




Infosafe No™ 3NUN6 Issue Date : February 2019 ISSUED by NUFARM

Product Name **TRI-BASE BLUE®**

1. Identification

GHS Product Identifier	TRI-BASE BLUE®
Product Code	03091
Product Type	Fungicide
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 protectant copper fungicide for the control of many diseases on fruit, vegetables and ornamental crops.
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

Signal Word (s)	WARNING
Hazard Statement (s)	H302 Harmful if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H320 Causes eye irritation. H373 May cause damage to kidneys through prolonged or repeated exposure. H400 Very toxic to aquatic life. H432 Toxic to terrestrial vertebrates.
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, Health hazard, Environment, <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;">    </div>
Precautionary statement – Prevention	P260 Do not breathe dust/fume/gas/mist/vapours/spray. P264 Wash hands and face thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves/protective clothing/eye protection/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. 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. P314 Get medical advice/attention if you feel unwell. P330 Rinse mouth. P362 Take off contaminated clothing and wash before reuse. P391 Collect spillage.
Precautionary statement – Disposal	P501 Dispose of contents/container only by using according to the label, or at an approved landfill.

Infosafe No™ 3NUN6	Issue Date : February 2019	ISSUED by NUFARM
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Other Information 6.1D acute toxicant, 6.3A skin irritant, 6.4A eye irritant, 6.5B sensitiser, 6.9B target organ toxicant, 9.1A aquatic toxicant, 9.3B terrestrial vertebrate toxicant,

3. Composition/information on ingredients

Chemical Characterization	Liquid		
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Copper present as tribasic copper sulphate	12527-76-3	190 g/L
	Propylene glycol	57-55-6	80 g/L
	Ingredients determined to be non-hazardous	-	Balance

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 easy to do.
First Aid Facilities	Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.
Advice to Doctor	Treat symptomatically. Copper salts may be corrosive to the oesophagus. Do NOT induce vomiting. If spontaneous vomiting has occurred or is suspected, gastric intubation is contraindicated. In cases of severe intoxication, consider chelation therapy with dimercaprol (BAL).

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. Water fog, foam, carbon dioxide or dry chemical.
Unsuitable Extinguishing Media	Do not use water in a jet.
Hazards from Combustion Products	On burning will emit toxic fumes. If involved in a fire, it may emit oxides of copper or sulphur, calcium sulphate and water.
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
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.
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Infosafe No™ 3NUN6	Issue Date : February 2019	ISSUED by NUFARM
--------------------	----------------------------	------------------

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Wash area with water and absorb with further inert material and collect in sealable container for disposal.

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 this product must be a 'Qualified Contractor' or a 'Qualified Person'. The spray mixture may also be prepared by a 'Qualified Loader'. For more information refer to the Hazardous Substances (Hazardous 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 if 3 litres or more is applied within 24 hours.

BEWARE: Spray drift hazard. Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area.

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. Storage must be in accordance with NZS 8409 Management of Agrichemicals.

Other Information Stores containing 100L of TRI-BASE BLUE require secondary containment and are subject to signage, and more than 100L require emergency response plans. 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 limits (WES, TEL or EEL's) have been specifically assigned for this product.

WES TWA for propylene glycol (particulates only) = 10 mg/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, washable hat, cotton overalls buttoned to the neck and wrist, and boots.

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. Wash splashes of concentrate from skin immediately.

9. Physical and chemical properties

Form Liquid

Appearance Greenish-blue liquid

Freezing Point Crystallisation ca. -3°C

Solubility in Water Disperses in water

Specific Gravity 1.28

pH 7 (13g/L)

Vapour Pressure Active ingredient is an inorganic salt. Not volatile.

Flammability Non combustible material

Other Information (SC) Suspension Concentrate

Infosafe No™ 3NUN6	Issue Date : February 2019	ISSUED by NUFARM
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10. Stability and reactivity

Chemical Stability	Stable under normal conditions of handling and storage.
Conditions to Avoid	Avoid contact with strong acids, iron, aluminium and it's alloys.
Hazardous Decomposition Products	Thermal decoposition products may include: copper oxide, calcium sulphate and water.
Hazardous Polymerization	Hazardous polymerisation will not occur.

11. Toxicological Information

Acute Toxicity - Oral	LD50 (rat) approx. 2,500mg/kg for the formulated product
Acute Toxicity - Dermal	LD50 (rat) >2,000mg/kg for the formulated product
Acute Toxicity - Inhalation	LC50 (rat) (4hr) >2.6mg/L for the formulated product
Ingestion	Possible symptoms of exposure include: vomiting, stomach pains, symptoms attributed to the central nervous system and kidneys, hemolytic crisis accompanied by damage in the liver and brain.
Inhalation	The components of the product are of low volatility and no adverse effects are expected from handling the concentrate.
Skin	May irritate the skin.
Eye	May irritate the eyes.
Skin Sensitisation	May cause sensitisation from prolonged skin contact.
Chronic Effects	Prolonged contact may give rise to some skin diseases especially if small cuts, scratches or abrasions are present or if irritation by contaminated clothing occurs. Elementary hygiene precautions will avoid these risks. Copper Sulphate: Workers exposed by inhalation have reported irritation of the nose and throat, occasional ulceration of the nasal septum, and inflammation and diffuse fibrosis of the lungs. Humans exposed to high levels in drinking water have experienced abdominal pain, vomiting, diarrhoea, nausea, and a metallic taste in the mouth.
Other Information	The Australian Acceptable Daily Intake (ADI) for copper for a human is 0.2 mg/kg/day, set for the public for daily, lifetime exposure. There is no NOEL or LOEL or safety factor. (Ref: Aust Govt Dept. of Health, Office of Chemical Safety, 'ADI List', December 2014).

12. Ecological information

Persistence and degradability	This product does not contain any components considered to be persistent.
Environmental Fate	For copper sulphate: The bioconcentration factor (BCF) in fish is 10-100, indicating a low potential for bioconcentration. The BCF is higher in molluscs, especially oysters, where it may reach 30,000. the biomagnification ration in fish is less than 1, indicting no biomagnification in the food chain. No bioaccumulation was obtained from a study of pollutant concentrations in the muscle and livers of 10 mammal species and no evidence of biomagnification in the food chain was observed.
Environmental Protection	Copper sprays can cause injury to tender foliage or hasten leaf fall.
Basis for Assessment	Ecotoxicological data have not been determined specifically for this product. Data below is for the active ingredient unless otherwise stated.
Acute Toxicity - Fish	LC50 (96hr) for rainbow trout is >100 mg/l for the formulated product
Acute Toxicity - Daphnia	EC50 (48hr) for daphnia magna is 0.72 mg/l for the formulated product.
Acute Toxicity - Algae	EC50 (72hr) for green algae >100mg/L for the formulated product

Infosafe No™ 3NUN6	Issue Date : February 2019	ISSUED by NUFARM
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Acute Toxicity - Other Organisms	LD50 for Japanese quail 1,428mg/kg for the formulated product Not toxic to bees
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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. - (copper, 19%)
Transport hazard class(es)	9
Hazchem Code	2Z
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
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. P8732 See www.foodsafety.govt.nz for registration conditions Approved pursuant to the HSNO Act 1996, Approval Code HSR100808 See www.epa.govt.nz for approval controls.
Packaging & Labelling	HARMFUL * ECOTOXIC - keep out of reach of children
Hazard Rating	NFPA/HMIS: 2-1-0
Hazard Category	HARMFUL * ECOTOXIC - Keep out of reach of children

16. Other Information

Date of preparation or last revision of SDS	June 2018
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	The SDS was reviewed to include GHS requirements. ...End Of MSDS...

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