

MATERIAL SAFETY DATA SHEET (MSDS)

PRODUCT: Cell cryopreservation solution

Product category	Packaging Specification	Reference (Product code)
Cryosave I	100mL bottle	136

Date Prepared: 08/01/2026

Version: 1.0

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

- **Product Name:** Cell cryopreservation solution
- **Manufacturer/Supplier:** VNUHCM-US Stem Cell Institute
- **Address:** B2-3 Building, University of Science, quarter 6, Linh Xuan Ward, Ho Chi Minh City
- **Emergency Phone:** (+84) 28 3636 1206
- **Product Use:** Cryopreservation solution used for freezing and storing biological cells and tissues in liquid nitrogen (-196°C) or deep freezers.

SECTION 2: HAZARDS IDENTIFICATION

- **Classification:** Solution containing DMSO (Dimethyl Sulfoxide), with strong osmotic properties and irritating.
- **Main Hazard Warnings:**
 - **DMSO:** Causes skin, eye, and respiratory tract irritation. Can permeate through the skin, carrying other dissolved substances into the body.
 - **Cold Hazard:** When frozen, the solution can cause cold burns upon direct contact.
 - **Fire Hazard:** Pure DMSO is flammable, but the risk is reduced at 10% concentration in aqueous solution.
- **GHS Pictogram(s):**
 - "Exclamation mark" for skin/eye irritation.
 - "Health hazard" symbol if applicable.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- **Main Ingredients:**
 - **Dimethyl Sulfoxide (DMSO):** 10% (v/v)
 - **Base Medium:** May be PBS, DMEM, Albumin

- **Sterile Distilled Water:** Balance.
- **Function:** DMSO acts as a cryoprotectant to protect cells from freezing damage.

SECTION 4: FIRST AID MEASURES

- **Inhalation:** Move to fresh air. If breathing is difficult, administer oxygen and seek medical attention.
- **Skin Contact:** Wash immediately with plenty of water and soap. Remove contaminated clothing.
- **Eye Contact:** Rinse cautiously with water under a gentle stream for at least 15 minutes, keeping eyelids open. Seek medical care if irritation persists.
- **Ingestion:** Rinse mouth with water, drink plenty of water. Do NOT induce vomiting. Consult a doctor immediately.

SECTION 5: FIRE-FIGHTING MEASURES

- **Suitable Extinguishing Media:** CO₂ extinguishers, dry powder, foam.
- **Special Hazards Arising from the Substance/Mixture:** May release toxic gases (CO, SO₂) upon combustion.
- **Protective Equipment for Firefighters:** Use self-contained breathing apparatus (SCBA) and fire-protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal Precautions:** Wear nitrile gloves, safety goggles, and a lab coat.
- **Methods for Cleaning Up:** Absorb with inert material (absorbent paper, sand). Collect spillage in a chemical waste container. Wash area thoroughly with water.

SECTION 7: HANDLING AND STORAGE

- **Handling:** Handle in a well-ventilated area. Avoid direct contact.
- **Storage:**
 - 12 months at -20°C to below 0°C (from manufacturing date).
 - 2 months at 0°C to 8 °C (from manufacturing date)
 - Protect from direct light.
 - Keep container tightly closed.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- **Engineering Controls:** Ensure adequate ventilation. Use a fume hood for large quantities.
- **Personal Protective Equipment (PPE):** Nitrile gloves, safety goggles, laboratory coat.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **Physical State:** Liquid
- **Color:** Yellow - pink
- **Odor:** Slight garlic-like odor (characteristic of DMSO)
- **pH:** 6.8 – 7.6
- **Endotoxin (EU/mL):** ≤ 1.0
- **Mycoplasma:** Negative
- **Sterility:** Negative
- **Density:** ~ 1.0 - 1.1 g/mL
- **Solubility:** Completely soluble in water.

SECTION 10: STABILITY AND REACTIVITY

- **Stability:** Stable under recommended storage conditions.
- **Materials to Avoid:** Strong oxidizing agents, concentrated acids.
- **Hazardous Decomposition Products:** CO, SO₂ when burned.

SECTION 11: TOXICOLOGICAL INFORMATION

- **Acute Toxicity:** Causes skin, eye, and respiratory tract irritation. May cause nausea if inhaled in large amounts.
- **Dermal Absorption Potential:** High; can transport other dissolved substances into the bloodstream.

SECTION 12: ECOLOGICAL INFORMATION

- **Ecotoxicity:** Low toxicity to aquatic organisms.
- **Biodegradability:** Readily biodegradable.

SECTION 13: DISPOSAL CONSIDERATIONS

- **Waste Disposal of Solution:** Dispose of as hazardous chemical waste.
- **Empty Containers:** Rinse thoroughly. Recycle or dispose of as industrial waste.

SECTION 14: TRANSPORT INFORMATION

- **Transport Code:** Not classified as dangerous goods if DMSO concentration is below regulatory thresholds.
- **Transport Conditions:** Keep products frozen during transport. Avoid shock and impact.

SECTION 15: REGULATORY INFORMATION

- Comply with local regulations concerning chemical safety and hazardous waste.

SECTION 16: OTHER INFORMATION

- **References:** Based on DMSO MSDS and laboratory safety guidelines.
- **Revision Date:** 08/01/2026
- **Disclaimer:** The information provided is for reference only. The user must comply with all current safety regulations.