

## Material Safety Data Sheet

in accordance with 91/155/EEC

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Identification of the Substance or Preparation:** *Histofreezer® Portable Cryosurgical System*

#### Company/Undertaking Identification

**Manufacturer/Supplier:** *OraSure Technologies, Inc. (OTI)*  
*220 East First Street*  
*Bethlehem, PA 18015-1360 USA*

**Telephone:** *(610) 882-1820*

**Emergency Information:** *INFOTRAC, INC.*

**Telephone:** *1-800-535-5053 (USA and Canada)*  
*1-352-323-3500*

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Principal Hazardous Components: | CAS #           | %         | Symbol(s) | R-phrases |
|---------------------------------|-----------------|-----------|-----------|-----------|
| <i>Dimethyl ether (DME)</i>     | <i>115-10-6</i> | <i>95</i> | <i>F+</i> | <i>12</i> |
| <i>Propane</i>                  | <i>74-98-6</i>  | <i>2</i>  | <i>F+</i> | <i>12</i> |
| <i>Isobutane</i>                | <i>75-28-5</i>  | <i>3</i>  | <i>F+</i> | <i>12</i> |

### 3. HAZARDS IDENTIFICATION

**Hazard Symbol:** *F+: Extremely flammable*

**Critical Hazard to Man and Environment:** *R12: Extremely flammable*

### 4. FIRST AID MEASURES

|                              |   |
|------------------------------|---|
| <b>First Aid Procedures:</b> | <p><b>Eye Contact</b> - <i>Flush eyes with lukewarm water for 15 min., consult doctor.</i></p> <p><b>Skin Contact</b> - <i>Keep skin under lukewarm water for 15 min., consult doctor.</i></p> <p><b>Inhalation</b> - <i>Fresh air and rest.</i></p> <p><b>Ingestion</b> - <i>Not applicable.</i></p> |
|------------------------------|---|

### 5. FIRE-FIGHTING MEASURES

**Extinguishing Media:** *CO<sub>2</sub> Dry Chemical Foam*

**Special Fire Fighting Procedures:** *Take canister out of the fire zone if possible, and keep it cool.*

**Unusual Fire and Explosion Hazards:** *Canister can explode when heated above 50°C.*

### 6. ACCIDENTAL RELEASE MEASURES

**Spill Response:** *The liquefied gas will evaporate quickly. Provide ventilation. Avoid sources of ignition.*

## 7. HANDLING AND STORAGE

**Handling and Storage:** *Store canister in a cool, dry place. Do not expose to temperatures above 50°C or store near heat or open flame.*

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| Occupational Exposure Controls: | Component Name   | CAS #           | TLV (Units)                                |
|---------------------------------|------------------|-----------------|--|
|                                 | <i>DME</i>       | <i>115-10-6</i> | <i>MAC 100 ppm</i>                         |
|                                 | <i>Propane</i>   | <i>74-98-6</i>  | <i>MAC &gt; 600 ppm; OSHA PEL 1000 ppm</i> |
|                                 | <i>Isobutane</i> | <i>75-28-5</i>  | <i>800 ppm</i>                             |

**Personal Protection:**  
**Respiratory** - *Do not inhale vapors.*  
**Eye** - *Do not spray into eyes.*  
**Skin** - *Do not spray directly on to skin.*

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** *Under pressure as a liquid*

|                              |   |   |
|------------------------------|---|---|
| <b>Safety Relevant Data:</b> | <b>Boiling Point:</b> <i>DME-25°C/propane-41°C/isobutane-12°C</i>   | <b>Specific Gravity (H<sub>2</sub>O=1.0):</b> <i>0.625</i>      |
|                              | <b>Vapor Pressure (mmHg @ 68°F):</b> <i>Not Available</i>   | <b>Percentage Volatile by Volume:</b> <i>100%</i>               |
|                              | <b>Vapor Density (Air=1):</b> <i>&gt;1</i>  | <b>pH:</b> <i>Not Available</i>                                 |
|                              | <b>Solubility in Water:</b> <i>Not Available</i>  | <b>Evaporation Rate (Butyl Acetate=1):</b> <i>Not Available</i> |
|                              | <b>Flash Point (Method):</b> <i>DME -41°C (TOC)</i>   | <b>Auto Ignition Temperature:</b> <i>DME 350°C (622°F)</i>      |
|                              | <b>Flammable Limits in Air (% by Volume):</b> <i>LEL: dimethyl ether 3.4/propane 2.1/isobutane 1.8</i><br><i>UEL: dimethyl ether 18.0/propane 9.5/isobutane 8.4</i> |   |

## 10. STABILITY AND REACTIVITY

**Stability:** *Stable*

**Conditions to Avoid:** *Protect from sunlight and do not expose to temperatures exceeding 50°C.*

**Incompatibility (Materials to Avoid):** *Strong oxidizers*

**Hazardous Polymerization:** *Will Not Occur*    **Conditions to Avoid:** *None*

**Hazardous Decomposition Products:** *Not applicable*

## 11. TOXICOLOGICAL INFORMATION

**Threshold Limit Value:** *DME 100 ppm*                      **Carcinogen:** *No*

**Effects of Exposure:**  
**Eye Contact** - *Freezing*  
**Skin Contact** - *Freezing*  
**Inhalation of Vapors** - *Dizzy, Headache*

## 12. ECOLOGICAL INFORMATION

*There is no data available on the preparation itself.*

### 13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: *Do not puncture or incinerate canister even after use. Comply with local, state and federal standards.*

### 14. TRANSPORT INFORMATION

*Transport only in accordance with ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport.*

|                |  |
|----------------|--|
| Air Transport: | <b>UN Number - 1950</b><br><b>Class - 2.1</b><br><b>Proper Shipping Name - Aerosols, flammable</b> |
|----------------|--|

|                 |  |
|-----------------|--|
| Land Transport: | <b>UN Number - 1950</b><br><b>Class - 2, Number/letter 5f</b><br><b>Description - Aerosols</b> |
|-----------------|--|

|                |   |
|----------------|---|
| Sea Transport: | <b>UN Number - 1950</b><br><b>Class - 2.1</b><br><b>Proper Shipping Name - Aerosols</b> |
|----------------|---|

### 15. REGULATORY INFORMATION

|                       |   |
|-----------------------|---|
| Labeling Information: | <b>Code Letter and Hazard Symbol - F+ Extremely Flammable.</b><br><b>R Phrases - R12 Extremely Flammable.</b><br><b>S Phrases - S2 Keep out of reach of children.</b><br><b>S16 Keep away from sources of ignition. No smoking.</b><br><b>S23 Do not breathe spray.</b><br><b>S33 Take precautionary measures against static discharges.</b><br><b>Other Phrases - Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn even after use. Do not spray on a naked flame or any incandescent material.</b> |
|-----------------------|---|

|              |  |
|--------------|--|
| Legislation: | <i>EC Directive 91/155/EEC defining the laying down and detailed arrangements for the system of specific information relating to dangerous preparations.</i><br><i>EC Directive 94/1/EC adapting some technicalities of Council Directive 75/324/EEC on the approximation of the laws of Member States relating to aerosol dispensers.</i> |
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### 16. OTHER INFORMATION

*The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, OTI makes no warranty with respect to the accuracy of the information or the suitability of the recommendations and assumes no liability to any user thereof.*