

MATERIAL SAFETY DATA SHEET

FROZEN CULTURES

1. Identification of the product and the establishment

Refer to specific Cell Data Sheet for identification and other relevant information

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2. Physical and Chemical properties and information on ingredients

Appearance: Frozen fluid in small glass or plastic containers (vials).

Solid/liquid/gas: Solid (frozen state).

The product is provided as a frozen culture of either human or animal cells.

Appearance: Yellowish or pink solid for frozen cultures, Aqueous pH 6-8.

The frozen components may include but are not limited to: Water, inorganic salts, vitamins, amino acids, carbohydrates, lipids, proteins (animal-dyed) and cryoprotectant (dimethyl sulphoxide 10% v/v; or glycerol 10-20% v/v), phenol red.

3. Hazards identification

Chemical Hazards:

Frozen culture may contain 5 to 10% (v/v) dimethyl sulphoxide (DMSO). Dimethyl sulphoxide may be harmful and toxic if in contact with skin or ingested (R23/24/25). It also may be irritating to eyes and respiratory system (R36/37/38). Thawed contents of ampoules should not come into contact with skin, eyes, or digestive and respiratory epithelium (S24/25) and should be diluted upon used with culture media. Persons handling ampoules of frozen cells containing DMSO should wear a laboratory coat, protective glasses and insulated gloves (S36/37).

Biological hazards

Although the Cell Applications, Inc.-supplied animal cells are not known to contain any agents capable of harm to healthy adult humans, the possibility of a contaminant, adventitious virus can rarely be excluded. Therefore it is recommended that all animal cells are handled as a Bio-Safety Group 2 organism. The relevant Data Sheet includes any specific instructions that may pertain to the assessment. Any such information will not be inconsistent with Containment (Bio-Safety) Level 2. The user is referred to the relevant Cells Data Sheet. These cells have not been screened for adventitious agents.

Health Effects:

Eyes: Not known; Skin: Not known; Ingestion: Not known; Inhalation: Not known

Physical hazards

Where cell lines are shipped as frozen ampoules, there is a small risk that the ampoule may be pressurized due to the expansion of trapped liquid nitrogen and could explode on warming. Such a risk will be increased if (unusually) the ampoule has been shipped to the customer in a liquid nitrogen container (dry shipper). It is recommended that persons handling ampoules of frozen cells should wear a laboratory coat, protective glasses and insulated gloves.

This sheet does not constitute an assessment as required by the Control of Substances Hazardous to Health Regulations 1994.

The information contained in this publication is given in good faith and is accurate to the best of our knowledge.

4. First aid measures

If accidental contact with material occurs laboratory staff must follow the local first aid procedures that are normally applied following exposure to organisms of Bio-Safety Hazard Group 2.

Eyes: Irrigate with physiological saline or water. Seek medical advice immediately.

Skin: Wash thoroughly with soap and water. Seek medical advice immediately.

Ingestion: Seek medical advice immediately.

Inhalation: Seek medical advice immediately.

5. Fire fighting measures

Extinguisher medium: Use medium suitable for surrounding environment.

Unsuitable Extinguisher medium: N/A

Protective equipment for fire fighting: N/A

6. Accidental release measures

Personal precautions: avoid direct contact with the thawed material. Do not open the primary containers unless authorized to do so. Wear a laboratory coat, disposable latex/plastic gloves and safety glasses.

Environmental precautions: if spillage occurs, place absorbent material over the spillage and disinfect. See below.

Spillage of thawed material: wear a laboratory coat, safety glasses and disposable latex/plastic gloves. Place paper towels or other absorbent material over the spillage. Pour disinfectant over spillage to saturate and leave for 30 minutes prior to cleaning and disposal. The preferred disinfectant is 10% v/v sodium hypochlorite (10,000 parts per million available chlorine). This should not be used in combination with other disinfectants. See your local risk assessment or contact the manufacturer of the disinfectant for additional information.

7. Handling and storage

Personal protective equipment comprised of laboratory coat, disposable latex/plastic gloves and safety glasses should be worn when handling (unpacking) animal cells. The dry ice (solid carbon dioxide) used to ship frozen ampoules should be allowed to evaporate in a well-ventilated area. Do not dispose of dry ice in a sealed container.

Ampoules or flasks containing animal cells should be opened in a Class II microbiological safety cabinet under conditions of Biohazard Group 2.

Detailed discussions of laboratory safety procedures are provided in: "Laboratory Safety: Principles and Practice" (Fleming, et al, 1995); the Journal of Tissue Culture Methods (Caputo, 1988), and in the U.S. Government Publication, "Bio-Safety in Microbiological and Biomedical Laboratories" (CDC, 1999). This publication is available on the Center for Disease Control, Office of Health and Safety's web site www.cdc.gov/od/ohs/biosfty/bmb14/bmb14toc.htm.

8. Exposure controls/personal protection

Engineering control measures: All materials from frozen ampoules containing animal cells should be opened in a Class II microbiological safety cabinet under conditions of Containment (Biohazard) Level 2. Personal protective equipment comprised of laboratory coat, disposable gloves and safety glasses should be worn.

Respiratory protection: avoid aerosol production and inhalation.

Hand Protection: wear latex gloves at all times.

Eye protection: wear safety glasses at all times.

9. Physical and chemical properties

Frozen liquid in glass ampoule or plastic vial.

10. Stability and reactivity

Reactivity data: Stable. Hazardous polymerization will not occur.

11. Toxicological information

Routes of exposure: N/A

Acute effects: N/A

Chronic effects: N/A

Special considerations: In its thawed liquid state, this material is not normally toxic but avoid aerosol formulation and inhalation. Vials contain di-methyl sulphoxide 10% v/v which is an irritant that readily penetrates the skin.

12. Ecological information

Mobility: consult specific Cell type Data Sheet (May apply in certain cases of genetic modification)

Persistence/degradability: N/A

Bioaccumulation: N/A

Ecotoxicity: N/A

13. Disposal considerations

Follow established procedures for Containment Bio-Safety Level 2.

Methods for disposal for thawed content.

Spillage: wear laboratory coat, safety glasses and disposable gloves. Place paper towels or other absorbent material over the spillage. Pour disinfectant over spillage to saturate and leave for 30 minutes prior to cleaning and disposal. The most appropriate disinfectant is 10% v/v Sodium hypochloride (10,000 parts per million available chlorine). This should not be used in combination with other disinfectants. See your local risk assessment or contact the manufacturer of the disinfectant for additional information.

Waste disposal: Decontaminate prior to disposal with a 10% sodium hypochloride solution and dispose of contaminated liquid waste down a designated sink with running water. Solid waste should be placed in a sealed bag and labeled and destroyed by incineration.

Follow all national, regional and local regulations.

14. Transport Information

Additional information arising from the Carriage of Dangerous Goods by Road and Air (Classification, Packaging and Labeling) Regulations:

UN No. 1845-Dry Ice. Dry ice not deemed dangerous by road transport only air.

Packing group: 4-lowest grade of packaging.

These cells are not classified as dangerous goods because they are non-infectious to humans or animals and therefore are not subject to IATA or ADR regulation for dangerous goods.

15. Regulatory information

Cell Applications, Inc. confirms that all necessary licenses (Import, holding, transfer and export) required for the consignment of this material are in place. The recipient is only required to provide evidence of permits and licenses to receive and handle containment level 3 restricted materials.

16. Further information

For research use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. All materials and mixtures may present unknown hazards and should be used with caution. Cell Applications, Inc. and its Affiliates shall not be held liable for any damage or loss from handling or from contact with the above products. The material in this MSDS does not constitute a warranty, express or implied, including any implied warranty of merchant ability or fitness for any particular purpose. Cell Applications, Inc. reserves the right to revise this Safety Data Sheet periodically as new information becomes available.