MATERIAL SAFETY DATA SHEET

Purified Anti-Tick Serum®

Statement of hazardous nature:
Not classified as hazardous according to the criteria of the Australian National Occupational Health and Safety Commission (NOHSC).

Company Details

Company: Summerland Serums Pty Ltd
ACN 122 400 908.

Address: Street address:
192 Dalwood Road
ALSTONVILLE NSW 2477.

Postal address:
192 Dalwood Road
ALSTONVILLE NSW 2477.

Contact details: Tel: 0428 295 284
Fax: (02) 6629 5454

Emergency telephone number: 0428 295 284 (office hours).
0428 295 284 (after hours).

Material Identification

Product Name: Purified Anti-tick Serum®.
Other names: Not applicable.
Manufacturers Product Code: None allocated.
APVMA Approval No.: 56657.
UN Number: None allocated.
Dangerous Goods Class and subsidiary risk: No Dangerous Goods classification allocated or necessary.
Hazchem Code: No Hazchem Code allocated or necessary.
Poisons Schedule No.: None.
Use: The product is used to treat domestic animals, particularly species other than dogs, that are suffering from the neurotoxic effect following envenomation by the paralysis tick Ixodes holocyclus. It is intended for animal use only and should only be used by, or under the direction of, a registered veterinary surgeon.

Physical Description/Properties

Appearance: A light straw coloured solution.
Melting point: Not available.
Vapour pressure: Not available.
Specific Gravity: Not available.
Flashpoint: Negligible.
Flammability limits: Non flammable.
Solubility in water: Soluble.
Stability: The product is stable for at least 12 months if refrigerated (4°-8°C) in its sealed container and protected from light.

Ingredients:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purified canine serum containing:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Paralysis Tick (<em>Ixodes holocyclus</em>) antitoxin</td>
<td>Not less than 1000 antitoxin units/ ml</td>
<td></td>
</tr>
<tr>
<td>Phenol (preservative)</td>
<td></td>
<td>2.2mg/ml</td>
</tr>
</tbody>
</table>

Health Hazard Information

General health effects:
The product will neutralise the toxic effects of the venom of the paralysis tick (*Ixodes holocyclus*). Although of canine origin, it is more purified than normal canine anti-tick serum in that most of the albumin and alpha globulin fractions have been removed to give a higher concentration of gamma globulins which contain the active antitoxin. Because of the lower protein content, Purified Anti-tick Serum is less likely to cause an immediate or delayed anaphylactic reaction and hence is much safer to use on species other than dogs.

Acute (immediate) effects:

Swallowed: Unlikely to be swallowed. No harmful effect known. Probably broken down in the gut and is unlikely to have any effect if swallowed.

Eye: No harmful effect known. May cause irritation.

Skin: Unlikely to irritate skin, but may cause an anaphylactic reaction if it gets into the bloodstream via open cuts, abraded or irritated skin.

Inhaled: Unlikely to be inhaled. No harmful effect known.

Injected: Injected product may cause an anaphylactic reaction in humans, although the likelihood is less than with normal Canine Anti-tick Serum. The reaction is likely to be dose related and more likely in people who have previously been exposed to other materials of canine origin.

Chronic (long term) effects:
No chronic (long term) effects in either animals or humans are known.

First Aid:
If material comes into contact with skin, remove contaminated clothing and wash skin thoroughly. If material gets into eyes, wash it out immediately with water. Seek medical advice if pain or irritation occurs. If accidentally injected, seek medical advice immediately and watch for signs of anaphylactic reaction (shock). Show this MSDS to a medical practitioner.

Further advice is available from the Poisons Information Centre (Ph 13 1126 anywhere in Australia).

Further advice to Doctors:
Although the product is of canine origin, it has been purified to remove most of the albumin and alpha-globulin protein fractions. Hence the risk of anaphylactic reaction in humans is reduced. Nevertheless, the likelihood of anaphylactic reaction should not be overlooked, particularly if the product is injected.
Precautions for Use

When injecting the product, take care to avoid needle-stick injury. In the event of accidental self injection, seek medical advice immediately.

Safe Handling Information

Storage and transport:

The finished product is normally contained in 20 mL or 50 mL sealed sterile glass vials, which are packed in a single unit cardboard carton. The product should be stored and transported in its original sealed container under refrigeration (2º-8ºC), but not frozen. Avoid exposure to light. The glass vials are fragile and containers should be handled with care.

No other special storage and transport requirements apply.

Spills and disposal:

Used bottles should be wrapped in paper and disposed of in a domestic or industrial rubbish bin. If significant quantities of vials are broken, sweep up as much broken glass as possible, wrap in paper (if practicable) and dispose of in an industrial or domestic rubbish bin. Then wash affected area with plenty of water.

In the case of small spillages (eg if a vial is broken), pick up as much broken glass as possible, wrap in paper and dispose of in a rubbish bin, and wash affected area with plenty of water.

No special protective clothing or equipment is required.

Fire/Explosion hazard:

Not flammable or explosive.

Ecological Information

Because of its biological nature, the fact that it is inactivated in the gut of animals, and the small quantities normally handled, the product is not considered to pose any significant environmental hazard. The material is readily soluble in water, and breaks down to component amino acids within a few hours.

Contact for Further Information

This MSDS has been compiled using information available in the scientific literature and other published information, as well as data held by Summerland Serums.

For further information contact:

<table>
<thead>
<tr>
<th>Name</th>
<th>Tel</th>
<th>E-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Curtin</td>
<td>0428 295 284 (office hours)</td>
<td><a href="mailto:johncurtin1@bigpond.com">johncurtin1@bigpond.com</a></td>
</tr>
<tr>
<td>Summerland Serums</td>
<td>0428 295 284 (after hours)</td>
<td></td>
</tr>
<tr>
<td>192 Dalwood Road</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALSTONVILLE NSW 2477</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Disclaimer:

This MSDS summarises our best knowledge of the health and safety hazard information of Canine Anti-tick Serum® at the date of issue and in particular, how to safely handle and use the product in the workplace. Since Summerland Serums or its distributors cannot anticipate or control the conditions under which this product is used, each user must, prior to use, review this MSDS in the context of how they intend handling and using the product in the workplace. The user must, where appropriate, make other relevant persons such as employees and/or co-workers aware of the directions for use on the label. It is strongly recommended that users be aware of and comply with any State laws applicable to the administration of veterinary medicinal products.