COLORADO SERUM COMPANY
Established 1923

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND THE MANUFACTURER

Product Identifier	**BRUCELLA ABORTUS VACCINE STRAIN RB-51, LIVE CULTURE**
Trade Name	None
Recommended Use	Veterinary Vaccine
Manufacturer	Colorado Serum Company 4950 York Street – P.O. Box 16428 Denver, CO 80216
Emergency Phone No.	303-295-7527

2. HAZARDS IDENTIFICATION

Hazard Classification	Not Classified
Hazard Statements	Not Classified
Signal Word	Not Classified
Other Hazards	In the event of accidental human exposure, contact your physician. Vaccine is potentially infective for humans.
Unknown acute toxicity	None known
Precautionary Statements	This is an animal vaccine and is to be administered only by or under the supervision of a Veterinarian.

3. COMPOSITION / INFORMATION ON INGREDIENTS

CATEGORY	COMMON NAME	CAS NO.	%
CHEMICAL NAME			
Tryptone	Tryptone	91079-40-2	*
Lactose Monohydrate ($C_{12}H_{24}O_{12}$)	Milk Sugar	63-42-3	*
Glycine	N/A	56-40-6	*
Ascorbic Acid ($C_6H_8O_6$)	Vitamin C	50-81-7	*
Sodium Chloride (NaCl)	Salt – table salt	7647-14-5	*
Potassium Phosphate Monobasic, Anhydrous (KH_2PO_4)	N/A	7778-77-0	*
Sodium Phosphate Dibasic, Anhydrous (Na_2HPO_4)	N/A	7558-79-4	*
Thiourea	N/A	62-56-6	*
Carboxymethyl Cellulose ($C_8H_{16}O_8$)	N/A	9004-32-4	*
Dimethyl Siloxane Octamethylcyclotetrasiloxane	Antifoam Emulsion	67762-90-7, 556-67-2	*
Dihydrogen Monoxide (H_2O)	Water	7732-18-5	*
MIXTURE			
Brucella Abortus Vaccine, Strain RB-51, Live Culture	Brucella RB-51	N/A	*

*The components are not hazardous or are below required disclosure limits. This product contains one active component (Brucella Abortus) and does not contain a preservative. The percent of each ingredient is proprietary.

4. FIRST AID MEASURES

Necessary First-Aid Instructions:

Brucella Abortus Vaccine Strain RB-51 can infect humans. Contact a physician for medical advice /attention regarding any exposure as indicated:

Accidental injection:	Contact a physician.
Eye Contact:	Immediately flush eyes with water for at least 10 minutes.
Skin Contact:	Wash skin with soap and water.
Ingestion:	Contact a physician.
Inhalation:	Contact a physician.

Important Symptoms or Effects - Acute or Delayed: Exposure has potential for infection. Contact a physician.

Recommendations for Immediate Care and Special Treatment: Contact a physician and notify that Brucella Abortus RB-51 Vaccine is penicillin and rifampin resistant.

General Information: This is an animal vaccine. NOT FOR HUMAN USE.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Equipment: Water, Carbon dioxide, Dry Chemical

Unsuitable Extinguishing Equipment: Not known

Specific Hazards Arising from Substance or Mixture: Avoid causing aerosol

Fire Fighting: Special Protective Equipment - Firefighters: wear self-contained breathing apparatus and personal protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: For use only by or under the supervision of a Veterinarian. Use personal protective equipment as indicated. Avoid contact with exposed skin and eyes and clothing.

Protective Equipment: Use personal protective clothing, gloves and eye/face shield as indicated.

Emergency Procedures: Isolate area, notify supervisor, restrict access, proceed to disinfect. Avoid release into the environment.

Containment Methods: Isolate a spill and apply hypochlorite solution (10 % bleach) or equivalent disinfectant.

Clean Up Procedures: Utilize absorbent material to soak up spill. Contain and autoclave or burn materials which contacted the spill.

7. HANDLING AND STORAGE

Precautions for Safe Handling: For use only by or under the supervision of a Veterinarian. Rehydrate as indicated on vaccine label. Use personal protective equipment as indicated. Vaccine is for immunization of healthy female cattle 4-12 months of age and adult animals in accordance with state and federal regulations. Avoid contact with skin and eyes and clothing. Avoid breathing aerosol or mists of this product. Burn, autoclave or chemically disinfect the container after use.

Storage Conditions: Store only in unopened containers. Store at 2 to 8˚ C.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

OSHA Permissible Exposure Limits (PEL): Please refer to other sections herein regarding *Brucella abortus*, the active live component of this vaccine. Exposure limits for other components are not noted.

American Conference of Governmental Industrial Hygienists (ACGIH): Not known

Threshold Limit Values (TLV): Not known

Engineering Controls: Not known

Personal Protective Measures: Safety glasses with side shields, or face shield, rubber/latex/vinyl gloves, laboratory apron or similar. Wash hands after handling. Disinfect any equipment in contact with vaccine.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical State:	Lyophilized vaccine in sealed vial, with accompanying diluent
Odor:	No data available
Odor Threshold:	No data available
Vapor Density:	No data available
PH:	No data available
Melting/Freezing Points:	No data available
Solubility:	No data available
Initial Boiling Point & Range:	No data available
Flash Point:	No data available
Evaporation Rate:	No data available
Flammability (solid, gas):	No data available
Flammability/Explosive limits:	No data available
Vapor Pressure/Vapor Density:	No data available
Relative Density:	No data available
Solubility:	No data available
Partition Coefficient: n-octanol/water	No data available
Auto-ignition Temperature:	No data available
Decomposition Temperature:	No data available
Viscosity:	No data available

10. STABILITY AND REACTIVITY

Reactivity: Product is stable when stored according to label instructions. No other data is available.

Chemical Stability: Product is stable under normal conditions.

Oxidizing Properties: No data available.

Conditions to Avoid: Store at 2 to 8˚ C. Prolonged exposure to higher temperatures may adversely affect potency. Do not freeze diluent.

Incompatible Materials: Use of any other rehydrating fluid is not recommended as potency may be adversely affected.

Hazardous Decomposition Products: None expected**.**

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: This is a live bacterial vaccine intended for parenteral administration to female cattle 4-12 months of age. Accidental human exposure is most likely to be topical or needle stick. Disinfect the area and contact a physician. Call 303-295-7527 or refer to Colorado Serum Company website for accidental exposure information.

Physical, Chemical and Toxicological Symptoms: Vaccine organism can infect humans. Contact a physician or refer to Colorado Serum Company website in the event of accidental injection or exposure.

Delayed and Immediate Effects of Exposure: Potential infection. Appropriate antibiotic treatment indicated.

Acute Toxicity Estimates: No data available

Carcinogenic Properties: No data available

12. ECOLOGICAL INFORMATION

Avoid product being introduced into the environment.

13. DISPOSAL CONSIDERATIONS

Follow disposal instructions on the vaccine label.

14. TRANSPORT INFORMATION

Not required information

15. REGULATORY INFORMATION

Not required information

16. OTHER INFORMATION

SDS Code: Not applicable

SDS Preparation Date: 17-JAN-2018

Latest Revision Date: 14-MAY-2019

Reasons for Revision: Section 11 expanded

Data Sources: Information included in this SDS may have been gathered from confidential internal sources, raw material suppliers, or from published literature.

Prepared by: Colorado Serum Company Regulatory Department

Colorado Serum Company believes that the information contained in this Safety Data Sheet is accurate and provided in good faith. It is without warranty of any kind, expressed or implied. If data for a hazard is not included in this document, there is no known information at this time.

END OF SAFETY DATA SHEET