

RANVET PROMIX

ChemWatch Material Safety Data Sheet
Issue Date: Tue 4-Mar-2008

CHEMWATCH 4638-42
CD 2005/2 Page 1 of 10

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

RANVET PROMIX

SYNONYMS

Protein Concentrate For Horses Feed Additive Supplement

PRODUCT USE

Protein in the horse's diet.

SUPPLIER

Company: Ranvet Pty Ltd (ACN: 001 606 033)

Address:

10-12 Green Street

East Botany

NSW, 2019

AUS

Telephone: +61 2 9666 1744

Emergency Tel: +61 418493 533 A/H

Fax: +61 2 9666 1755

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

POISONS SCHEDULE

None

RISK

SAFETY

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
full fat soy		35.2
peas/lupins		13.3
L-lysine	56-87-1	3.66
methionine	63-68-3	2.66
wheat	68917-73-7	0-1
essential amino-acids		NotSpec

Section 4 - FIRST AID MEASURES

SWALLOWED

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

continued...

RANVET PROMIX

ChemWatch Material Safety Data Sheet
Issue Date: Tue 4-Mar-2008

CHEMWATCH 4638-42
CD 2005/2 Page 2 of 10
Section 4 - FIRST AID MEASURES

EYE

If this product comes in contact with eyes:

- Wash out immediately with water.
- If irritation continues, seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin or hair contact occurs:

- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves for fire only.
- Prevent, by any means available, spillage from entering drains or water courses.
- Use fire fighting procedures suitable for surrounding area.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD

- Solid which exhibits difficult combustion or is difficult to ignite.
 - Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited
 - Dry dust can also be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport.
 - Build-up of electrostatic charge may be prevented by bonding and grounding.
 - Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.
- Decomposition may produce toxic fumes of carbon dioxide (CO₂).
- other pyrolysis products typical of burning organic material.
- May emit poisonous fumes.

FIRE INCOMPATIBILITY

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

continued...

RANVET PROMIX

ChemWatch Material Safety Data Sheet
Issue Date: Tue 4-Mar-2008

CHEMWATCH 4638-42
CD 2005/2 Page 3 of 10
Section 5 - FIRE FIGHTING MEASURES

HAZCHEM

None

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Clean up all spills immediately.
- Avoid breathing dust and contact with skin and eyes.
- Wear protective clothing, gloves, safety glasses and dust respirator.
- Use dry clean up procedures and avoid generating dust.
- Sweep up, shovel up or
- Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).
- Place spilled material in clean, dry, sealable, labelled container.

MAJOR SPILLS

Moderate hazard.

- CAUTION: Advise personnel in area.
- Alert Emergency Services and tell them location and nature of hazard.
- Control personal contact by wearing protective clothing.
- Prevent, by any means available, spillage from entering drains or water courses.
- Recover product wherever possible.
- IF DRY: Use dry clean up procedures and avoid generating dust. Collect residues and place in sealed plastic bags or other containers for disposal. IF WET: Vacuum/shovel up and place in labelled containers for disposal.
- ALWAYS: Wash area down with large amounts of water and prevent runoff into drains.
- If contamination of drains or waterways occurs, advise Emergency Services.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- DO NOT allow material to contact humans, exposed food or food utensils.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

continued...

RANVET PROMIX

ChemWatch Material Safety Data Sheet
Issue Date: Tue 4-Mar-2008

CHEMWATCH 4638-42
CD 2005/2 Page 4 of 10
Section 7 - HANDLING AND STORAGE

SUITABLE CONTAINER

Multi ply paper bag with sealed plastic liner or heavy gauge plastic bag

NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse. Check that all containers are clearly labelled and free from leaks. Packing as recommended by manufacturer.

STORAGE INCOMPATIBILITY

Avoid reaction with oxidising agents.

STORAGE REQUIREMENTS

Observe manufacturer's storing and handling recommendations.

Store below 30 degC.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

No data available for L-lysine as (CAS: 56-87-1)

No data available for methionine as (CAS: 63-68-3) / (CAS: 59-51-8) / (CAS: 348-67-4)

No data available for wheat as (CAS: 68917-73-7) / (CAS: 8006-95-9)

Not available. Refer to individual constituents.

EXPOSURE STANDARDS FOR MIXTURE

"Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration:

Composite Exposure Standard for Mixture (TWA) :3.1061 mg/m³.

Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone.

If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed.

Component Breathing Zone ppm Breathing Zone mg/m³ Mixture Conc (%)

Component	Breathing Zone (mg/m ³)	Mixture Conc (%)
L-lysine	1.5530	3.7
methionine	1.1287	2.7
wheat	0.4243	1.0

INGREDIENT DATA

L-LYSINE:

Dusts not otherwise classified, as inspirable dust;

ES TWA: 10 mg/m³.

Particulate (insoluble or poorly soluble *) Not Otherwise Specified (P.N.O.C)

TLV TWA: 10 mg/m³ Inhalable particulate

TLV TWA: 3 mg/m³ Respirable particulate

OEL-Sweden, United Kingdom: 10 mg/m³ total dust, 5 mg/m³ respirable dust

These "dusts" have little adverse effect on the lungs and do not produce toxic effects or organic disease. Although there is no dust which does not evoke some cellular response at sufficiently high concentrations, the cellular response caused by P.N.O.C.s has the following characteristics:

- the architecture of the air spaces remain intact,
- scar tissue (collagen) is not synthesised to any degree,
- tissue reaction is potentially reversible.

Extensive concentrations of P.N.O.C.s may:

- seriously reduce visibility,

continued...

RANVET PROMIX

ChemWatch Material Safety Data Sheet
Issue Date: Tue 4-Mar-2008

CHEMWATCH 4638-42
CD 2005/2 Page 5 of 10

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

- cause unpleasant deposits in the eyes, ears and nasal passages,
- contribute to skin or mucous membrane injury by chemical or mechanical action, per se, or by the rigorous skin cleansing procedures necessary for their removal. [ACGIH]

This limit does not apply:

- to brief exposures to higher concentrations
- nor does it apply to those substances that may cause physiological impairment at lower concentrations but for which a TLV has as yet to be determined.

This exposure standard applies to particles which

- are insoluble or poorly soluble* in water or, preferably, in aqueous lung fluid (if data is available) and
- have a low toxicity (i.e.. are not cytotoxic, genotoxic, or otherwise chemically reactive with lung tissue, and do not emit ionizing radiation, cause immune sensitization, or cause toxic effects other than by inflammation or by a mechanism of lung overload)

* Notice of intended change.

METHIONINE:

Dusts not otherwise classified, as inspirable dust;

ES TWA: 10 mg/m³.

Particulate (insoluble or poorly soluble *) Not Otherwise Specified (P.N.O.C)

TLV TWA: 10 mg/m³ Inhalable particulate

TLV TWA: 3 mg/m³ Respirable particulate

OEL-Sweden, United Kingdom: 10 mg/m³ total dust, 5 mg/m³ respirable dust

These "dusts" have little adverse effect on the lungs and do not produce toxic effects or organic disease. Although there is no dust which does not evoke some cellular response at sufficiently high concentrations, the cellular response caused by P.N.O.C.s has the following characteristics:

- the architecture of the air spaces remain intact,
- scar tissue (collagen) is not synthesised to any degree,
- tissue reaction is potentially reversible.

Extensive concentrations of P.N.O.C.s may:

- seriously reduce visibility,
- cause unpleasant deposits in the eyes, ears and nasal passages,
- contribute to skin or mucous membrane injury by chemical or mechanical action, per se, or by the rigorous skin cleansing procedures necessary for their removal. [ACGIH]

This limit does not apply:

- to brief exposures to higher concentrations
- nor does it apply to those substances that may cause physiological impairment at lower concentrations but for which a TLV has as yet to be determined.

This exposure standard applies to particles which

- are insoluble or poorly soluble* in water or, preferably, in aqueous lung fluid (if data is available) and
- have a low toxicity (i.e.. are not cytotoxic, genotoxic, or otherwise chemically reactive with lung tissue, and do not emit ionizing radiation, cause immune sensitization, or cause toxic effects other than by inflammation or by a mechanism of lung overload)

* Notice of intended change.

OEL STEL: 5 mg/m³

[Russia]

WHEAT:

No exposure limits set by NOHSC or ACGIH.
grain dust

continued...

RANVET PROMIX

ChemWatch Material Safety Data Sheet
Issue Date: Tue 4-Mar-2008

CHEMWATCH 4638-42
CD 2005/2 Page 6 of 10

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

TLV TWA: 4 mg/m³ (oat, wheat, barley) (total dust/particulate)
ES TWA: 4 mg/m³ (oat, wheat, barley)
MEL TWA: 10 mg/m³ (oat, wheat, barley, maize, rye) sensitiser
Exposure to grain dusts affects the upper and lower respiratory tract. Symptoms include running nose and bronchitis. Irritant action, allergic reaction, or both, are thought to produce these symptoms. High concentrations of the dusts are irritating to both eyes and skin and may produce "grain fever" characterised by chest tightness and flu-like symptoms. Studies show a decline in lung function, in grain workers, exposed to the dust over a period of six years. Inhalation of grain dusts may result in serious health effects including occupational asthma, extrinsic alveolitis and chronic obstructive pulmonary disease. The nature of the chemical agent(s) producing these effects is unknown but might include soils, microorganisms, pesticide residues, naturally occurring toxins, insect parts, animal hairs, other proteins, and even small amounts of free silica. [EH64 Summary Criteria for Occupational Exposure Limits- Health and Safety Executive, UK].

PERSONAL PROTECTION

EYE

- Safety glasses with side shields
- Chemical goggles.
- Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.

HANDS/FEET

Wear chemical protective gloves, eg. PVC.
Wear safety footwear or safety gumboots, eg. Rubber.

OTHER

No special equipment needed when handling small quantities.

OTHERWISE:

- Overalls.
- Barrier cream.
- Eyewash unit.

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the: "Forsberg Clothing Performance Index".
The effect(s) of the following substance(s) are taken into account in the computer-generated selection:

Protective Material CPI *.

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

RESPIRATOR

Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
-------------------	-------------------------	-------------------------	---------------------------

continued...

RANVET PROMIX

ChemWatch Material Safety Data Sheet
Issue Date: Tue 4-Mar-2008

CHEMWATCH 4638-42
CD 2005/2 Page 7 of 10

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

10 x ES	P1 Air-line*	- -	PAPR-P1 -
50 x ES	Air-line**	P2	PAPR-P2
100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of:
 - (a): particle dust respirators, if necessary, combined with an absorption cartridge;
 - (b): filter respirators with absorption cartridge or canister of the right type;
 - (c): fresh-air hoods or masks

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Granular powder.

PHYSICAL PROPERTIES

Molecular Weight: Not Applicable
Melting Range (°C): Not Available
Solubility in water (g/L): Not Available
pH (1% solution): Not Available
Volatile Component (%vol): Not Applicable
Relative Vapour Density (air=1): Not Applicable
Lower Explosive Limit (%): Not Available
Autoignition Temp (°C): Not Available
State: Divided Solid

Boiling Range (°C): Not Available
Specific Gravity (water=1): Not Available
pH (as supplied): Not Available
Vapour Pressure (kPa): Not Applicable
Evaporation Rate: Not Applicable
Flash Point (°C): Not Applicable
Upper Explosive Limit (%): Not Available
Decomposition Temp (°C): Not Available

log Kow : -2.82

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

continued...

RANVET PROMIX

ChemWatch Material Safety Data Sheet
Issue Date: Tue 4-Mar-2008

CHEMWATCH 4638-42
CD 2005/2 Page 8 of 10

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

EYE

The dust may produce eye discomfort causing transient smarting, blinking.

SKIN

The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

Not normally a hazard due to non-volatile nature of product. The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

CHRONIC HEALTH EFFECTS

Principal routes of exposure are by accidental skin and eye contact and inhalation of generated dusts. Exposure by all routes is considered to be practically non harmful.

TOXICITY AND IRRITATION

MATERIAL	CARCINOGEN	SENSITISER	SKIN	MUTAGEN	REPROTOXIN
Ranvet Promix L-lysine methionine wheat					

Not available. Refer to individual constituents.
unless otherwise specified data extracted from RTECS - Register of Toxic Effects
of Chemical Substances

L-LYSINE:
None available.

METHIONINE:
TOXICITY

IRRITATION

continued...

RANVET PROMIX

ChemWatch Material Safety Data Sheet
Issue Date: Tue 4-Mar-2008

CHEMWATCH 4638-42
CD 2005/2 Page 9 of 10

Section 11 - TOXICOLOGICAL INFORMATION

Oral (rat) LD50: 36000 mg/kg
Intraperitoneal (rat) LD50: 4328 mg/kg
Intraperitoneal (mouse) LD50: >9500 mg/kg

Nil reported

WHEAT:

No significant acute toxicological data identified in literature search.

Section 12 - ECOLOGICAL INFORMATION

DO NOT discharge into sewer or waterways.
Refer to data for ingredients, which follows:

L-LYSINE:

Hazardous Air Pollutant: No
log Pow (Verschueren 1983): -2.82

log Kow : -2.82
Toxicity Fish: LD50(24)3mg/L

METHIONINE:

Hazardous Air Pollutant: No

Log Po/w 1.28 calculated

Toxicity Fish: LC50(48)8000mg/L
Toxicity invertebrate: cell mult. inhib. 6600->10000mg/L
Bioaccumulation : not sig
Nitrif. inhib. : 50% inhib at 160mg/L
Anaerobic effects : sig
Effects on algae and plankton: cell mult. inhib. algae530-8000mg/L
Degradation Biological: sig
processes Abiotic: RxnOH*,no hydrol

WHEAT:

No data for wheat.

Section 13 - DISPOSAL CONSIDERATIONS

Puncture containers to prevent re-use and bury at an authorised landfill.

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Dispose of by: Burial in a licenced land-fill or Incineration in a licenced apparatus (after admixture with suitable combustible material)
- Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

Section 14 - TRANSPORTATION INFORMATION

Shipping Name:

None

Dangerous Goods Class: None, None

UN/NA Number: None

ADR Number: None

Packing Group: None

Labels Required:

continued...

RANVET PROMIX

ChemWatch Material Safety Data Sheet
Issue Date: Tue 4-Mar-2008

CHEMWATCH 4638-42
CD 2005/2 Page 10 of 10

Section 14 - TRANSPORTATION INFORMATION

Additional Shipping Information:
International Transport Regulations:
IMO: None

HAZCHEM

None

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

None

REGULATIONS

L-lysine (CAS: 56-87-1) is found on the following regulatory lists:
Australian Inventory of Chemical Substances (AICS)

methionine (CAS: 63-68-3) is found on the following regulatory lists:
Australian Inventory of Chemical Substances (AICS)

methionine (CAS: 59-51-8) is found on the following regulatory lists:
Australian Inventory of Chemical Substances (AICS)

methionine (CAS: 348-67-4) is found on the following regulatory lists:
Australian Inventory of Chemical Substances (AICS)

wheat (CAS: 68917-73-7) is found on the following regulatory lists:
Australian Inventory of Chemical Substances (AICS)

Section 16 - OTHER INFORMATION

This document is copyright. Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH. TEL (+61 3) 9572 4700.

Issue Date: Tue 4-Mar-2008
Print Date: Tue 4-Mar-2008