1. Identification of Substance & Company

Product

Product name	Cowslips Liquid
HSNO approval	HSR100757
Approval description	Veterinary Medicines (Limited Pack Size, Finished Dose) Group Standard 2017
UN number	1247
Proper Shipping Name	METHYL METHACRYLATE MONOMER, STABILIZED
DG Class	3
Packaging group	II
Hazchem code	3YE
Uses	Adhesive in application of hoof care products

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

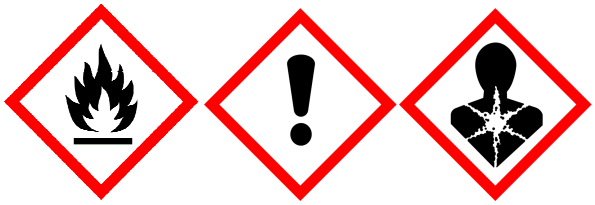
Approval

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR100757, Veterinary Medicines (Limited Pack Size, Finished Dose) Group Standard 2017). The substance has been classified as hazardous according to the criteria in the Hazardous substances (Minimum Degrees of Hazard) Notice 2017.

Classes	Hazard Statements
3.1B	H225 - Highly flammable liquid and vapour.
6.1D (inhalation)	H332 - Harmful if inhaled.
6.1E (respiratory irritation)	H335 - May cause respiratory irritation.
6.1E (oral)	H303 - May be harmful if swallowed
6.3B	H316 - Causes mild skin irritation.
6.4A	H319 - Causes serious eye irritation.
6.5B	H317 - May cause an allergic skin reaction.
6.9B	H373 - May cause damage to organs through prolonged or repeated exposure.
9.1D	H402 - Harmful to aquatic life.

SYMBOLS

DANGER



Australian GHS Classification

GHS classes	Hazard Statements
Flammable liquid cat 2	H225 - Highly flammable liquid and vapour.
Acute toxicity cat 4	H332 - Harmful if inhaled.
STOT SE	H335 - May cause respiratory irritation.
Eye irritation cat 2	H319 - Causes serious eye irritation.
Skin sensitization cat 1	H317 - May cause an allergic skin reaction.
STOT RE cat 2	H373 - May cause damage to organs through prolonged or repeated exposure.
Acute aquatic cat 4	H402 - Harmful to aquatic life.

Polymerisation with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances and/or heavy metal ions.

Precautionary Statements

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.
P210 - Keep away from ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe fume/vapours.
P264 - Wash hands 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.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/eye/face protection.
P304+P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P312 - Call a POISON CENTRE or doctor/physician if you feel unwell.
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.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.

3. Composition / Information on Ingredients

Component	CAS/ Identification	Conc (%)
methyl methacrylate	80-62-6	60-100%
Hydroxyethyl methacrylate-2-	868-77-9	15-40%
Dimethyl-p-toluidine	99-97-8	1-5%

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 or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service). IF exposed or if you feel unwell: Call a POISON CENTRE or doctor/physician.

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

Exposure

Swallowed	Do NOT induce vomiting. Give a glass of water to drink. Get medical advice/attention if you feel unwell.
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. Remove contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Inhaled	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/physician if you feel unwell.

Advice to Doctor

Treat symptomatically

5. Firefighting Measures

Fire and explosion hazards:	Vapours may form an explosive mixture in air which can be ignited by many sources such as pilot lights, open flames, electrical motors, switches and static electricity.
Suitable extinguishing substances:	Carbon dioxide, extinguishing powder or water jet. Fight larger fires with water jet or alcohol resistant foam.
Unsuitable extinguishing substances:	Unknown.
Products of combustion:	Carbon dioxide, and if combustion is incomplete, carbon monoxide and 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:	3YE

6. Accidental Release Measures

Containment	If greater than *1000L 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. Shut off all possible sources of ignition. Wear protective equipment to prevent skin, eye and respiratory exposure. Clear area of any unprotected personnel. Contain using sand, earth or vermiculite. Do not use sawdust. 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	Use absorbent (soil, sand or other inert material). Rags are not recommended for the clean-up of spills, as they may create fire or environmental hazard. 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	Mop up and 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	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. Store out of reach of children. Containers should be kept closed in order to minimise contamination. Store below 30°C. Keep from extreme heat and open flames. Fill the container by approximately 80% only as oxygen (air) is required for stabilisation. Avoid contact with incompatible substances as listed in Section 10. Location compliance certificates must be available if storing >100L (containers >5L), 250L (containers ≤5L), 50L (in use). Containers (and outer packaging) must bear the prescribed labelling, including the Hazchem code, UN number, flammability warning and name of contents.
Handling	Keep exposure to a minimum, and minimise the quantities kept in work areas. Use only outdoors or in a well-ventilated area. Take precautionary measures against static discharges. 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

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
	methyl methacrylate	50ppm, 208mg/m^3	100ppm, 416mg/m^3

Australian Exposure Stds	Ingredient	ES-TWA	ES-STEL
	methyl methacrylate	50ppm, 208mg/m^3	100ppm, 416mg/m^3

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

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. Rubber gloves are recommended. 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 an organic vapour cartridge. 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	colourless liquid
Odour	strong odour
pH	no data
Vapour pressure	N
Viscosity	NA
Boiling point	NA
Volatile materials	no data
Freezing / melting point	<-25°C
Solubility	not specified
Specific gravity / density	not specified
Flash point	+8°C
Danger of explosion	no data

Auto-ignition temperature	no data
Upper & lower flammable limits	no data
Corrosiveness	non corrosive

10. Stability & Reactivity

Stability	Stable under normal conditions. Product may react with acids, azo-, diazo-, hydrazines, alkalis and oxidising materials.
Conditions to be avoided	Flammable substance. Keep away from sources of ignition at all times. Containers should be kept closed in order to avoid contamination.
Incompatible groups	strong alkalis, strong acids, peroxides, strong oxidising agents, azo-, diazo-, hydrazine-compounds.
Substance Specific Incompatibility	none known
Hazardous decomposition products	Carbon oxides. Nitrogen oxides.
Hazardous reactions	Polymerisation with heat evolution may occur in the presence of radical forming substances (eg peroxides), reducing substances, and/or heavy metal ions.

11. Toxicological Information

Summary

IF SWALLOWED: may be harmful, with gastrointestinal irritation and upset stomach.
IF IN EYES: irritation may occur.
IF ON SKIN: may be irritating to the skin. Sensitised individuals may experience an allergic skin reaction such as dermatitis. Repeated exposure may cause skin dryness and cracking.
IF INHALED: vapours may be irritating to the respiratory system. Symptoms may include headaches, dizziness and drowsiness.

Supporting Data

Acute	**Oral**	Using LD_{50}'s for ingredients, the calculated LD_{50} (oral, rat) for the mixture is between 2000 and 5,000 mg/kg. Data considered includes: methyl methacrylate 4700 mg/kg (dog), Hydroxyethyl methacrylate-2 3275 mg/kg (mouse), Dimethyl-p-toluidine 1650mg/kg (rat).
	Dermal	No evidence of dermal toxicity.
	Inhaled	Using LC_{50}'s for ingredients, the calculated LC_{50} (inhalation, rat) for the mixture is between 15.375 mg/l – 29mg/L. Data considered includes: methyl methacrylate 15.375 mg/l - 29 mg/l (4hr, rat, vapour)
	Eye	The mixture is considered to be an eye irritant, because some of the ingredients present are considered eye irritants in more concentrated form.
	Skin	The mixture is considered to be a skin irritant, because some of the ingredients present are considered skin irritants in more concentrated form.
Chronic	**Sensitisation**	The mixture is considered to be a contact sensitizer, because methyl methacrylate is known to be a contact sensitizer.
	Mutagenicity	No ingredient present at concentrations > 0.1% is considered a mutagen.
	Carcinogenicity	No ingredient present at concentrations > 0.1% is considered a carcinogen.
	Reproductive / Developmental	No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation.
	Systemic	The mixture is considered to be a suspected target organ toxicant, because methyl methacrylate is suspected to be a target organ toxicant.
	Aggravation of existing conditions	None known.

12. Ecological Data

Summary

This mixture may be harmful towards aquatic organisms. In all cases prevent run-off to drains, sewers and waterways.

Supporting Data

Aquatic	Using EC_{50}'s for ingredients, the calculated EC_{50} for the mixture is between 1 and 100 mg/L. Data considered includes: methyl methacrylate 191 mg/l (96hr, Lepomis *macrochirus); 69* mg/l (48hr, Daphnia magna); 170 mg/l (96hr, Selenastrum capricornutum), Dimethyl-p-toluidine 52mg/L (96hr, fish).
Bioaccumulation	No data
Degradability	No data
Soil	No evidence of soil toxicity.
Terrestrial vertebrate	This mixture is not considered toxic towards terrestrial vertebrates.
Terrestrial invertebrate	No evidence of toxicity towards terrestrial invertebrates.

Biocidal	no data
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

Transport according to NZS 5433 (Transport of Hazardous Substances on Land). Considered a dangerous good for transport.

UN number:	1247	**Proper shipping name:**	METHYL METHACRYLATE MONOMER, STABILIZED
Class(es)	3	**Packing group:**	II
Precautions:	Flammable liquid	**Hazchem code:**	3YE

15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR100757, Veterinary Medicines (Limited Pack Size, Finished Dose) Group Standard 2017.
All ingredients appear in the NZIoC.

Specific Workplace Controls (as per HSNO approval referenced to Controls Matrix)

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 > 1000L is stored.
Certified handler	Not required.
Tracking	Not required.
Bunding & secondary containment	Required if > *1000L is stored.*
Signage	Required if > 250L is *stored.*
Location compliance certificate	Required if > 100L (containers >5L). 250L (containers ≤5L), 50L (in use) is stored.
Flammable zone	Must be established if > 100L (closed containers), 25L (decanting), 5L (open occasionally), 1L (in use), stored in any one location is stored.
Fire extinguisher	If > 250L present.

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)	Not scheduled
Applicable prohibitions and notifications/licensing requirements	Not listed
Agricultural and Veterinary Chemicals Act	Not listed
Listing in the Australian Inventory of Chemical Substances (AICS)	Methyl methacylate - IMAP - Tier II - Human Health
Additional information	NA

16. Other Information

Abbreviations

Approval Code	Approval HSR100757, Veterinary Medicines (Limited Pack Size, Finished Dose) Group Standard 2017 Controls, EPA. www.epa.govt.nz
AICS	Australian Inventory of Chemical Substances
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)
ES	Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed in a work day.
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)
NICNAS	National Industrial Chemicals Notification and Assessment Scheme
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
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.
ES	Workplace Exposure standards for airborne contaminants – Safework Australia.
Other References:	Suppliers SDS, EU ECHA, ingredients SDS's, ChemIDplus

Review

Date	**Reason for review**
July 2019	Not applicable – new SDS

Disclaimer