

Bulk Stock Live *Cryptosporidium parvum*

Material Safety Data Sheet

Issue: 4
Date: 1/3/10

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

BULK STOCK-Cryptosporidium parvum

PROPER SHIPPING NAME

BIOLOGICAL SUBSTANCE, CATEGORY B

PRODUCT USE

Quality control sample for Cryptosporidium analysis.

SUPPLIER

Company: BTF - a Biomerieux Company

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AUSTRALIA

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Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to NOHSC Criteria, and ADG Code.

POISONS SCHEDULE

None

RISK

•None under normal operating conditions.

SAFETY

Safety Codes

Safety Phrases

S23

■ Do not breathe gas/ fumes/ vapour/ spray.

S24

■ Avoid contact with skin.

S51

■ Use only in well ventilated areas.

S09

■ Keep container in a well ventilated place.

S40

■ To clean the floor and all objects contaminated by this material use water.

S07

■ Keep container tightly closed.

S46

■ If swallowed IMMEDIATELY contact Doctor or Poisons Information Centre (show this container or label).

S60

■ This material and its container must be disposed of as hazardous waste.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
up to 10 ⁹ viable Cryptosporidium parvum oocysts	137259-50-8	NotSpec
ingredients proprietary non hazardous, including buffer and water	7732-18-5	NotSpec

Section 4 - FIRST AID MEASURES

SWALLOWED

- Transport to hospital or doctor and seek immediate attention.

EYE

- - If material containing a biological agent comes in contact with the eyes:
 - Seek immediate medical attention
 - Removal of contact lenses should only be undertaken by skilled personnel.

SKIN

- - For any suspected contact with a material containing a biological agent
 - Rinse thoroughly with water and perform approved disinfection procedures
 - Seek medical attention.

INHALED

- - If fumes or combustion products are inhaled remove from contaminated area.
 - Lay patient down. Keep warm and rested.
 - Prosthesis such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
 - Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
 - Transport to hospital, or doctor.

NOTES TO PHYSICIAN

- Treat symptomatically.
Protective vaccination/immunisation should be provided to workers depending on the organism being worked with.
for infectious organisms:

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
 - Watch for signs of respiratory insufficiency and assist ventilation as necessary.
 - Administer oxygen by non-rebreather mask at 10 to 15 l/min.
-
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ADVANCED TREATMENT

- Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
 - Monitor and treat, where necessary, for arrhythmias.
 - Start an IV D5W TKO.
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-

SPECIAL CONSIDERATIONS

- Symptomatic and supportive care should not be delayed.
BRONSTEIN, A.C. and CURRANCE, P.L.
EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994.
SURVEILLANCE on the organism being worked with.
FIRST AID / TREATMENT.

DRUG SUSCEPTIBILITY:

Monitor patient for symptoms (eosinophils in CSF). Confirm diagnosis by microscopic specimens and identification of oocysts in fecal smears.

Rehydration and supportive therapy in patients who are not immunocompromised.

LABORATORY ACQUIRED INFECTIONS:

There has been one laboratory acquired infections reported 1983 as a result of accidental parenteral inoculation (needle stick).

There is no effective therapeutic agent available.

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

- - Non combustible.
 - Not considered to be a significant fire risk.
 - Expansion or decomposition on heating may lead to violent rupture of containers.
 - Decomposes on heating and may produce toxic fumes of carbon monoxide (CO).
 - May emit acrid smoke.
- Decomposes on heating and produces toxic fumes of: carbon dioxide (CO₂).

FIRE INCOMPATIBILITY

- None known.

HAZCHEM

2X

Personal Protective Equipment

Gas tight chemical resistant suit.

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Action to be taken in the event of damage or leakage:
 - If any person responsible for the carriage or opening of packages containing infectious substances (Class 6.2) becomes aware of damage to or leakage from such packages he/she should:
 - Avoid handling the package or keep handling to a minimum
 - Inspect adjacent packages for contamination and put aside any that may have been contaminated.
 - Inform the appropriate Health or Veterinary Authority, and provide information on any other countries of transit where persons may have been exposed to danger; and
 - Notify the consignor and/or consignee.

- A Public Health or Veterinary Authority to which actual or suspected leakage from or damage to an infectious substance package is reported, should notify the authorities of any countries in which the package may have been handled including countries in transit. [IMDG Code p. 6309].
- Allow aerosols to settle.
- Cover spill with paper towel.
- Apply a 1% sodium hypochlorite solution.
- Start application from the perimeter of the spill and work towards the centre.
- Allow sufficient contact time (30 minutes) before beginning clean-up.

MAJOR SPILLS

- Not applicable.

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Laboratories and areas where active biological agents are handled must be restricted to authorised persons trained to perform specific tasks. Clothing restrictions must be enforced in these areas and the mandatory equipment worn.
- Laboratory Containment or Physical Containment Level 2 (PC 2) must be used for work with biological agents in Hazard or Risk Group 2.
- Laboratory personnel must receive suitable and sufficient information, instruction and training in working safely with agents in Group 2.
 - A high standard of supervision of the work should be maintained. Access to the laboratory is to be restricted to authorised persons.
 - There must be specified disinfection procedures.
 - Mechanically ventilated laboratories must be maintained at negative air pressure while work is in progress.
 - Benches or other working surfaces must be impervious to water, easy to clean and resistant to acids, alkalis, solvents and disinfectants.
 - Safe storage must be provided for biological agents.
 - Procedures that give rise to infectious aerosols must be conducted in a microbiological safety cabinet, isolator, glove box or otherwise suitably contained.
 - Access to an incinerator shall be provided for the disposal of infected animal carcasses.
 - There should be adequate space (24m³) in a laboratory for each worker.
 - Eating, chewing, drinking, smoking, taking medication, storing food and applying cosmetics in the laboratory should be forbidden.
 - Bench surfaces should be regularly decontaminated according to the pattern of the work.
 - Hands should be decontaminated immediately when contamination is suspected, after handling infective materials and before leaving the laboratory.
 - When gloves are worn, these should be washed or preferably changed before handling items likely to be touched by others not wearing gloves, (eg phones, paperwork). Computer keyboards and, where practicable, equipment controls should be protected by a removable flexible cover that can be disinfected.
 - A means for the safe collection, storage and disposal of contaminated waste shall be provided.
 - Materials for autoclaving should be transported to the autoclave in robust containers without spillage.
 - Contaminated waste should be suitably labelled before removal for incineration. Carcasses for incineration must be transported in secure containers to the incinerator site.
 - Used laboratory glassware and other materials awaiting sterilisation before recycling should be stored in a safe manner. Pipettes, if placed in disinfectant, should be totally immersed.
 - All accidents and incidents should be immediately reported to and recorded by the person responsible for the work or other delegated person.

SUITABLE CONTAINER

- Receptacles with their closures or fittings shall be as approved by the competent authority of the country of origin.

Container capacity approx. 2mls.

STORAGE INCOMPATIBILITY

- Presence of heat source and direct sunlight (ultra-violet radiation).
- Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.

STORAGE REQUIREMENTS

- It is required for safe working that the Containment Level selected for any laboratory suite, storeroom or animal room must match the hazard grouping of the biological agent as a minimum. (Some exceptions may apply).

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

- Cryptosporidium parvum: CAS:137259-50-8
- water: CAS:7732-18-5

MATERIAL DATA

BULK STOCK-Cryptosporidium parvum:
Not available

PERSONAL PROTECTION

EYE

- - Safety glasses with side shields
- Chemical goggles.

HANDS/FEET

- Suitability and durability of glove type is dependent on usage. Factors such as:
 - frequency and duration of contact,
 - chemical resistance of glove material,
 - glove thickness and
 - dexterity,are important in the selection of gloves.
- Wear chemical protective gloves, eg. PVC.
- Wear safety footwear or safety gumboots, eg. Rubber.

OTHER

- - Laboratory coats or gowns should be side or back fastening and should be worn when in and removed when leaving the area.
- Separate storage, set apart from personal clothing, should be available in the laboratory suite.
- A wash basin should be located near the laboratory exit with taps that can be operated without being touched by hand.

RESPIRATOR

- Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half-face Respirator	Full-Face Respirator
1000	10	A-AUS	-
1000	50	-	A-AUS
5000	50	Airline *	-
5000	100	-	A-2
10000	100	-	A-3
	100+		Airline**

* - Continuous Flow ** - Continuous-flow or positive pressure demand.

ENGINEERING CONTROLS

■ Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection.

An approved self contained breathing apparatus (SCBA) may be required in some situations.

Provide adequate ventilation in warehouse or closed storage area.

It is required for safe working that the Containment Level selected for any laboratory suite, storeroom or animal room must match the hazard grouping of the biological agent as a minimum. (Some exceptions may apply).

FUMIGATION:

Microbiological safety cabinets must always be fumigated if a large spill of infectious material occurs within them, before filters are changed or any maintenance work is carried out which involves access to the interior of the cabinet (air duct maintenance for example).

- Fumigation should be conducted with the night door securely sealed and the non-return valve left closed.
- Passive migration of the fumigant through the filter is allowable. Alternately the valve may be left open and the fan may be run for 10 to 15 seconds thus ensuring penetration of filter medium. The valve should then be closed and the fan switched off allowing the remainder of the fumigant to disperse within the cabinet. After at least six hours the fumigant should be exhausted to atmosphere by switching on the fan and allowing room air to enter through, for example, the night door bung-hole.
- Ensure that no personnel remain in the vicinity of the exhaust outlet and that exhaust air does not enter windows or ventilation air intakes.
- Discarded filter units should be bagged and autoclaved prior to disposal.
- Access to the area is to be restricted to authorised persons. A specific disinfection procedure must be established and applied. If the area (laboratory, store, animal room) is mechanically ventilated it must be maintained at an air pressure negative to atmosphere whilst work is in progress.

If traffic in and out of Containment Level 2-4 rooms interferes with ventilation airflow patterns and, if the laboratory is ventilated specifically to contain airborne pathogens in the event of accident, then engineering controls and working arrangements must be devised to counter the risk of airborne transmission to other areas.

When undertaking procedures that are likely to give rise to infectious aerosols, a Class 1 microbiological Safety Cabinet conforming to BS5726 or with an equivalent, verified protection factor should be used. Cabinets should exhaust to outside air. Double HEPA filtering is not necessary biological agents requiring Containment Level 2.

RESPIRATOR

Approved full face respirator with HEPA filters capable of excluding particles of 0.3 micron size.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Clear, colourless, odourless liquid; mixes with water.

PHYSICAL PROPERTIES

Liquid.

Mixes with water.

Infectious.

State	Liquid	Molecular Weight	Not Applicable
Melting Range (°C)	Not Available	Viscosity	Not Available
Boiling Range (°C)	Not Available	Solubility in water (g/L)	Miscible
Flash Point (°C)	Not Applicable	pH (1% solution)	Not Available
Decomposition Temp (°C)	Not Available	pH (as supplied)	Not Available
Autoignition Temp (°C)	Not Available	Vapour Pressure (kPa)	Not Available
Upper Explosive Limit (%)	Not Applicable	Specific Gravity (water=1)	Not Available
Lower Explosive Limit (%)	Not Applicable	Relative Vapour Density (air=1)	Not Available
Volatile Component (%vol)	Not Available	Evaporation Rate	Not Available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- - Presence of incompatible materials.
 - Product is considered stable.
 - Hazardous polymerisation will not occur.
- For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS**ACUTE HEALTH EFFECTS****SWALLOWED**

- Accidental ingestion of the material may be damaging to the health of the individual. Potentially infectious.

EYE

- Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn). Contact with open wounds should be avoided as the material is potentially infectious.

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. Open cuts, abraded or irritated skin should not be exposed to this material. 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.
Potentially infectious.

INHALED

■ The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. Etiological (infectious) agents produce a variety of effects, some life-threatening. Most have an incubation period and no acute symptoms. Inhalation of infectious aerosols may result in an asymptomatic infection (most infections are asymptomatic) or a symptomatic infection. This is characterised by a sudden onset of diarrhoea with foul-smelling and greasy looking stools that lacks mucous and blood. This is associated with abdominal cramps, bloating, fatigue and weight loss. The infection is restricted to the small intestine without invasion. The incubation period for the disease ranges from 5-25 days, with an average period of 7-10 days.

CHRONIC HEALTH EFFECTS

■ Principal routes of exposure are by skin contact, accidental injection (needle stick), ingestion and/or inhalation of aerosols. Symptoms and longer term effects are related to the pathology of the infection.

TOXICITY AND IRRITATION

■ Not available..

Section 12 - ECOLOGICAL INFORMATION

Refer to data for ingredients, which follows:

BULK STOCK-Cryptosporidium parvum:

■ DO NOT discharge into sewer or waterways.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
water	LOW		LOW	HIGH

Section 13 - DISPOSAL CONSIDERATIONS

- - Infected materials should be placed in yellow waste sacks and suitably labelled (with permanent marker or tie-on label) showing the source of the material.
- Sacks should be no more than three quarters full and should be closed with purpose-made plastic ties or closures or, in the case of light-gauge sacks, may be tied off at the neck. Heat-sealers, purpose-made for clinical waste may also be used.
- Sacks should then be stored and transported in a robust secondary container which is leak-proof and which may be readily decontaminated.
- After sealing, the container should be externally decontaminated and labelled before removal to the incinerator.
- It is advisable to use only containers of the type which conform with drop-tests and leak-tests defined, for example, by the United Nations.

Section 14 - TRANSPORTATION INFORMATION

Labels Required: INFECTIOUS SUBSTANCE

HAZCHEM:

2X (ADG7)

ADG7:

Class or division:	6.2	Subsidiary risk:	None
UN No.:	3373	UN packing group:	None
Special provisions:	319, 341	Packing Instructions:	None
Notes:	None	Limited quantities:	0
Portable tanks and bulk containers - Instructions:	T1, BK1, BK2	Portable tanks and bulk containers - Special provisions:	TP1
Packagings and IBCs - Packing instruction:	P650	Packagings and IBCs - Special packing provisions:	None

Shipping Name: BIOLOGICAL SUBSTANCE, CATEGORY B

Land Transport UNDG:

Class or division:	6.2	Subsidiary risk:	None
UN No.:	3373	UN packing group:	None

Shipping Name: BIOLOGICAL SUBSTANCE, CATEGORY B

Air Transport IATA:

ICAO/IATA Class:	6.2	ICAO/IATA Subrisk:	None
UN/ID Number:	3373	Packing Group:	-
Special provisions:	None		

Shipping Name: BIOLOGICAL SUBSTANCE, CATEGORY B

Maritime Transport IMDG:

IMDG Class:	6.2	IMDG Subrisk:	None
UN Number:	3373	Packing Group:	None
EMS Number:	F-A,S-T	Special provisions:	319
Limited Quantities:	None		

Shipping Name: BIOLOGICAL SUBSTANCE, CATEGORY B

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

None

REGULATIONS

Regulations for ingredients

water (CAS: 7732-18-5) is found on the following regulatory lists;

"Australia Inventory of Chemical Substances (AICS)", "GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "OECD Representative List of High Production Volume (HPV) Chemicals"

No data for Bulk Stock (CW: 22-5942)No data for *Cryptosporidium parvum* (CAS: , 137259-50-8)

Section 16 - OTHER INFORMATION

- Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review using available literature references.
- The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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This is the end of the MSDS.