1. IDENTIFICATION OF SUBSTANCE & COMPANY

Product information

Product name	Calpro 375
Other names	None
ACVM approval	A007110
HSNO approval	HSR002399
Approval description	Liquid containing 2 - 10% boric acid
UN number	NA
Proper Shipping Name	NA
Packaging group	NA
Hazchem code	1T (recommended)

Uses For the treatment of milk fever in cattle.

Company Details

Company	**Bayer New Zealand Ltd**
Address	3 Argus Place, Hillcrest, Auckland 0627 New Zealand.
Telephone	0800 652 488
Facsimile	0800 229 838

Emergency Telephone Number: 0800 734 607

2. HAZARD IDENTIFICATION

Approval

This product has been approved under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR002399, Liquid containing 2 - 10% boric acid), and is classified as follows:

Classes	Hazard Statements
6.8B	Suspected of damaging fertility or the unborn child

SYMBOLS

WARNING

Other Classifications

ACVM registration number: A007110

There are no other Classifications that are known to apply.

Precautionary Statements

Read label before use.
Obtain special instructions before use.
Store locked up.
Do not handle until all safety precautions have been read and understood.
Use personal protective equipment as required.
IF exposed or concerned: Get medical advice/ attention.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS/ Identification	Concentration
Calcium Borogluconate	5743-34-0	375g/L
Cyanocobalamin	68-19-9	0.02g/L
Ingredients not contributing to classification	NA	<1%
Water	7732-18-5	balance

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

4. FIRST AID

General Information

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 medical advice is needed, have product container or label at hand. IF exposed or concerned: Get medical advice.

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. Contact a doctor.

Eye contact If product gets in eyes, wash material from them with running water for several minutes. If symptoms persist, seek medical advice.

Skin contact This product is non-irritating to skin. No further measures should be required.

Inhaled 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, water jets.

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: 1T (recommended)

6. ACCIDENTAL RELEASE MEASURES

Containment	If greater than 10000L 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 stormwater.
Emergency procedures	In the event of a large spill (>100L) 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	Use absorbent (soil, sand or other inert material. 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. 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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTIVE EQUIPMENT

Workplace Exposure Standards

A workplace exposure standard (WES) has not been established by the NZ Department of Labour for this product. There is a general limit of 10mg/m^3 for dusts and mists when limits have not otherwise been established.

	Ingredient	**WES-TWA**	**WES-STEL**
NZ Workplace Exposure Stds (OSH – DoL 2011)	Boric acid	Borates: 1mg/m^3	no data

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 in Employment Act 1992 (HSE). 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	Protective eyewear is not normally necessary when using this product. However, it always prudent to use protective eyewear if splashes are likely.
Skin	Protective gloves and clothing are not normally necessary. However, it is prudent to wear gloves when handling chemicals in bulk or for an extended period of time.
Respiratory	A respirator when airborne concentrations approach the WES (section 8). Use a respirator with a particulate filter (dust/mists). If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order.

WES Additional Information

Not applicable

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance	pink to colourless clear solution
Odour	odourless
pH	no data
Vapour pressure	no data
Viscosity	no data
Boiling point	no data
Volatile materials	no data
Freezing / melting point	no data
Solubility	no data
Specific gravity / density	no data
Flash point	non flammable
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. Keep from extreme heat and open flames.
Incompatible groups	none known
Substance Specific Incompatibility	none known
Hazardous decomposition products	none known
Hazardous reactions	none known

11. TOXICOLOGICAL INFORMATION

Summary

IF SWALLOWED: Ingestion of large amounts may cause vomiting and upset stomach.

IF IN EYES: May cause transient stinging or redness.

IF ON SKIN: Product is not considered to be a skin irritant.

IF INHALED: No inhalation hazard identified from data found.

Supporting Data

Acute	**Oral**	Using LD_{50}'s for ingredients, the calculated LD_{50} (oral, rat) for the mixture is >5,000 mg/kg. Data considered includes: Boric acid 2668 mg/kg (mouse), Cyanocobalamin >5000mg/kg.
	Dermal	No evidence of dermal toxicity.
	Inhaled	No evidence of inhalation toxicity.
	Eye	The mixture is not considered to be an eye irritant.
	Skin	The mixture is not considered to be a skin irritant.
Chronic	**Sensitisation**	No ingredient present at concentrations > 0.1% is considered a 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	The mixture is considered to be a suspected reproductive or developmental toxicant. Animal experiments have shown that ingestion of borates at high doses or over prolonged periods may affect the reproductive system in both males and females.
	Systemic	No ingredient present at concentrations > 1% is considered a target organ toxicant.
	Aggravation of existing conditions	None known.

12. ECOLOGICAL DATA

Summary

This mixture is not considered to be ecotoxic.

Supporting Data

Aquatic	No evidence of aquatic ecotoxicity.
Bioaccumulation	No data
Degradability	No data
Soil	No evidence of soil toxicity.
Terrestrial vertebrate	See section 11 – acute toxicity.
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 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	Rinse containers with water before disposal. Preferably re-cycle container, otherwise send to landfill or similar.

14. TRANSPORT INFORMATION

There are no specific restrictions for this product (not a dangerous good).

UN number:	NA	**Proper shipping name:**	NA
Class(es):	NA	**Packing group:**	NA
Precautions:	Not applicable.	**Hazchem code:**	1T (recommended)

15. REGULATORY INFORMATION

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002399, Liquid containing 2 - 10% boric acid.

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

Key workplace requirements are:

MSDS	To be available within 10 minutes in workplaces storing > 1L.
Labelling	No removal of labels and/or decanting of product into other containers can occur.
Emergency plan	Required if > 10000L is stored.
Approved handler	Not required.
Tracking	Not required.
Bunding & secondary containment	Required if > 10000L is stored.
Signage	Not required.
Location test 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, Safety in Employment Act and Regulations, local Council Rules and Regional Council Plans.
ACVM registration number: A007110

16. OTHER INFORMATION

Abbreviations

Approval Code	Approval HSR002399, Liquid containing 2 - 10% boric acid, Controls, EPA. www.epa.govt.nz
ACVM	Agricultural Compounds and Veterinary Medicines
ARTG	Australian Register of Therapeutic Goods
CAS Number	Unique Chemical Abstracts Service Registry Number
Ceiling	Ceiling Exposure Value: The maximum airborne concentration of a biological or chemical agent to which a worker may be exposed at any time.
Controls Matrix	List of default controls linking regulation numbers to Matrix code (e.g. T1, I16).
EC_{50}	Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
ERMA	Environmental Risk Management Authority (now EPA)
EPA	Environmental Protection Agency (previously known as ERMA)
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	Lower 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	Material Safety Data Sheet (or Safety Data Sheet)
OSH - DoL	The Occupational Safety and Health Service of the Department of Labour (NZ)
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)
UEL	Upper Explosive Limit
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.

References

Data	Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID) http://www.epa.govt.nz/hs/compliance/chemicals.html for specific chemicals.
EPA Transfer Gazettes	Classifications and controls assigned for specific ingredients (consolidated gazette, 2004)
Controls Matrix	Part of the EPA New Zealand User Guide to the HSNO Control Regulations
WES 2011	The NZ Workplace Exposure Standards Effective from 2011, published by OSH – DoL and available on their web site – www.osh.dol.govt.nz.
Other References:	Suppliers MSDS

Review

Date	**Reason for review**
October 2012	Not applicable – new MSDS

Disclaimer

This MSDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The MSDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the MSDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely HSNO classifications, are based on our experience, EPA Guidelines and international classifications. This MSDS is copyright Datachem and must not be edited without the permission of the copyright holder or used for other than intended purpose. To contact the MSDS author, email info@datachem.co.nz or phone: ***(09) 940 30 80.***