



Safety Data Sheet

Ketol

1. IDENTIFICATION OF SUBSTANCE & COMPANY

Product information

Product name Ketol
Other names None
ACVM approval A000110
HSNO approval HSR002521
Approval description Animal Nutritional and Animal Care Products Group Standard 2006
UN number NA
Proper Shipping Name NA
Packaging group NA
Hazchem code 1T (recommended – no HAZCHEM signage required)

Uses An aid in the treatment and prevention of Ketosis (acetomenia) in cattle and sleepy sickness (pregnancy toxemia) in sheep.

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 HSR002521, Animal Nutritional and Animal Care Products Group Standard 2006), and is classified as follows:

Classes	Hazard Statements
6.7B	Suspected of causing cancer
6.8B	Suspected of damaging fertility or the unborn child

SYMBOLS

WARNING



Other Classifications

ACVM registration number: A007226

There are no other Classifications that are known to apply.



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Precautionary Statements

Keep out of reach of children.
Read label before use.
Obtain special instructions before use.
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.

Further precautionary statements can be found in Section 4 – First Aid.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS/ Identification	Conc g/L
Ethylenediamine dihydriodide	5700-49-2	0.44g/L
Ferric glycerophosphate	1301-70-8	0.03g/L
Magnesium glycerophosphate	927-20-8	0.03g/L
Sodium glycerophosphate	17603-42-8	0.04g/L
Potassium glycerophosphate	1319-69-3	0.07g/L
Calcium glycerophosphate	27214-00-2	0.14g/L
Acetic acid	64-19-7	0.39g/L
Cobalt sulphate heptahydrate	10026-24-1	1.1g/L
Choline chloride	67-48-1	20.6g/L
Propylene glycol	57-55-6	828.8g/L

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 recommended.

Exposure

Swallowed

IF SWALLOWED: Do NOT induce vomiting. Give a glass of water to drink. Call a POISON CENTER or doctor/physician if you feel unwell.

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

Wash affected area with soap and water. Remove contaminated clothing and wash before re-use. If irritation occurs, seek medical advice.

Inhaled

Generally, inhalation of fumes 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 may burn in a fire.

Suitable extinguishing

Carbon dioxide, extinguishing powder, foam, fog sprays, water spray.



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substances:	
Unsuitable extinguishing substances:	Use standard firefighting procedures and consider the hazards of other involved materials. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Products of combustion:	Carbon dioxide, and if combustion is incomplete, carbon monoxide, propionaldehyde and smoke. 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 and full protective clothing must be worn in case of fire.
Hazchem code:	1T (recommended)

6. ACCIDENTAL RELEASE MEASURES

Containment	There is no current legal requirement for secondary containment of this product. Emergency plans to manage any potential spill must be in place. Prevent spillage from spreading or entering soil, waterways or drains.
Emergency procedures	If a significant spill (>100L) occurs: Stop leak if safe/necessary; Isolate area. Collect spill – see below; Transfer to container for disposal. Dispose of according to guidelines below (Section 13).
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.
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	No special protective clothing is normally necessary.

7. STORAGE & HANDLING

Storage	Avoid storage of harmful substances with food. Store out of reach of children. Store in original containers. Containers should be kept closed in order to minimise contamination. Protect from light. 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 Ministry of Business, Innovation & Employment (MBIE) for this product. There is a general limit of 10mg/m³ for dusts and mists when limits have not otherwise been established.

NZ Workplace Exposure Stds (2013)	Ingredient	WES-TWA	WES-STEL
	Cobalt sulphate heptahydrate (see Cobalt)	See below	no data
	Acetic acid	25 mg/m ³	37 mg/m ³
	Cobalt metal dust and fumes as Co _(bio, 6.7B)	0.05mg/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 (dust/mist) filter. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working



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order.

WES Additional Information

Not applicable

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance	clear pale pink liquid
Odour	faint odour
pH	no data
Vapour pressure	no data
Viscosity	no data
Boiling point	no data
Volatile materials	no data
Freezing / melting point	no data
Solubility	water soluble
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	Strong oxidisers, strong acids
Substance Specific Incompatibility	None known
Hazardous decomposition products	Propionaldehyde, oxides of carbon.
Hazardous reactions	None known

11. TOXICOLOGICAL INFORMATION

Summary

IF SWALLOWED: Low order of oral toxicity, ingestion of large quantities may cause gastrointestinal irritation with nausea, vomiting and diarrhoea.

IF IN EYES: Contact may cause eye irritation. Contact may cause temporary stinging, burning, tearing or redness if accidental eye contact occurs.

IF ON SKIN: May cause some skin irritation or sensitisation including pain and redness.

IF INHALED: May cause respiratory tract irritation.

CHRONIC: This mixture contains a cobalt species at very low concentrations. Cobalt compounds are suspected of causing cancer and may affect the reproductive system.



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Supporting Data

Acute	Oral	This substance has a calculated LD ₅₀ (oral) >5000mg/kg. Cobalt sulphate heptahydrate 330mg/kg (sheep), Acetic acid 600 mg/kg (rabbit), Choline chloride 3400mg/kg.
	Dermal	No evidence of dermal toxicity for ingredients present >1%.
Chronic	Inhaled	No evidence of inhalation toxicity.
	Eye	The mixture is not classed as an eye irritant. Temporary irritation may occur upon direct contact.
	Skin	The mixture is not classed as a skin irritant.
	Sensitisation	Cobalt sulphate heptahydrate is classed by EPA as a respiratory and contact sensitiser, but should not trigger 6.5A/B if present than <0.5%.
	Mutagenicity	No ingredient present at concentrations > 0.1% is considered a mutagen.
	Carcinogenicity	The mixture is considered to be a suspected carcinogen. It does contain small amounts of Cobalt sulphate heptahydrate which is classed as 6.7B by EPA.
	Reproductive / Developmental	The mixture is considered to be a suspected reproductive or developmental toxicant. It does contain Cobalt sulphate heptahydrate which is classed as 6.8B by EPA.
	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 expected to be ecotoxic towards aquatic or terrestrial organisms.

Supporting Data

Aquatic	Using EC ₅₀ 's for ingredients, the calculated EC ₅₀ for the mixture is > 100 mg/L. Data considered includes: Cobalt sulphate heptahydrate EC ₅₀ 0.4-72 mg/L (72hr, Algae), Acetic acid 32 mg/l (48 hr) Artemia salina (Crustacea), 100ppm Goldfish, Choline chloride.
Bioaccumulation	No data
Degradability	No data
Soil	No evidence of soil toxicity.
Terrestrial vertebrate	This product is not considered toxic to terrestrial vertebrates. No LC ₅₀ (diet) data for ingredients are available and the classification is based on the LD ₅₀ (oral) – see section 11 – oral 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.



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14. TRANSPORT INFORMATION

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

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

15. REGULATORY INFORMATION

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 2006.

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 <i>any quantity</i> .
Labelling	No removal of labels and/or decanting of product into other containers can occur.
Emergency plan	Not required.
Approved handler	Not required.
Tracking	Not required.
Bunding & secondary containment	Not required.
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: A000110



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16. OTHER INFORMATION

Abbreviations

Approval Code	Approval HSR002521, Animal Nutritional and Animal Care Products Group Standard 2006 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).
EC₅₀	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
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)
MBIE	Ministry of Business, Innovation & Employment (New Zealand)
MSDS	Material Safety Data Sheet (or Safety Data Sheet)
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 2013	The NZ Workplace Exposure Standards Effective from 2013, published by MBIE and available on their web site – www.dol.govt.nz .
Other References:	Suppliers MSDS

Review

Date	Reason for review
September 2012	Not applicable – new MSDS
January 2013	Amendment of typographical error in section 11
October 2013	Amendment of classification/controls

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.

