

MATERIAL SAFETY DATA SHEET (MSDS)

PRODUCT: Cell Thawing Solution

Product category	Packaging Specification	Reference (Product code)
AfterFreeze	100mL bottle	144
AfterFreeze	500mL bottle	145

Date Prepared: 09/01/2026

Version: 1.0

SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY

- **Product Name:** Cell Thawing 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 Number:** (+84) 28 3636 1206
- **Intended Use:** Sterile laboratory solution for washing and re-suspending cells after thawing (using MSCCryosave OTS or MSCCryosave OTS TH), helping to maintain a stable ionic environment for the cells.

SECTION 2: HAZARDS IDENTIFICATION

- **Classification:** Sterile product, contains inorganic salts.
- **Primary Hazard Warnings:**
 - **Contact with solution:** May cause mild eye and skin irritation.
 - **After use:** If the solution has been in contact with human cells or biological samples, it must be treated as potentially infectious material.
 - **Broken vial/tube:** May cause injury from glass/sharps.
- **GHS Warning Symbol:** Use the "**Warning**" symbol (exclamation mark) for irritation.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- **Main Ingredients:**
 - **Inorganic Salts:** NaHCO₃, NaCl, KCl
 - **Sterile Distilled Water**
- **Function:** Provides a stable ionic environment, supporting pH and osmotic pressure balance during post-thaw cell washing.

SECTION 4: FIRST AID MEASURES

- **Inhalation:** Not applicable. Avoid inhaling mist if solution is aerosolized.
- **Skin Contact:** Wash immediately with plenty of water and soap. If irritation persists, seek medical attention.

- **Eye Contact:** Rinse eyes immediately under gently flowing water or with an eyewash solution for at least 15 minutes. Seek medical attention if necessary.
- **Ingestion:** Rinse mouth, drink plenty of water. Do NOT induce vomiting. Consult a physician if a large amount is swallowed.
- **General Note:** For exposure to used solution containing biological samples, follow biological exposure control procedures.

SECTION 5: FIRE-FIGHTING MEASURES

- **Suitable Extinguishing Media:** Fire extinguishers (powder, CO₂, foam). Water may be used for cooling.
- **Specific Hazards:** May produce toxic gases (carbon monoxide, nitrogen oxides) upon combustion.
- **Protective Equipment for Firefighters:** Use SCBA and flame-retardant protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal Precautions:** Wear full PPE: gloves, safety goggles, lab coat.
- **Environmental Precautions:** Contain the spill to prevent spreading.
- **Cleanup Methods:**
 1. Absorb with inert absorbent material (absorbent paper, sand).
 2. Collect into appropriate waste container (biohazard if used).
 3. Disinfect the area with a suitable disinfectant.
 4. Wipe clean.
- **Note:** Treat broken glass as sharps waste.

SECTION 7: HANDLING AND STORAGE

- **Handling:** Use aseptic technique. Avoid contamination.
- **Storage:** Store at room temperature, do not refrigerate. Avoid direct sunlight.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- **Engineering Controls:** Handle in a biological safety cabinet if there is a risk of biological exposure.
- **Personal Protective Equipment (PPE):**
 - **Eyes/Face:** Safety goggles or face shield.
 - **Skin/Hands:** Powder-free nitrile/latex gloves, laboratory coat.
 - **Respiratory:** N95 mask when handling large volumes or in poorly ventilated areas.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **Physical State:** Liquid solution.
- **Color:** Clear.
- **Odor:** Odorless.
- **Endotoxin (EU/mL):** ≤ 0.25

- **Mycoplasma:** Negative
- **Sterility:** Negative
- **Density:** ~1.00 -- 1.02 g/mL.
- **Solubility:** Completely soluble in water.

SECTION 10: STABILITY AND REACTIVITY

- **Stability:** Stable under recommended storage conditions.
- **Conditions to Avoid:** High temperature, direct sunlight.
- **Incompatible Materials:** Strong oxidizing agents.
- **Hazardous Decomposition Products:** Toxic gases may be produced upon combustion.

SECTION 11: TOXICOLOGICAL INFORMATION

- **General Information:** Very low toxicity. Primary risk is mild irritation.
- **Acute Toxicity:**
 - **Oral:** May cause mild gastrointestinal irritation.
 - **Dermal/Ocular:** Mild irritation.
- **Irritation/Sensitization Potential:** Low potential for irritation.

SECTION 12: ECOLOGICAL INFORMATION

- **Ecotoxicity:** Very low toxicity to aquatic organisms.
- **Mobility:** Will not migrate into the environment if handled correctly.
- **Biodegradability:** Inorganic salt components are not harmful to the environment when diluted.

SECTION 13: DISPOSAL CONSIDERATIONS

- **Waste Disposal Method:** Comply with local medical/biological waste regulations.
 - **Unused Solution:** Dispose of as general industrial waste if uncontaminated.
 - **Used Solution (containing biological samples):** Dispose of as **infectious waste** (yellow bag/container).
 - **Sharps:** Place in designated sharps container.

SECTION 14: TRANSPORT INFORMATION

- **UN/ID Number:** Not classified as dangerous goods when unused.
- **Proper Shipping Name:** Cell Culture Medium Solution.
- **Special Precautions:** Store at room temperature during transport. Avoid shock.

SECTION 15: REGULATORY INFORMATION

- **Safety and Health Regulations:** Comply with laboratory safety and biological sample handling regulations.

- **Environmental Regulations:** Comply with regulations for medical/biological waste collection and disposal.

SECTION 16: OTHER INFORMATION

- **References:** AfterFreeze User Guide and Post-Thaw Cell Wash Procedure.
- **Revision Date:** 09/01/2026 (First Version).
- **Disclaimer:** The information in this document is based on current scientific knowledge. The user is responsible for assessing and complying with all applicable regulations and safety practices under their specific conditions.