

*Product Code:* cc-00xxx (where cc = cell line (prefixes listed below), xxx = concentration specified by laboratory)

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*Product Name:* FreshFrozenCells® (frozen cells in cryovial)

**1. Information on the Substance/Preparation and Company**

|     |  |  |
|-----|--|--|
| 1.1 | Catalog #  | Product name   |
|     |  | FreshFrozenCells® cell line sources:   |
|     | <u>Single Cell Type Prefixes</u> [Cell types of human origin are indicated with asterisks (*) in table below.] |  |
|     | 51-  | MRC-5* human embryonic lung  |
|     | 53-  | BGMK Buffalo green monkey kidney   |
|     | 56-  | A549* human lung carcinoma   |
|     | 62-  | MNA mouse neuroblastoma  |
|     | 76-  | RD* human rhabdomyosarcoma   |
|     | 83-  | MDCK canine kidney   |
|     | 84-  | Vero African green monkey kidney   |
|     | 87-  | Hs27* human foreskin fibroblast  |
|     | <u>MixedCells™ Prefixes</u>  |  |
|     | 92-<br>E-Mix™  | A549* and BGMK-hDAF human lung carcinoma and genetically modified Buffalo green monkey kidney (with human Decay Accelerating Factor)   |
|     | 96-<br>R-Mix™  | A549* and Mv1Lu human lung carcinoma and mink lung   |
|     | 97-<br>R-Mix Too™  | A549* and MDCK human lung carcinoma and canine kidney  |
|     | <u>Genetically Engineered cell lines</u>   |  |
|     | 30-74-   | ELVIRA® Flu A (293T) human kidney epithelial, genetically modified to express luciferase   |
|     | 30-83-   | ELVIRA® Flu B (293T) human kidney epithelial, genetically modified to express luciferase   |
|     | 40-MC4-  | CHO-Mc4 Chinese hamster ovary, genetically modified to express a chimeric form of the human TSHR (thyroid stimulating hormone receptors) and a cAMP induced luciferase reporter gene |
| 1.2 | Company  | Diagnostic HYBRIDS, Inc.<br>1055 East State Street, Suite 100<br>Athens, OH 45701, USA<br>(740) 589-3300 or (866) 344-3477   |
| 1.3 | In emergencies   | Call your local emergency center   |

**2. Components and Hazardous Ingredients**

| Hazardous Ingredients                    | Classification Substance                         | EINECS Nr. |
|--|--|------------|
| Bovine Serum                             | (none listed)                                    | (unlisted) |
| Sodium Bicarbonate (NaHCO <sub>3</sub> ) | R:36/37/38, S:26-36                              | 144-55-8   |
| 7.5% DMSO                                | Xn, Xi, R:36/37/38, 20/21/22, S:23, 26, 36/37/39 | 200-664-3  |
| Phenol Red                               | Xi, R:36/37/38; S:26, 36                         | 205-609-7  |
| Animal or human proteins                 | (none listed except for monkey, R68)             | (unlisted) |
| Shipping material                        | Dry Ice (Carbon dioxide, solid)                  | Ras, RFb   |
|  |  | 204-696-9  |

Classification key: Toxic (T); Very toxic (T+); Harmful (Xn); Irritant (Xi); Dangerous for the environment (N); Oxidizing agent (O); Explosive (E); Flammable (F)

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### 3. Hazards Identification

- Contains non-hazardous quantities of proprietary ingredients [OSHA Regulations (Standards-29CFR) Hazard Communication-1910.1200(i)(1)].
- The cell culture, being live, should be considered a potential biohazard.
- Cells are frozen in an aqueous biological salt- and nutrient- containing medium, and dimethyl sulfoxide (DMSO).
- Contains animal and/or human proteins. Allergy or hypersensitivity to bovine serum and other animal proteins.
- Personnel working with these cultures must be properly trained in cell culture and safe handling techniques.

### 4. First Aid Measures

- Eye contact:*
  - Rinse immediately with water for 15 minutes, occasionally lifting the upper and lower eyelids
  - Consult a doctor/medical service
- Skin contact:*
  - Rinse with plenty of water
  - Remove clothing before washing
  - Consult a doctor/medical service
- After inhalation:*
  - Remove the victim into fresh air
  - Consult a doctor/medical service
- After ingestion:*
  - Consult a doctor/medical service

### 5. Fire Fighting Measures

- Suitable extinguishing media:*
  - All non combustible extinguishing media allowed
- Unsuitable extinguishing media:*
  - No data available
- Special exposure hazards:*
  - No data available
- Instructions:*
  - Take account of contaminated fire fighting water
  - Use fire fighting water moderately and contain it
- Special protective equipment for firefighters:*
  - No data available

### 6. Accidental Release Measures

- Personal protection:*
  - See 8, below
- Environmental precautions:*
  - Discharge according to local regulations
- Clean-up:*
  - Take up liquid spill into absorbent material
  - Discharge absorbed material according to local regulations
  - Wash clothing and equipment after handling

### 7. Handling and Storage

- Handling:*
  - *If solution is spilled:* take up with an absorbent material; if contact is possible, wear gloves as protection. Decontaminate with suitable disinfectants such as household chlorine bleach (dilution 1:10) or 70% ethyl or isopropyl alcohol.
  - Discharge according to local regulations
  - Remove and clean contaminated clothing
  - Handle and open the container with care
- Storage:*
  - Keep away from: heat sources
  - -70°C or lower; store in the dark
- Additional Reference:*
  - CDC-NIH Manual, *Biosafety in Microbiological and Biomedical Laboratories* (BMBL), 5<sup>th</sup> edition, 2007, [<http://www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm>]
  - ATCC Quality Control Methods for Cell Lines, 2<sup>nd</sup> ed, 1992; American Type Culture Collection.

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## 8. Exposure Controls/Personal Protection

### 8.1 Exposure Limits

| Chemical/Component              | TLV/NIOSH REL        | OSHA PEL                  | CAS No.  |
|---------------------------------|----------------------|---------------------------|----------|
| DMSO (dimethyl sulfoxide)       | Not listed           | Not listed                | 67-68-5  |
| Phenol Red                      | Not listed           | Not listed                | 143-74-8 |
| Dry Ice (Carbon dioxide, solid) | TLV: 5000 ppm as TWA | TWA: 5000 ppm 8-hour/hour | 124-38-9 |

*Note:* Information in above table from NIOSH Pocket Guide to Chemical Hazards, 2005.

### 8.2 Control of Exposure

*Eye protection:* ■ Safety glasses or Face shield

*Hand protection:* ■ Gloves should be waterproof  
 ■ Suitable materials: Butyl rubber, natural rubber, neoprene, nitrile rubber, polyethylene, PVC  
 ■ Hands should be washed after working with this product.

*Skin protection:* ■ Protective clothing

*Respiratory protection:* ■ Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product  
 ■ Insufficient ventilation: wear respiratory protection

## 9. Physical and Chemical Properties

|   |
|---|
| Clear to translucent; pink to yellow color on thawing; odorless |
|---|

*Note:* Boiling and Freezing Points for all aqueous components are near those of pure water.

## 10. Stability and Reactivity

- *Stability:* Hazardous polymerization will not occur. All components are stable if stored in specified conditions (see label); end-user determines use-life.
- *Reactivity/Hazardous decomposition products:* No hazardous decomposition products are formed in high quantities
- *Conditions/Materials to avoid:* (3. Hazards Identification)

## 11. Toxicological Information

Acute toxicity:

|                    |                              |                        |
|--------------------|------------------------------|------------------------|
| DMSO:              | LD <sub>50</sub> oral, mouse | : 7920 mg/kg           |
|                    | LD <sub>50</sub> oral, rat   | : 14500 mg /kg         |
|                    | LD <sub>50</sub> skin, rat   | : 40 gm/kg             |
|                    | Draize test, eye, rabbit     | : 100-500 mg/24 h Mild |
|                    | Draize test, skin, rabbit    | : 500 mg/24 h Mild     |
| NaHCO <sub>3</sub> | LD <sub>50</sub> oral, rat   | : 4220 mg /kg          |
|                    | Draize test, eye, rabbit     | : mild 30s             |
|                    | Draize test, skin, human     | : mild, 3d             |
| Phenol Red         | None identified              | None identified        |

Chronic toxicity:

|            |   |
|------------|---|
| Phenol Red | Target Organ(s): eyes, skin, respiratory system |
|------------|---|

Routes of exposure

- Ingestion, inhalation, eyes and skin
- Caution! Components contain (a) substance(s) that are absorbed through the skin

Acute effects/symptoms (none noted)

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Chronic effects (none noted)

## 12. Ecological Information

Aquatic toxicity:

|              |                          |   |
|--------------|--------------------------|---|
| <b>DMSO:</b> | LD <sub>50</sub> (96 h): | Fish: 35200-50600 mg/L                          |
|              | ED <sub>50</sub> (24 h): | Daphnia: 16,25 g/L                              |
|              | ED <sub>10</sub> (16 h): | Bacteria: <i>Pseudomonas putida</i> : 7100 mg/L |

Other Information:

- *Effect on the ozone layer:* Not dangerous for the ozone layer (1999/45/EC)
- *Greenhouse effect:* No data available
- *Effect on waste water purification:* No data available

## 13. Waste Disposal Considerations

*Disposal methods:*



- All the cell culture components must be considered as hazardous waste. They should be disposed of following local regulations.

## 14. Transport Information

**USA:** No restrictions.



**Canada:** CITES [Diagnostic Hybrids complies with all regulations promulgated by the Convention on International Trade in Endangered Species (CITES). Accordingly, special permits and arrangements must be made to ship all primate products internationally.]

**EU:** CITES (as above)

| Regulatory information | UN number | Proper shipping name  | Class | Packing group | Label   | Additional information |
|------------------------|-----------|-----------------------|-------|---------------|---|------------------------|
| DOT Classification     | UN1845    | CARBON DIOXIDE, Solid | 9     | III           |  | No additional remarks. |
| TDG Classification     | UN1845    | CARBON DIOXIDE, Solid | 9     | III           |  | Not available.         |

## 15. Regulatory Information


Classification according to directives 67/548/EEC and 1999/45/EC

| Symbol   | Culture Components (FreshFrozenCells®)  |
|--|---|
| <br>Xn – harmful<br>Xi – irritant | R20/21/22: Harmful by inhalation, in contact with skin and if swallowed<br>R36/37/38 Irritating to eyes, respiratory system and skin<br>R42/43: May cause sensitization by inhalation and skin contact<br>R68 Possible risks of irreversible effects  |
| <br>N                             | S23: Do not breathe aerosols<br>S24/25: Avoid contact with skin and eyes<br>S26/27/28: In case of contact with skin or eyes, rinse immediately with plenty of water and seek medical advice<br>S29: Do not empty into drains<br>S35: This material and its container must be disposed of in a safe way<br>S36/37/39: Wear suitable protective clothing, gloves and eye/face protection<br>S46: If swallowed, seek medical advice immediately and show this container or label |

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| Symbol  | Dry Ice (shipping material) |   |
|---|-----------------------------|---|
|  | Ras                         | Asphyxiant in high concentrations       |
|   | RFb                         | May cause frostbite                     |
|   | S9                          | Keep container in well ventilated place |
|   | S23                         | Do not breathe the gas                  |
|   | S36A                        | Use suitable protective equipment       |

## 16. Other Information

- Based on: US 29 CFR 1910:1200(g); Canadian Hazardous Product Act, Part II; Directive 911155/EEC et seq.
- This product is designed for use by professionals.
- The above information is believed to be accurate and represents the information available to date, but Diagnostic Hybrids does not purport it to be all-inclusive; this should be used only as a guide.
- Refer to the Product Insert for this Product for additional details on the proper storage, handling, use, and disposal of the reagents included in this Product.
- Contact Diagnostic Hybrids, Inc. if additional information is required.

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