARMNZ

Product Name **PULSE® PENETRANT**

1. Identification

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| GHS Product Identifier | PULSE® PENETRANT |
| Product Code | 01777 |
| Product Type | Adjuvant |
| Company Name | Nufarm NZ |
| Address | 6 Manu Street, Otahuhu Auckland 2024 New Zealand |
| Telephone/Fax Number | Tel: 0-9-270 4150 |
| Emergency phone number | 0800 651 911 |
| E-mail Address | nzinfo@nufarm.com |
| Recommended use of the chemical and restrictions on use | An organosilicone penetrant for improved penetration and faster uptake of Roundup®, WeedMaster® and other herbicides. |
| 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

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| GHS classification of the substance/mixture | DANGEROUS GOODS. |
| Other Information | 6.1D acute toxicant, 6.4A eye irritant, 6.9B target organ toxicant, 9.1B aquatic toxicant, TOXICITY Harmful - may be harmful if swallowed, inhaled or absorbed through the skin. May cause eye irritation. May cause organ damage from repeated oral exposure at high doses. ECOTOXIC Toxic to aquatic organisms with long-lasting effects. |

3. Composition/information on ingredients

| Ingredients | Name | CAS | Proportion |
|--------------------|-------------------------------------|-------------|-------------------|
| | Organomodified polydimethylsiloxane | 134180-76-0 | >800g/L |

4. First-aid measures

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| 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 easy to do. |

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

Advice to Doctor Treat symptomatically.

5. Fire-fighting measures

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

Unsuitable Extinguishing Media No water jets or foam as these can cause frothing and increase fire intensity.

Hazards from Combustion Products If involved in a major fire, could evolve oxides of carbon and silicon.

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

Specific hazards arising from the chemical Do not direct a solid stream of water into hot, burning pools; this may cause frothing and increase fire intensity.

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 product or washings from entering drains, waterways or sewers.

7. Handling and storage

Precautions for Safe Handling Avoid skin and eye contact and inhalation of spray mist.

Conditions for safe storage, including any incompatibilities Keep out of reach of children.
Store in the closed, original container in a cool, well ventilated area.
Do not store for prolonged periods in direct sunlight.
Stores containing 1,000L of PULSE PENETRANT require secondary containment and are subject to signage, and more than 1,000L require emergency response plans.

8. Exposure controls/personal protection

Occupational exposure limit values No exposure standard has been established for this product.

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

Personal Protective Equipment When opening the container and preparing the spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles.
When mixed with other products, follow the safety precautions for that product.

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.

9. Physical and chemical properties

Form Liquid

Appearance Clear straw coloured liquid

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|-------------------------------|---------------------------|
| Odour | Moderate polyether odour |
| Melting Point | -50°C (pour point) |
| Boiling Point | >150°C at 100kPa |
| Solubility in Water | Disperses in water. |
| Specific Gravity | 1.002 @ 25°C |
| Vapour Pressure | <1.33 hPa @ 20°C |
| Vapour Density (Air=1) | Heavier than air |
| Evaporation Rate | <1 |
| Flash Point | 143°C (pmcc) |
| Flammability | Non combustible material. |

10. Stability and reactivity

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| Reactivity | No significant decomposition products. Measurements at >150°C in presence of air have shown that small amounts of formaldehyde are formed due to oxidative degradation. |
| Chemical Stability | Stable under normal conditions of handling and storage. |
| Conditions to Avoid | Keep away from heat, flames, sparks and ignition sources. |
| Hazardous Decomposition Products | Combustion forms carbon dioxide and if incomplete, carbon monoxide and smoke. Water is also formed. Silica and other silicon compounds. Carbon monoxide poisoning produces headaches, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgement and unconsciousness followed by coma and death. |
| Possibility of hazardous reactions | No hazardous reactions known. |
| Hazardous Polymerization | Hazardous polymerisation will not occur. |

11. Toxicological Information

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| Acute Toxicity - Oral | LD50 (rat) >2000 mg/kg for the formulated product |
| Acute Toxicity - Dermal | LD50 (rat) >2000 mg/kg for the formulated product |
| Acute Toxicity - Inhalation | LC50 Inhalation, 5% diluted aqueous solution: Rat = >11.78mg/L/4hr for a similar product |
| Ingestion | Mildly irritating to mucous membranes but is unlikely to cause anything more than mild transient discomfort. Swallowing large amounts of concentrate may cause nausea and vomiting. Repeated ingestion may cause damage to the liver, kidneys, thyroid, male and female reproductive system and blood forming system. |
| Inhalation | May cause eye injury or irritation to the respiratory tract if high concentrations are inhaled. |
| Skin | Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis. |
| Eye | Mildly irritating to eyes, but is unlikely to cause anything more than mild transient discomfort. Vapour may cause blurring of vision. |
| Skin Sensitisation | Negative to guinea pigs. |
| Health Hazard | Medical conditions aggravated by over exposure - existing dermatitis. |
| Chronic Effects | This material was not mutagenic in an Ames bacterial assay or in three mammalian test systems including the Chinese hamster ovary (CHO)/HGPRT gene mutation assay, a micronucleus cytogenetic assay in mice, and an in vitro mammalian cytogenetic test. In a repeated skin application study with rats, this material caused moderate |

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skin irritation which resolved during a post-application recovery period. There was no evidence for percutaneous cumulative or specific organ toxicity. Findings from a 14-day dietary feeding study with rats show that the high dosage repeated ingestion of this material causes adverse effects on the male and female reproductive tracts. Additional effects seen in this dietary study were increased liver weight, altered blood cytology/chemistry, and thyroid enlargement (primarily hypertrophy, with some hyperplasia). Evidence of partial or complete recovery was found over a 28-day recovery period. Findings from a repeat 9-day aerosol inhalation toxicity study with rats show a no-observable effect level (NOEL) of less than 0.025mg/l. Symptoms of toxicity included rales, gasping, ocular opacity, prostration, hypothermia, reduced body weight gain and food consumption, changes in clinical pathology, decreased thymus weight, and microscopic lesions in the nasal cavity. It is not anticipated that the use of aqueous dilutions of this product would result in this type of aerosol exposure.

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| Serious eye damage/irritation | Mild eye irritant. Moderate redness of conjunctivae, iridal inflammation and tear production. Injury to the cornea is not expected. |
| Skin corrosion/irritation | Mild skin irritant. Prolonged contact may result in minor irritation, transient local redness and swelling. |
| Subchronic/Chronic Toxicity | Oral Rat (14d) NOEL 300mg/kg |

12. Ecological information

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| Persistence and degradability | Not readily biodegradable. |
| Known Harmful Effects on the Environment | No data available. |
| Other Precautions | Do not contaminate dams, waterways or sewers with this product or the containers which have held this product. |
| Basis for Assessment | EPA New Zealand have determined this product to be HSNO classification 9.1B - Toxic to aquatic organisms with long-lasting effects. |
| Acute Toxicity - Fish | LC50 (96h) rainbow trout 2.1mg/L |

13. Disposal considerations

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|---------------------------|---|
| 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

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| U.N. Number | 3082 |
| UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. - (organomodified polydimethylsiloxane, >80%) |
| 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. |
| IMDG EMS | F-A, S-F |

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Other Information Do not carry more than 1L of Pulse Penetrant 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 Approved pursuant to the HSNO Act 1996, Approval Code HSR002503
See www.epa.govt.nz for approval controls.

Packaging & Labelling This product is not required to be registered under the ACVM act.
HARMFUL - keep out of reach of children

Hazard Rating Systems NFPA/HMIS: 2-1-0

16. Other Information

Date of preparation or last revision of SDS December 2021

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

Revisions Highlighted 5 yearly update.

...End Of MSDS...

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