SAFETY DATA SHEET
TRIVALENT TICK FEVER VACCINE

SECTION 1 IDENTIFICATION

Product Name: TRIVALENT TICK FEVER VACCINE

Other Names: Trivalent chilled vaccine

Manufacturer's Product Code: TRV/10, 20, 25, 50, 100.

Recommended use: For control of tick fever (Bovine babesiosis and anaplasmosis) by vaccination in cattle.

Details of manufacturer:
Department of Agriculture and Fisheries
Biosecurity Queensland
Tick Fever Centre
280 Grindle Road, Wacol Queensland 4076 Australia

Emergency phone number:
Telephone: +61 7 3898 9655
Fax: +61 7 3898 9685
E-mail: tfc@daf.qld.gov.au
Web-site: www.biosecurity.qld.gov.au (search for 'tick fever')

SECTION 2 HAZARDS IDENTIFICATION

Hazard classification: Non-Hazardous and Non-Dangerous Material

Poisons Schedule Number: Not scheduled

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredients	**CAS No**	**Concentration**
Bovine blood containing live attenuated *Babesia bovis, Babesia bigemina and Anaplasma centrale* organisms.	Not set	2-60%
Heparin	9005-49-6	0.1-3 units/ml (approx)
Streptomycin sulphate	3810-74-0	0.5 mg/ml
Benzylpenicillin 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.

SECTION 4 FIRST AID MEASURES

WARNING: You should seek medical advice if accidental self-injection occurs

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

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-erythrocyte parasites and the disease syndrome can resemble malaria. More information on the zoonotic disease seen in the United States can be found on the web-site http://www.cdc.gov/parasites/babesiosis/

SECTION 5 FIRE FIGHTING MEASURES

Core information: Non-Flammable and Non-Explosive Material

Hazchem Code: None allocated

SECTION 6 ACCIDENTAL RELEASE MEASURES

Core information: No specific advice on containment is required.
Vaccine spill can be flushed with water or cleaned with wipes and disposed into general rubbish bin.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling: No special precautions required

Conditions for safe storage: Store vaccine packs at 2º to 8º C (refrigerate, do not freeze) and dispose of after 4 days.
Vaccine must be kept cool when not in use and protected from direct sunlight.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards: No exposure standard allocated

Biological limit Values: No biological limit allocated

Personal Protective Equipment: Not required

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid blood based vaccine, pink to deep read in colour provided in polypropylene pillow packs (containers)

Odour: Odourless

Boiling Point: Expected to be about 100ºC

Specific Gravity: Approximately 0.97

SECTION 10 STABILITY AND REACTIVITY

Stability: Vaccine is stable for 4 days if stored under defined storage conditions of 2ºC to 8ºC refrigeration. Blood will biologically decompose with prolonged storage and may contain bacterial/fungal contamination with associated metabolites, especially if the seal has previously been broken. Vaccine should be disposed of by the expiry date to avoid this.

Reactivity: Not reactive with other chemicals

SECTION 11 TOXICOLOGICAL INFORMATION

No specific data are available for the product for chronic exposure symptoms. The vaccine is non toxic and the live organisms contained in the vaccine are believed to be harmless to humans.
The tick fever parasites are classified as Risk Group 1 based on pathogenicity of the agent. Both *Babesia's* and *Anaplasma* strains used in manufacture of tick fever vaccines are of low individual and community risk and unlikely to cause human disease.

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

- elderly people
- people with weakened immune systems eg. 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.

Acute Swallowing, skin contact, eye contact or inhalation:
According to the present state of knowledge provided that this product is handled correctly, there is no known danger to humans. The product contains low levels of Benzylpenicillin and Streptomycin sulphate antibiotics and individuals allergic to these antibiotics should avoid self-injection or ingestion.

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity: No evidence

This product is biodegradable. It will not accumulate in soil or water or cause long term problems

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SECTION 13 DISPOSAL CONSIDERATIONS

Dispose of unused/expired product, containers and outer packaging in the garbage or by incineration..
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 is the preferred method of disposal, otherwise 'sharps' should be buried at a suitable site, such as on farm chemical disposal pit located away from watercourses.

SECTION 14 TRANSPORT INFORMATION

UN Number: None allocated

Dangerous Goods Class and Subsidiary Risk None allocated, no subsidiary risk

Special precautions for user: Vaccine must be received cool on arrival (less than 20^0C)

SECTION 15 REGULATORY INFORMATION

Regulatory status: The vaccine is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA)
The vaccine is not classified as hazardous according to the criteria of Safe Work Australia.
It is not Dangerous Good according to the Australian Dangerous Goods (ADG) Code

SECTION 16 OTHER INFORMATION

This SDS has been prepared on 15/09/16 in accordance to the National Code of Practice for Preparation of Material Safety Data Sheets for hazardous chemicals by Safe Work Australia – February 2016.