Shoof Sachet (Copper Sulphate)
Safety Data Sheet

1. Identification of Substance & Company

Product

Product name	Shoof Sachet (Copper Sulphate)
HSNO approval	HSR002521
Approval description	Animal Nutritional and Animal Care Products Group Standard 2020
UN number	3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, solid, n.o.s. (copper sulphate)
DG class	9
Packaging group	III
Hazchem code	2Z
Uses	to be confirmed

Company Details

Company	**Shoof International Ltd**	
Address	224 Laurent Road, Cambridge 3493 New Zealand	1 International Square Tullamarine VIC 3043 Australia
Telephone	+64 7 827 3902	+61 3 9907 3000
Fax	+64 7 823 0651	+61 3 9310 4760
Website	www.shoof.co.nz	www.shoof.com.au

NZ Emergency Telephone Number: 0800 POISON (0800 764 766)
Poisons Information Centre – Australia: 13 11 26

2. Hazard Identification

New Zealand Approval

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR002521, Animal Nutritional and Animal Care Products Group Standard 2020). The substance has been classified as hazardous according to the criteria in the Hazardous substances (Minimum Degrees of Hazard) Notice 2017.

GHS 7 Classes	Hazard Statements
Acute toxicity category 4 (oral)	H302 - Harmful if swallowed.
Skin irritant category 2	H315 - Causes skin irritation.
Eye irritant category 2	H319 - Causes serious eye irritation.
Skin sensitiser category 1	H317 - May cause an allergic skin reaction.
STOT* repeated exposure category 2	H373 - May cause damage to organs through prolonged or repeated exposure.
Acute aquatic category 1	H400 - Very toxic to aquatic life.
Chronic aquatic category 1	H410 - Very toxic to aquatic life with long lasting effects.
Hazardous to terrestrial vertebrates	H433 - Harmful to terrestrial vertebrates.

*STOT – specific target organ toxicity

SYMBOLS

WARNING

Other Classifications

There are no other classifications that are known to apply.

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.
P260 - Do not breathe dust.
P264 - Wash hands 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.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/eye protection/face protection.

Response
P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.
P330 - Rinse mouth.
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.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P363 - Wash contaminated clothing before reuse.
P314 - Get medical advice/attention if you feel unwell.
P309+P311 - IF exposed or if you feel unwell: Call a POISON CENTRE or doctor/physician.
P391 - Collect spillage.

Disposal
P405 - Store locked up.

Storage
P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.

3. Composition / Information on Ingredients

Component	CAS/ Identification	Conc (%)
Copper sulphate pentahydrate	7758-99-8	100%

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

4. First Aid

General Information

If medical advice is needed, have product container or label at hand. You should call the National Poisons Centre if you feel that you may have been harmed, burned or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service).

Recommended first aid facilities Ready access to running water is required. Accessible eyewash is required.

Exposure

Swallowed IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. Rinse mouth.

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

Skin contact IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Get medical advice/attention if you feel unwell.

Inhaled Generally, inhalation of dusts is unlikely to result in adverse health effects. If coughing, dizziness or shortness of breath is experienced, remove the patient to fresh air immediately. If patient is unconscious, place in the recovery position (on the side) for transport and contact a doctor.

Advice to Doctor

Treat symptomatically

5. Firefighting Measures

Fire and explosion hazards:	There are no specific risks for fire/explosion for this chemical. It is non-flammable.
Suitable extinguishing substances:	Carbon dioxide, extinguishing powder, foam, fog sprays.
Unsuitable extinguishing substances:	Unknown.
Products of combustion:	Oxides of sulphur, copperand smoke. Water. May form toxic mixtures in air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures.
Protective equipment:	Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection.
Hazchem code:	2Z

6. Accidental Release Measures

Containment	If greater than 100kg is stored, secondary containment and emergency plans to manage any potential spills must be in place. In all cases design storage to prevent discharge to storm water.
Emergency procedures	In the event of spillage alert the fire brigade to location and give brief description of hazard. Stop the source of the leak, if safe to do so. Wear protective equipment to prevent skin, eye and respiratory exposure. Clear area of any unprotected personnel. Contain using sand, earth or vermiculite. Prevent by whatever means possible any spillage from entering drains, sewers, or water courses. (If this occurs contact your regional council immediately).
Clean-up method	Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.
Disposal	Sweep up collect recoverable material into labelled containers for recycling or salvage. Recycle containers wherever possible. This material may be suitable for approved landfill. Dispose of only in accord with all regulations.
Precautions	Avoid dust creation. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation.

7. Storage & Handling

Storage	Avoid storage of harmful substances with food. Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open flames. Avoid contact with incompatible substances as listed in Section 10.
Handling	Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of vapour, mist or aerosols.

8. Exposure Controls / Personal Protective Equipment

Workplace Exposure Standards – New Zealand

A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 3mg/m^3 for respirable particulates and 10mg/m^3 for inhalable particulates when limits have not otherwise been established.

NZ Workplace Exposure Stds	Ingredient	WES-TWA	WES-STEL
	Copper sulphate pentahydrate	0.01 mg/m^3 (as Cu) (respirable)	data unavailable

Exposure Standards – Australia

An Exposure Standard (ES) for the mixture has not been established. Below are the exposure standards for the ingredients:

Australian Exposure Stds	Ingredient	ES-TWA	ES-STEL
	Copper sulphate pentahydrate	1 mg/m^3 (as Cu)	data unavailable

Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety at Work Act (2015) and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify processes or increase ventilation.

Personal Protective Equipment

General

Personal Protective Equipment (PPE) should not be used as the primary means of exposure protection, except in the event of an accident or emergency situation or where all other means of protection have proven to inadequate.
Clean PPE after use or dispose of as appropriate. Store PPE for re-use in a clean place. Regular training on the correct use of PPE should be provided. In particular the correct fitting and use of respirators and where applicable the cleaning of respirators should be undertaken.

Eyes

Avoid contact with eyes. Use safety glasses and or chemical splash goggles if splashes are possible. Select eye protection in accordance with AS/NZS 1337.

Skin

Avoid repeated or prolonged skin contact. Wear overalls, rubber boots and impervious gloves. Protective gloves or suitably resistant material must comply with AS 2161. Replace frequently. Gloves should be checked for tears or holes before use. Protective clothing must comply with AS 2919, AS3765.1 or AS3765.2. PVC or rubber boots must comply with AS/NZS 2210.2 and selected and maintained in accordance with AS/NS2210.1. Remove protective clothing and wash exposed areas with soap and water prior to eating, drinking or smoking. Wash hands after handling.

Respiratory

A respirator when airborne concentrations approach the WES (section 8). Respirators must have filters appropriate to the duty and comply with AS/NZS1716 and selected, used and maintained in accordance with AS/NS 1715. Use a respirator with a particulate filter. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order. Fit testing and clear guidelines and training for use and maintenance of PPE are necessary.

WES Additional Information

Not applicable

9. Physical & Chemical Properties

Appearance	blue granules
Odour	no odour
pH	no data
Vapour pressure	no data
Viscosity	no data
Boiling point	dehydrates at 250°C
Volatile materials	no data
Freezing / melting point	no data
Solubility	soluble in water
Specific gravity / density	2.284
Flash point	no data
Danger of explosion	not explosive
Auto-ignition temperature	no data
Upper & lower flammable limits	no data
Corrosiveness	non corrosive

10. Stability & Reactivity

Stability	Stable
Conditions to be avoided	Containers should be kept closed in order to avoid contamination. Avoid dust formation.
Incompatible groups	Metals, hydrazines, hydroxylamines, magnesium, oxidisers, nitromethane.
Substance Specific Incompatibility	none known
Hazardous decomposition products	Oxides of sulphur, copper oxides.
Hazardous reactions	none known

11. Toxicological Information

Summary

IF SWALLOWED: may cause irritation to the gastrointestinal tract.
IF IN EYES: may cause serious eye irritation.
IF ON SKIN: may cause irritation.
IF INHALED: dust may be irritating.
CHRONIC TOXICITY: repeated exposure may be harmful to kidneys

Supporting Data

Acute	**Oral**	Copper Sulphate pentahydrate LD_{50}: 482mg/kg (rat)
	Dermal	Copper Sulphate pentahydrate LD_{50}: >2000mg/kg (rat)
	Inhaled	No data
	Eye	Copper Sulphate pentahydrate is considered to be an eye irritant.
	Skin	Copper Sulphate pentahydrate is considered to be a skin irritant.
Chronic	**Sensitisation**	Copper Sulphate pentahydrate is considered to be a contact sensitizer.
	Mutagenicity	Copper Sulphate pentahydrate is not considered a mutagen.
	Carcinogenicity	Copper Sulphate pentahydrate is not considered a carcinogen.
	Reproductive / Developmental	Copper Sulphate pentahydrate is not considered a reproductive or developmental toxicant or have any effects on or via lactation.
	Systemic	Copper Sulphate pentahydrate is considered to be a suspected target organ toxicant, repeated exposure may be harmful to kidneys.
	Aggravation of existing conditions	None known.

12. Ecological Data

Summary

Copper Sulphate pentahydrate is considered very ecotoxic towards aquatic organisms with long lasting effects and harmful towards terrestrial vertebrates.

Supporting Data

Aquatic	Copper Sulphate pentahydrate LC_{50}: 0.31mg/L (Fish), 0.07mg/L (48hr, Crustaceans), EC_{50}: 0.07mg/L (algae)
Bioaccumulation	No data
Degradability	No data
Soil	No evidence for soil toxicity.
Terrestrial vertebrate	See acute toxicity.
Terrestrial invertebrate	No evidence of terrestial invertebrates.
Biocidal	Copper sulphate is considered biocidal.
Environmental effect levels	No EELs are available for this mixture or ingredients

13. Disposal Considerations

Restrictions	There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents.
Disposal method	Disposal of this product must comply with the Hazardous Substances (Disposal) Notice 2017 and the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. The substance must be treated and therefore rendered non-hazardous before discharge to the environment.
Contaminated packaging	Disposal of contaminated packaging must comply with the Hazardous Substances (Disposal) Notice 2017 clause 12. Ensure that the package is rendered incapable of containing any substance and is disposed in a manner that is consistent with the requirements of the substance it contained and the material of the package. If possible reuse or recycle packaging.

14. Transport Information

Land Transport Rule: Dangerous Goods 2005 - NZS 5433:2007
Transport according to NZS 5433 (Transport of Hazardous Substances on Land). Considered a dangerous good for transport.

UN number:	3077	**Proper shipping name:**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, solid, n.o.s. (copper sulphate)
Class(es)	9	**Packing group:**	III
Precautions:	Marine pollutant	**Hazchem code:**	2Z

15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO), EPA Approval HSR002521, Animal Nutritional and Animal Care Products Group Standard 2020All ingredients appear on the NZIoC.

Specific Controls

Key workplace requirements are:	
SDS	To be available within 10 minutes in workplaces storing any quantity.
Inventory	An inventory of all hazardous substances must be prepared and maintained.
Packaging	All hazardous substances should be appropriately packaged including substances that have been decanted, transferred or manufactured for own use or have been supplied
Labelling	Must comply with the Hazardous Substances (Labelling) Notice 2017.
Emergency plan	Required if > 100kg is stored.
Certified handler	Not required.
Tracking	Not required.
Bunding & secondary containment	Not required (non pooling)
Signage	Required if > 100kg is stored.
Location compliance certificate	Not required.
Flammable zone	Not required.
Fire extinguisher	Not required.

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

Other Legislation

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health and Safety at Work Act 2015 and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, local Council Rules and Regional Council Plans.

Australia

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP)	Listed as copper compounds
Applicable prohibitions and notifications/licensing requirements	Not listed
Listing in the Australian Inventory of Chemical Substances (AICS)	Listed – IMAP tier I assessment

16. Other Information

Abbreviations

Approval Code	Approval HSR002521, Animal Nutritional and Animal Care Products Group Standard 2020 Controls, EPA. www.epa.govt.nz
CAS Number	Unique Chemical Abstracts Service Registry Number
EC_{50}	Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
EPA	Environmental Protection Authority (New Zealand)
GHS	Globally Harmonised System of Classification and Labelling of Chemicals
HAZCHEM Code	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters
HSNO	Hazardous Substances and New Organisms (Act and Regulations)
IARC	International Agency for Research on Cancer
LEL/UEL	Lower Explosive Limit/ Upper Explosive Limit
LD_{50}	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
LC_{50}	Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats)
MSDS (SDS)	Material Safety Data Sheet (or Safety Data Sheet)
NZIoC	New Zealand Inventory of Chemicals
STEL	Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded
STOT RE	System Target Organ Toxicity – Repeated Exposure

TWA	Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours)
UN Number	United Nations Number
WES	Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed during work hours (usually 8 hours, 5 days a week). The WES relates to exposure that has been measured by personal monitoring using procedures that gather air samples in the worker's breathing zone.

References

Data	Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID).
Controls	EPA notices, www.epa.govt.nz, Health and Safety at Work (Hazardous Substances) Regulations 2017, www.legislation.govt.nz
WES	The latest NZ Workplace Exposure Standards, published by WorkSafe NZ and available on their web site – www.worksafe.govt.nz.
Other References:	EU ECHA, ingredients SDS's, ChemIDplus, old SDS

Review

Date	**Reason for review**
April 2022	Not applicable – new SDS

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