

SAFETY DATA SHEET

TRIVALENT TICK FEVER VACCINE

SECTION 1 IDENTIFICATION

<u>GHS product identifier:</u>	Trivalent Tick Fever Vaccine
<u>Other means of identification:</u>	
<i>Name:</i>	Trivalent chilled vaccine
<i>Manufacturer's Product Code:</i>	TRV/010, TRV/020, TRV/025, TRV/050, TRV/100.
<u>Recommended use of the chemical and restrictions on use:</u>	For control of tick fever (Bovine babesiosis and anaplasmosis) by vaccination in cattle.
<u>Details of manufacturer or importer:</u>	Department of Agriculture and Fisheries Biosecurity Queensland Tick Fever Centre 280 Grindle Road, Wacol, Queensland 4076 Australia
<u>Emergency phone number:</u>	Telephone: +61 7 3270 9600 E-mail: tfc@daf.qld.gov.au Website: https://www.business.qld.gov.au/industries/farms-fishing-forestry/agriculture/biosecurity/animals/diseases/cattle-tick-fever/vaccine/reactions

SECTION 2 HAZARDS IDENTIFICATION

Classification of the hazardous chemical: Non-Hazardous and Non-Dangerous Material

Label Elements including precautionary statements:

<i>Signal Word:</i>	None
<i>GHS Pictograms:</i>	None
<i>Precautionary Statements:</i>	If accidental self injection occurs seek medical advice

Poisons Schedule Number: Not scheduled

SECTION 3 COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredients	CAS No	Concentration
Bovine blood containing live attenuated <i>Babesia bovis</i> , <i>Babesia bigemina</i> and <i>Anaplasma centrale</i> organisms.	Not set	2-60%
Dalteparin Sodium (Heparin Sodium)	9041-08-1	0.1-3 Units/mL (approx.)
Streptomycin sulphate	3810-74-0	0.5 mg/mL
Benzympenicillin sodium	69-57-8	500 IU/mL
Buffered saline diluent	Not set	to 100%

This is a commercial biological product whose exact ratio of components varies. Minor quantities of other non-hazardous ingredients (basic salts) are included within the saline diluent.

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SECTION 4 FIRST AID MEASURES

WARNING: Seek medical advice if accidental self-injection occurs

Description of necessary first aid measures:

Self injection:

Accidental self-injection may lead to an inflammatory response and medical advice should be sought on the management of deep injections, particularly those near a joint or associated with bruising. If possible, the application of gentle squeezing pressure with absorbent material (e.g. facial tissues) at the injection site will swab up unabsorbed vaccine. Strong squeezing of the site should be avoided. The damaged area should be thoroughly cleansed and a topical antiseptic applied.

Swallowed:

If in mouth, thoroughly wash mouth with water, then give some water to drink. Further measures should not be necessary.

Eye contact:

If this product comes into contact with eyes, hold open and wash well with clean running water. Ensure irrigation under eyelids by occasionally lifting them. Do not try to remove contact lenses unless trained.

Skin contact:

If this product comes into contact with skin, wash skin with soap and water.

Symptoms caused by exposure:

Accidental self-injection may lead to an inflammatory response or bruising. Anaphylactic reactions may occur in individuals who are allergic to penicillin or streptomycin.

Medical attention and special treatment:

Advice to Doctor:

Accidental self-injection may lead to an inflammatory response and deep injections, particularly those near a joint or associated with bruising, should be treated medically or surgically. The vaccine contains low levels of the antibiotics Benzylpenicillin and Streptomycin sulphate as preservatives (approximately 500 Units of Benzylpenicillin and 0.5 mg Streptomycin sulphate per mL of vaccine).

There is no convincing evidence that the organisms used in the vaccine (*Babesia bovis*, *Babesia bigemina* and *Anaplasma centrale*) are infective for humans. However related organisms present overseas including *Babesia microti* and *Babesia divergens* have been shown to be able to infect and cause disease especially in elderly and immune compromised individuals. The organisms are intra-erythrocytic parasites and the disease syndrome can resemble malaria. More information on the zoonotic disease seen in the United States can be found on the website <http://www.cdc.gov/parasites/babesiosis/>

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SECTION 5 FIRE FIGHTING MEASURES

<u>Suitable extinguishing equipment:</u>	None required as product is non-flammable and non-explosive
<u>Specific hazards arising from the chemical:</u>	None
<u>Special protective equipment and precautions for fire fighters:</u>	None

SECTION 6 ACCIDENTAL RELEASE MEASURES

<u>Personal precautions, protective equipment and emergency procedures:</u>	None
<u>Environmental precautions:</u>	None
<u>Methods and materials for containment and cleaning up:</u>	Vaccine spill can be flushed with water or cleaned with wipes and disposed into general rubbish bin.

SECTION 7 HANDLING AND STORAGE

<u>Precautions for safe handling:</u>	No special precautions required
<u>Conditions for safe storage including any incompatibilities:</u>	Storage conditions only affects product viability, not operator safety. Store vaccine packs at 2° to 8° C and dispose of after expiry (4 days).

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Exposure control measures:</u>	None required as no exposure standard allocated
<u>Biological Monitoring:</u>	Not required, non-hazardous
<u>Control banding:</u>	None allocated, non-hazardous
<u>Engineering controls:</u>	Not required, non-hazardous
<u>Individual protection measures, for example personal protective equipment (PPE):</u>	Not required

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SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid blood-based vaccine, pink to deep red in colour, packaged in polypropylene pillow packs	Upper/lower flammability or explosive limits:	Not flammable and not explosive
Odour:	Odourless	Osmolality (Vapour Pressure point range):	No data
Odour threshold:	None allocated (Odourless)	Vapour density:	No data
pH:	No data	Specific Gravity:	No data
Melting point/freezing point:	No data	Solubility:	No data
Boiling Point and boiling range:	No data.	Partition coefficient (n-octanol/water):	No data
Flash point:	Not flammable	Auto-ignition temperature:	No data
Evaporation rate:	No data	Decomposition temperature:	No data
Flammability (solid, gas):	Not flammable	Viscosity:	No data

SECTION 10 STABILITY AND REACTIVITY

<u>Reactivity:</u>	Not reactive with other chemicals
<u>Chemical Stability:</u>	Vaccine is viable for 4 days when refrigerated at 2°C to 8°C. Blood will biologically decompose with prolonged storage and may contain bacterial/fungal contamination with associated metabolites, especially if the seal has previously been broken.
<u>Possibility of hazardous reactions:</u>	No dangerous reactions known under conditions of normal use.
<u>Conditions to avoid:</u>	Storage in non-refrigerated conditions
<u>Incompatible materials:</u>	No data available
<u>Hazardous decomposition products:</u>	No data available

SECTION 11 TOXICOLOGICAL INFORMATION

<u>Acute toxicity:</u>	
 Ingestion / self injection:	The product contains low levels of Benzylpenicillin and Streptomycin sulphate antibiotics and may cause reactions in individuals allergic to these antibiotics.
	The tick fever parasites (<i>B. bovis</i> , <i>B. bigemina</i> and <i>A. centrale</i>) are classified as Risk Group 1 representing low individual and community risk with the microorganisms unlikely to cause human disease as defined in standard AS/NZS 2243.3 – 2010. This is based on the low pathogenicity of these microorganisms.

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However, the following people may be at increased risk after self-injection:

- elderly people
- people with weakened immune systems e.g. people whose immune systems have been altered by diseases such as leukaemia or lymphoma, or through drugs and radiation, or who are HIV or AIDS sufferers
- people whose spleens have been removed.

<u>Skin corrosion/irritation:</u>	Not corrosive and unlikely to be irritant
<u>Serious eye damage/irritation:</u>	Unlikely to be irritant or cause damage
<u>Respiratory or skin sensitisation:</u>	Unlikely to be irritant or cause damage
<u>Germ cell mutagenicity:</u>	No data available
<u>Carcinogenicity:</u>	No data available
<u>Reproductive toxicity:</u>	No data available

SECTION 12 ECOLOGICAL INFORMATION

<u>Ecotoxicity:</u>	The product is not classified as environmentally hazardous.
<u>Persistence and degradability:</u>	This product is biodegradable.
<u>Bioaccumulate potential:</u>	This product will not accumulate in soil or water or cause long term problems
<u>Mobility in soil:</u>	No data available
<u>Other adverse effects:</u>	No data available

SECTION 13 DISPOSAL CONSIDERATIONS

<u>Disposal methods:</u>	<p>Dispose of unused/expired product, containers and outer packaging in the garbage or by incineration.</p> <p>Discarded needles should be placed in a designated and appropriately labelled 'sharps' container. The container should be of a type to reduce the possibility of injury to handlers during collection and disposal. Incineration of 'sharps' is the preferred method of disposal, otherwise 'sharps' should be buried at a suitable site, such as an on-farm chemical disposal pit located away from watercourses.</p>
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SECTION 14 TRANSPORT INFORMATION

<u>UN Number:</u>	None allocated - not a dangerous good
<u>Proper Shipping Name or Technical Name:</u>	None allocated – not a dangerous good
<u>Transport hazard class:</u>	None allocated – not a dangerous good
<u>Packing group number:</u>	None allocated – not a dangerous good
<u>Environmental hazards for transport purposes:</u>	None, product is biodegradable and does not bioaccumulate in soil or water
<u>Special precautions for user:</u>	Vaccine must be received cool on arrival (less than 20°C)
<u>Additional information:</u>	None
<u>Hazchem or Emergency Action Code:</u>	None, Non-Hazardous and Non-Dangerous Material

SECTION 15 REGULATORY INFORMATION

<u>Safety, health and environmental regulations:</u>	The vaccine is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA). The vaccine is not classified as hazardous according to the classification criteria of Safe Work Australia. It is not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code
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SECTION 16 OTHER INFORMATION

<u>Review:</u>	This SDS has been reviewed and updated from the previous version in accordance with the Preparation Of Safety Data Sheets For Hazardous Chemicals – Code of Practice –July 2020 by Safe Work Australia. Additional information used has been sourced from AS/NZS 2243.3 – 2010 <i>Safety in laboratories, Part 3: Microbiological safety and containment</i> . The revision number and date of issue is noted in the footer.
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Key abbreviations or acronyms used:

ADG code	Australian Dangerous Goods (ADG) Code
APVMA	Australian Pesticides and Veterinary Medicines Authority
CAS number	Chemical Abstract Service number - used to uniquely identify chemical compounds
GHS	Globally Harmonized System

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Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IATA	International Air Transport Association
ph	Relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
SDS	Safety data sheet
SWA	Safe Work Australia
UN Number	United Nations Number