



1. Identification of Substance & Company

Product	
Product name	Calf
Other names	No other names
Product codes	NA
HSNO approval	HSR002521
Approval description	Animal Nutritional and Animal Care Products Group Standard 2017
UN number	NA
DG class	NA
Proper Shipping Name	NA
Packaging group	NA
Hazchem code	NA
Uses	Oral drench or milk additive for calves – nutritional product

Company Details

Company	Biostart LTD	Biostart Brands PTY Ltd
Address	216 Lake Road Hauraki Auckland 0622 New Zealand	L1/109 Jessie St Armidale NSW 2350 Australia
Telephone	+64 9 488 0180	1800 359 555
Website	biostart.co.nz	Biostart.com.au

New Zealand Emergency Telephone Number: 0800 764 766
Australian Emergency Number: 13 11 26

2. Hazard Identification

Approval in New Zealand

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 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
6.3B	H316 - Causes mild skin irritation.
6.5A	H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
9.1D	H402 - Harmful to aquatic life.

SYMBOLS

DANGER



Australian GHS Classification

Respiratory sensitizer cat 1	H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Aquatic acute cat 4	H402 - Harmful to aquatic life.

Precautionary Statements

- P103 - Read label before use.
- P261 - Avoid breathing dust/mist/vapours.
- P273 - Avoid release to the environment.
- P285 - In case of inadequate ventilation wear respiratory protection.
- P332+P313 - If skin irritation occurs: Get medical advice/ attention.
- P304+P341 - IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
- P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.

3. Composition / Information on Ingredients

Component	CAS/ Identification	Conc (%)
Non-viable fermentation products – generally regarded as safe (GRAS)	proprietary	>60%
Rennet enzyme	9001-98-3	1-10%
Vitamin mixture including Vit A, Vit D3, Vit E	Mixture	0.1-1%
Copper glycinate	13479-54-4	0.1-0.3%
Zinc sulphate	7733-02-0	0.5-1.0%
Other ingredients not contributing to HSNO classes	Mixture	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

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) – New Zealand or 13 1126 (24 hr emergency service) – Australia.

IF exposed or concerned: Get medical advice/ attention.

Recommended first aid facilities Ready access to running water is recommended.

Exposure

Swallowed	Do NOT induce vomiting. Give a glass of water to drink. Contact a doctor if experiencing any symptoms.
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	Flush immediately with large amounts of water. Remove all contaminated clothing. If skin irritation occurs: Get medical advice/ attention.
Inhaled	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.

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 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:	NA

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 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	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 in New Zealand
A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 3mg/m³ for respirable particulates and 10mg/m³ for inhalable particulates when limits have not otherwise been established.

NZ Workplace Exposure Stds	Ingredient	WES-TWA*	WES-STEL
	Zinc compounds	Zinc dust: 10mg/m ³ Zinc oxide: 3mg/m ³	Data unavailable
	Cu compounds	1mg/m ³ (as Cu dust)	Data unavailable
	Co compounds	0.05mg/m ³ (Cobalt metal dust and fumes, as Co (bio, 6.7B))	Data unavailable
	Selenium	0.1mg/m ³	Data unavailable
	Manganese sulphate monohydrate	1mg/m ³	Data unavailable

Exposure Standards - Australia			
Australian Exposure Standards	Ingredient	WES-TWA*	WES-STEL
	Zinc compounds	Zinc oxide dust: 10mg/m ³	Data unavailable
	Cu compounds	1mg/m ³ (as Cu dust)	Data unavailable
	Co compounds	0.05mg/m ³ (Cobalt metal dust and fumes, as Co)	Data unavailable
	Selenium	0.1mg/m ³	Data unavailable
	Manganese sulphate monohydrate	1mg/m ³	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

Eyes	Protective eyewear is not normally necessary when using this product. However, it is always prudent to use protective eyewear if splashes are likely.
Skin	Avoid any skin contact. Wear overalls, rubber boots and impervious gloves. Nitrile 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.



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	light brown liquid
Odour	not specified
pH	3.6-4.2
Vapour pressure	no data
Viscosity	no data
Boiling point	no data
Volatile materials	no data
Freezing / melting point	no data
Solubility	completely soluble in water
Specific gravity / density	1.05-1.08
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. Keep from extreme heat and open flames.
Incompatible groups	Strong acids and bases, oxidisers.
Substance Specific Incompatibility	none known
Hazardous decomposition products	Oxides of carbon, sulphur
Hazardous reactions	none known

11. Toxicological Information

Summary

IF SWALLOWED: may cause gastrointestinal irritation.
 IF IN EYES: direct contact may be irritating to the eye, which may be transient.
 IF ON SKIN: may cause mild skin irritation.
 IF INHALED: sensitised individuals may experience an allergic reaction such as asthma.

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: zinc sulphate 926mg/kg (mouse).
	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 considered to be a mild skin irritant.
Chronic	Sensitisation	The mixture is considered to be a respiratory sensitizer. Enzymes (Rennin) present in this mixture may cause allergic reaction.
	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. Vitamin A is a suspected reproductive/developmental toxicant. The teratogenicity of vitamin A in both high and low doses is well established in animals. However, it is uncertain whether vitamin A is teratogenic in man.
	Systemic Aggravation of existing conditions	No ingredient present at concentrations > 1% is considered a target organ toxicant. None known.

12. Ecological Data

Summary

This mixture may affect aquatic organisms.

Supporting Data

Aquatic	Using EC ₅₀ 's for ingredients, the calculated EC ₅₀ for the mixture is between 1 mg/L and 100 mg/L. Data considered includes: zinc sulphate 98.77ug/L (96hr, <i>Oncorhynchus mykiss</i>), 0.09877mg/L (48hr, <i>Daphnia hyalina</i>), 0.02469mg/L (5d, <i>Ditylum brightwellii</i> Diatom).
Bioaccumulation	No data
Degradability	No data
Soil	No evidence of soil toxicity.
Terrestrial vertebrate	See acute toxicity.
Terrestrial invertebrate	Nil 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, resource consent and state disposal conditions may apply, including requirements of trade waste consents.
Disposal method	In New Zealand 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. In Australia disposal of this product must comply with the requirements of state and local disposal regulations. 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

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:	NA	Hazchem code:	NA

15. Regulatory Information

NZ regulations

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002521, Animal Nutritional and Animal Care Products Group Standard 2017.
All 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 > 10000L is stored.
Certified handler	Not required.
Tracking	Not required.
Bunding & secondary containment	Required if > 10000L is stored.
Signage	Required if > 10000L 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.

ACVM: exempt

Australian regulations

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP)	Not scheduled
Applicable prohibitions and notifications/licensing requirements Agricultural and Veterinary Chemicals Act	Not listed
Listing in the Australian Inventory of Chemical Substances (AICS)	(Soluble cobalt (II) and salts) - IMAP - Tier II - Human Health Copper glycinate – listed AICS 1,2-Ethanediamine, dihydriodide – listed AICS Magnesium sulfate, heptahydrate - IMAP - Tier I - Human Health Manganous sulfate, monohydrate - IMAP - Tier II - Human Health Selenic acid, (H ₂ SeO ₄), disodium salt – listed AICS (Soluble zinc salts) - IMAP - Tier II - Human Health Vitamin A – listed AICS Vitamin E - IMAP - Tier I - Human Health Vitamin D3 – listed AICS Rennin – listed AICS
Additional information	Not applicable

16. Other Information

Abbreviations

Approval Code	Approval HSR002521, Animal Nutritional and Animal Care Products Group Standard 2017 Controls, EPA. www.epa.govt.nz
AICS	Australian Inventory of Chemical Substances
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).
EC₅₀	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
LD₅₀	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
LC₅₀	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
June 2019	Not applicable – new SDS

Disclaimer

This SDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The SDS 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 SDS) 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 for this SDS have been estimated based on general information from the supplier (e.g., hazard, toxicological). This SDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the SDS author, email info@datachem.co.nz or phone: +64 9 940 30 80.

