

## MATERIAL SAFETY DATA SHEET (MSDS)

**PRODUCT:** Cell cryopreservation solution

Product category	Packaging Specification	Reference (Product code)
Cryosave II	100mL bottle	138
Cryosave II	500mL bottle	139

**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 5% 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):** 5% (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:** CO<sub>2</sub> extinguishers, dry powder, foam.
- **Special Hazards Arising from the Substance/Mixture:** May release toxic gases (CO, SO<sub>2</sub>) 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:** Store at 2-8°C. 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:** Pale yellow, clear

- **Odor:** Slight garlic-like odor (characteristic of DMSO)
- **pH:** 6.5 – 7.4
- **Endotoxin (EU/mL):**  $\leq 0.5$
- **Mycoplasma:** Negative
- **Sterility:** Negative
- **Density:**  $\sim 1.0$ - $1.1$  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, SO<sub>2</sub> 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 cool (2-8°C) 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.