

SAFETY DATA SHEET

BioNeem™

SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND COMPANY

1.1 Identifiers

Product name: **BioNeem™**

Other Name(s): Emulsifiable concentrate containing azadirachtin 10 g/L and neem oil 300 g/L

1.2 Recommended use of the chemical and restrictions on use

Product Use: Insecticide

1.3 Supplier contact details:

Company name: Grosafe Chemicals Limited
 Address: 20 Jean Batten Drive Mt Maunganui, 3116
 Telephone: 0800 220 002
 Email: info@grosafe.co.nz

Emergency telephone number 0800 CHEMCALL (0800 243 622)

SECTION 2: HAZARD IDENTIFICATION

2.1 Classification of the Hazardous Chemical

Hazardous substance according to Hazardous Substances and New Organisms (HSNO) Act 1996
HSNO Substance Approval: HSR101572
Hazard Classifications: Aspiration Hazard Category 1, Eye irritation Category 2, Skin sensitisation Category 1, Reproductive toxicity Category 2, Hazardous to the aquatic environment chronic Category 2, Hazardous to terrestrial vertebrates.

2.2 Label elements:

Pictograms:



Signal Word: DANGER

Hazard statements:

- H304 May be fatal if swallowed and enters airways.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H361 Suspected of damaging fertility or the unborn child.
- H412 Harmful to aquatic life with long lasting effects.
- H433 Harmful to terrestrial vertebrates.

Additional labelling statements required under Hazardous Substances (Labelling) Notice 2017



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

Do not apply directly into or onto water.

Precautionary statements:

Prevention

- 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.
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P261 Avoid breathing mist/spray.
- P264 Wash hands thoroughly after handling.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P280 Wear protective gloves/clothing and eye/face protection.

Response

- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor.
- P308 + P313 IF exposed or concerned: Get medical advice/attention.
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P331 Do NOT induce vomiting.
- P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
- P362 + P364 Take off contaminated clothing and wash it before reuse.
- 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.

Storage

- P405 Store locked up.

Disposal

- P501 Dispose of contents/container in accordance with local regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS	Proportion % w/w
Azadirachtin	11141-17-6	1
Neem oil clarified hydrophobic extract	947173-77-5	30
Petroleum distillates, hydrated, light	64742-65-1	50 - 55
Other ingredients	Trade secret	balance

This is a commercial product whose exact ratio of components may vary slightly.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General Information:

For advice call the National POISON CENTRE, telephone 0800 POISON [0800 764 766]. Have product label or container at hand. If exposed or concerned: Get medical advice/attention.

IF SWALLOWED: Do NOT induce vomiting. **Immediately** call a POISON CENTRE or doctor.



IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: get medical advice/attention. Take off contaminated clothing and wash it before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice if irritation persists.

IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Call a POISONS CENTRE or doctor for advice if you feel unwell.

4.2 Symptoms caused by exposure

Unlikely to cause harmful effects under normal conditions of handling and use.

4.3 Medical attention and special treatment

Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Suitable extinguishing media

Use water spray or fog, foam, CO₂ or dry chemical as appropriate for surrounding materials. Contain extinguishing media to prevent runoff into drains, sewers, waterways.

5.2 Specific hazards arising from the chemical

Fire decomposition products may be toxic/harmful and/or irritating if inhaled. Evacuate people to safe area upwind of fire.

5.3 Special protective equipment and precautions for fire fighters

Wear full personal protective equipment including with self-contained breathing apparatus (SCBA).

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Have this SDS available. In the event of a spill, wear appropriate protective clothing, eye/face protection and protective gloves. Wash contaminated personal protective equipment and clothing and dry before re-use.

6.2 Environmental precautions

Prevent spillage from entering drains or waterways. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.

6.3 Methods and materials for containment and cleaning up

Contain spilled material. For small liquid spills, use absorbent material such as sand, soil, vermiculite and recover into labelled drums that can be sealed for safe disposal. For large liquid spills, recover liquid into labelled containers then absorb remaining liquid and transfer to drums for disposal. Clean area with water and detergent.

Dispose of contaminated materials to approved landfill in accordance with local regulations.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Read the label before use.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not apply directly into or onto water.

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

When applying product avoid inhalation of spray mist/aerosols. Wear protective equipment such as coat/trouser (overalls), boots, gloves and eye/face protection.

Wash hands and exposed skin with soap and water after handling and before rest or meal breaks.



Do not eat, drink or smoke when using.
 Use only outdoors or in well-ventilated area.
 Do not use spray equipment contaminated with this product for any other purpose unless first thoroughly cleaned with a suitable cleaning detergent.

7.2 Conditions for safe storage

Store locked up in the closed original packaging out of reach of children and in a dry, cool, well-ventilated area and out of direct sunlight. Keep away from sources of heat, food, drink and animal feedstuffs.
 Storage of 1000 L or more of this product requires an emergency response plan, secondary containment and signage.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Control parameters – exposure standards, biological monitoring

Ingredient	TWA (mg/m ³)	STEL (mg/m ³)
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None set

8.2 Engineering controls

Use outdoors or in a in well-ventilated area.

8.3 Personal protective equipment (PPE)

The following Standards provide general advice regarding safety clothing and equipment:
 Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: **AS/NZS 4501**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.
Eye/Face Protection: Wear chemical splash goggles if eye contact is possible.
Skin Protection: Wear impervious chemical resistant gloves (e.g. nitrile, butyl), coveralls, socks and chemical resistant footwear. For overhead spray exposure, wear chemical resistant headgear. Ensure all skin areas are covered.
Respirator: Use outdoors in well-ventilated area or use local exhaust ventilation. Where product is being sprayed and a mist could be produced a respirator should be worn. It should be fitted with a cartridge, suitable for solvents/agricultural chemicals.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Brown coloured liquid
Odour	Solvent
Odour threshold	Not known
pH	6.0 – 7.0 (as 1% emulsion in water)
Melting/Freezing Point	No data available
Boiling Point /Range	No data available
Flash point	>93 °C
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	No data available
Vapour Pressure	No data available
Vapour density	No data available



Specific gravity/bulk density	c.a. 1.0 g/cc
Solubility	Forms emulsion in water
Partition Co-efficient n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	Not applicable
Particle characteristics	No data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

This product is unlikely to react or decompose under normal storage conditions.

10.2 Chemical stability

Stable under normal temperatures and pressure for storage and use.

10.3 Conditions to Avoid

Avoid storage in direct sunlight or exposure to heat.

10.4 Incompatible materials and possible hazardous reactions

Explosives, oxidising agents, organic peroxides.

10.5 Hazardous decomposition products

Fire Decomposition: Smoke, carbon and nitrogen oxides and other unspecified compounds.

10.6 Polymerisation

Not known to occur.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Health hazard information

The product is classified for health hazards according to an assessment of information on product.

11.2 Toxicological information

Acute toxicity:	Not classified.
Aspiration hazard:	Classified as an aspiration hazard.
Respiratory irritation:	Not classified.
Skin corrosion/irritation	Not classified as a skin irritant.
Serious eye damage/irritation	Classified as a serious eye irritant.
Respiratory or skin sensitisation	Azadirachtin is identified as a skin sensitiser.
Germ cell mutagenicity:	No ingredients in product identified as presumed or suspected mutagens.
Carcinogenicity	No ingredients in product identified as presumed or suspected carcinogens.
Reproductive toxicity	Neem oil identified as suspected of damaging fertility or the unborn child.
Specific target organ toxicity – single/repeated exposure	Not classified for adverse effects to organs or systems.
Narcotic effects	Product contains no ingredient identified as causing narcotic effects.

11.3 Toxicological data:

Azadirachtin	Oral, LD ₅₀ (rat) >3540 mg/kg bw Inhalation, LC ₅₀ (rat) >2.41 mg/L
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SECTION 12: ECOLOGICAL INFORMATION

12.1 Ecotoxicity

This product is classified as harmful to aquatic life with long lasting effects and harmful to terrestrial vertebrates.

12.2 Environmental Fate

Breakdown in soil and groundwater: DT₅₀ 3 to 44 days.

Bioaccumulation: Low bioaccumulation potential.

Partition coefficient (octanol/water): Log K_{ow} 1.09 azadirachtin

Soil mobility: Product disperses in water.

12.3 Ecotoxicity data:

Azadirachtin

Fish: Catfish LC₅₀ (96 hr) 52.35 mg/L

Honey bees: Neem oil/azadirachtin is of potential concern for honey bees.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Product Disposal

Refer to product label. If possible, dispose of by using according to the label. Otherwise dispose of to Agrecovery® chemical recovery service or at an approved landfill in accordance with local regulations.

13.2 Container Disposal

Refer to product label. Do not use packaging for storage of any other products. Triple rinse empty container and add rinsate to spray tank. Submit container to Agrecovery® for recycling, or crush and send to approved landfill.

SECTION 14: TRANSPORT INFORMATION

Road and Rail Transport:

Not classified as Dangerous Good Class according to NZS5433 Transport of Dangerous Goods on Land

Marine Transport (IMO/IMDG):

Not classified as Dangerous Good by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Air Transport (ICAO/IATA):

Not classified as Dangerous Good by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulation for transport by air.

UN Number:	Non regulated
UN Proper Shipping Name:	
Transport hazard class(es)	
Packing Group:	III
HAZCHEM:	3Z
Special Precautions for User:	-
IMDG Marine pollutant:	--
Transport in Bulk:	-

SECTION 15: REGULATORY INFORMATION

15.1 HSNO Act 1996

Hazardous substance according to Hazardous Substances (Hazard Classification) Notice 2020.

Approved substance number: HSR101572

Hazardous classifications: Aspiration Hazard Category 1, Eye irritation Category 2, Skin sensitisation Category 1, Reproductive toxicity Category 2, Hazardous to the aquatic environment chronic Category 2, Hazardous to terrestrial vertebrates.

Controls: Refer to control on www.epa.govt.nz for complete wording for variation Controls.

77A: The maximum application rate for this substance, as specified by the Authority in accordance with clause 50(1) of the Hazardous Property Controls Notice, is 20 g azadirachtin/ha (equivalent to 2 L Emulsifiable concentrate containing azadirachtin 10 g/L and neem oil 300 g/L/ha) with a minimum of 7 days between applications and a maximum of 4 applications per year.

Additional information: Refer to HS Notices (www.epa.govt.nz) and HSW HS Regulations (www.worksafe.govt.nz)

Certified handler: Not applicable

Tracking: Not applicable

Qualifications: Not applicable

International Agreements: Not applicable

Signage trigger quantity (Schedule 3): 1000 L

Emergency Response Plan trigger quantity (Schedule 5): 1000 L

Secondary Containment trigger quantity (Schedule 16): 1000 L

Record Keeping: Not applicable

Environmental exposure limits: None set.

Tolerable exposure limits: None set

15.2 ACVM Act 1997

Registration number: P9791 BioNeem

Refer to www.foodsafety.govt.nz for registration conditions.

SECTION 16: OTHER INFORMATION

16.1 Date of preparation or last revision of SDS

SDS issued 15th October 2023

SDS supersedes 21st July 2022

Reason issued Updated HSNO approval number.

16.2 ABBREVIATIONS

ADI Acceptable Daily Intakes

CAS number Chemical Abstracts Service Registry Number



CCID	Chemical Classification Identification Database
EPA	Environmental Protection Authority
ErC₅₀	Half maximal Effective Concentration
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
HSNO	Hazardous Substances and New Organisms
HS	Health and Safety
HSR	Hazardous Substances Register
IARC	International Agency for Research on Cancer
LC₅₀	Median Lethal Concentration
LD₅₀	Median Lethal Dose
SDS	Safety Data Sheets
NOAEL	No Observable Adverse Effect Level
NOEL	No Observable Effect Level
NOS	Not otherwise specified
STEL	Short Term Exposure Limit
SWA	Safety Work Australia
TWA	Time-Weighted Average
UN Number	United Nations Number

16.3 REFERENCES

EPA CCID and Approved Substance databases
 PPDB- Pesticides Properties DataBase

16.4 OTHER

BioNeem™ is a trademark of Grosafe Chemicals Ltd

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End of Safety Data Sheet