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| Infosafe No™ 3NV4B | Issue Date : January 2020 | ISSUED by NUFARM |
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 Product Name **DEBUT™**

1. Identification

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| GHS Product Identifier | DEBUT™ |
| Product Code | 00670 |
| Product Type | Herbicide |
| 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 |
| Email | nzinfo@nufarm.com |
| Recommended use of the chemical and restrictions on use | A selective systemic herbicide for the control of weeds in lucerne and new pasture. |
| 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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| Signal Word (s) | DANGER |
| Hazard Statement (s) | H302 Harmful if swallowed. H316 Causes mild skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H332 Harmful if inhaled. H372 Causes damage to organs through prolonged or repeated exposure. H411 Toxic to aquatic life with long lasting effects. H421 Very toxic to the soil environment. H432 Toxic to terrestrial vertebrates. H443 Harmful to terrestrial invertebrates. |
| General Precautionary Statement (s) | P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P103 Read label before use. |
| Pictogram (s) | Exclamation mark, Corrosion, Health hazard, Environment, |



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| Precautionary statement – Prevention | P260 Do not breathe dust/fume/gas/mist/vapours/spray. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P264 Wash hands and exposed skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves, clothing, eye and face protection. |
| Precautionary statement – Response | P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P314 Get medical advice/attention if you feel unwell. P330 Rinse mouth. P332+P313 If skin irritation occurs: Get medical advice/attention. |

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Precautionary statement – Disposal P363 Wash contaminated clothing before reuse.
P391 Collect spillage.

Other Information P501 Dispose of contents only by using according to the label, or at an approved landfill.

6.1D acute toxicant, 6.3B skin irritant, 6.5B sensitiser, 6.9A target organ toxicant, 8.3A eye corrosive, 9.1B aquatic toxicant, 9.2A soil toxicant, 9.3B terrestrial vertebrate toxicant, 9.4C terrestrial invertebrate toxicant,

3. Composition/information on ingredients

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| Chemical Characterization | Liquid | | |
| Ingredients | Name | CAS | Proportion |
| | 2,4-DB (present as the dimethylamine salt) | 94-82-6 | 500 g/L |
| | Other ingredients (considered non-hazardous) | | 10-30 % |
| | Hydroxyethylidene diphosphonic acid | Proprietary | 0-15 % |
| | Water | | Remainder |

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. Remove contact lenses, if present and easy to do. Seek medical assistance even if there are no immediate symptoms.

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 If involved in a fire, the product will not burn. Choose extinguishing media to suit the burning material.

Hazards from Combustion Products Non-combustible. If involved in a fire, it will emit carbon monoxide, phosgene and possibly oxides of phosphorous.

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.

Hazchem Code 2Z

Decomposition Temp. Data not available.

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

6. Accidental release measures

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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. Wash area with water and absorb with further inert material. Dispose of waste safely 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 The person mixing or applying DEBUT must be a 'Qualified Contractor' or 'Qualified Loader'. For more information refer to the Hazardous Substances Property Controls Notice 2017. It is the duty of the PCBU that a person who uses, handles, manufactures or stores a hazardous substance (including hazardous waste) is provided information, instruction and training in accordance with Regulation 4.5 of the Health and Safety at work (Hazardous Substances) Regulations 2017.

Avoid skin and eye contact and inhalation of spray mist.

CERTIFIED HANDLER: Is not required.

TRACKING: Is not required.

RECORD KEEPING: Records of use as described in NZS 8409 Management of Agrichemicals must be kept whenever DEBUT is used.

BEWARE: Spray drift hazard. Apply this product carefully. Spray drift may cause serious damage to other desirable plants.

Do NOT contaminate dams, rivers or streams, or any other water bodies with chemical or used containers. This product must not be applied onto or into water.

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 sources of ignition and foodstuffs. Storage must be in accordance with NZS 8409 Management of Agrichemicals. Stores containing 1000L of DEBUT are subject to signage and secondary containment and more than 1000L require emergency response plans.

Other Information 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 for this product has been set, however, an exposure standard has been set for dimethylamine vapour at 2 ppm.

Appropriate engineering controls Use in a well ventilated area only.

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.

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 splashes of concentrate from skin immediately. Wash protective clothing daily after work.

9. Physical and chemical properties

Form Liquid

Appearance Clear straw coloured to amber liquid.

Odour Faint ammoniacal odour.

Decomposition Data not available.

Temperature

Melting Point Approx -5°C

Boiling Point 100°C

Solubility in Water Soluble in water.

Specific Gravity 1.17

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| pH | 9.0-10.0 (1% aqueous) |
| Vapour Pressure | Active ingredient considered non volatile. |
| Vapour Density (Air=1) | Not applicable. |
| Volatile Component | 16 - 30% |
| Partition Coefficient: n-octanol/water | logP Kow = 1.35 (pH 7)@ 20°C (2,4DB) |
| Flash Point | Not applicable. |
| Flammability | Not flammable. |
| Auto-Ignition Temperature | Not applicable. |
| Kinematic Viscosity | Data not available. |
| Other Information | Soluble Concentrate. |

10. Stability and reactivity

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| Chemical Stability | Stable under normal conditions of handling and storage. |
| Incompatible Materials | Reaction of the concentrate or spray mix with acids will precipitate solid 2,4-DB acid and largely de-activate the product and cause blockages in spray equipment. The addition of a strong alkali such as caustic soda will cause release of dimethylamine vapour. |
| Hazardous Polymerization | Hazardous polymerisation is not possible. |

11. Toxicological Information

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| Toxicology Information | No harmful effects are expected if the precautions on the label and this MSDS are followed. |
| Acute Toxicity - Oral | LD50 (rat) 1470 mg/kg for technical 2,4-DB LD50 (rat) 700 mg/kg for dimethylamine |
| Acute Toxicity - Dermal | LD50 (rat) 800 mg/kg for technical 2,4-DB |
| Acute Toxicity - Inhalation | LC50 (4hr) = >2.3 mg/l air. |
| Ingestion | Harmful if swallowed. May cause irritation to mouth, throat and stomach. |
| Inhalation | Harmful if inhaled. When applying the product as a spray avoid breathing in spray mist. |
| Skin | Prolonged contact with the concentrate may cause irritation. |
| Eye | The concentrate will cause severe irritation and possible damage unless washed off immediately. |
| Skin Sensitisation | May cause an allergic skin reaction. |
| Germ cell mutagenicity | Information not available. |
| Carcinogenicity | Information not available. |
| Reproductive Toxicity | Information not available. |
| STOT-repeated exposure | Target organ toxicant. |
| Aspiration Hazard | Information not available. |
| Chronic Effects | Chronic Overexposure: Weight loss and damage to liver and kidneys may be expected if exposure is excessive. |
| Human Effects | Symptoms of acute overexposure may include: headache, nausea, dizziness and vomiting. In extreme cases, possibly twitching and spasms, dyspnea, cyanosis and exhaustion. |
| Other Information | The Australian Acceptable Daily Intake (ADI) for 2,4-DB for a human is 0.004 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1.9 mg/kg/day, the level determined to show no effects during long |

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term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, Office of Chemical Safety, 'ADI List', December 2014).

12. Ecological information

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| Persistence and degradability | Average field half life of 2,4-DB dimethylamine salt is 10 days. |
| Environmental Fate | 2,4-DB has a moderate potential to bioaccumulate with a BCF of 175 L/kg .In susceptible plants it rapidly undergoes B-oxidation to 2,4-D which is then degraded to 2,4-dichlorophenol, followed by ring hydroxylation and ring opening. In tolerant plants B-oxidation to 2,4 D is very slow. |
| Bioaccumulative Potential | Moderate to low. |
| Other Precautions | Do not spray in high winds. Do not contaminate dams, waterways or sewers with this product or the containers which have held this product. |
| Environmental Protection | Spray drift can cause damage, read the label for more information. |
| Basis for Assessment | Ecotoxicological data have not been determined specifically for this product. Data below is for active ingredient unless otherwise stated. |
| Acute Toxicity - Fish | The following is data for the active ingredient, 2,4-DB amine salt and esters. LC50 (96hr) for rainbow trout is 4 mg/l. |
| Acute Toxicity - Other Organisms | Not toxic to bees. |

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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| Transport Information | It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs. |
| U.N. Number | 3082 |
| Hazchem Code | 2Z |
| IMO Marine Pollutant | Yes. Marine Pollutant mark required. |
| EMS | F-A, S-F |
| Other Information | 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. Do not carry DEBUT on a passenger service vehicle. |

15. Regulatory information

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| National and or International Regulatory Information | Registered pursuant to the ACVM Act 1997, No. P9697 See www.foodsafety.govt.nz for registration conditions Approved pursuant to the HSNO Act 1996, Approval Code HSR101356 See www.epa.govt.nz for approval controls. |
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16. Other Information

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| Date of preparation or last revision of SDS | First Issue- Jan 2020 |
| 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 ...End Of MSDS... |



Safety Data Sheet

infosafe
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