

Product Name: Recombinant Human/Mouse/Rat BMP-2 (E. coli-expressed)

Reviewed on: 18 August 2015

### 1. Identification of Substance:

- Other means of identification / Catalog Number: 355-BEC, LYOPHILIZED see pages 1-4, LIQUID, see pages 5-10
- GHS product identifier: Recombinant Human/Mouse/Rat BMP-2 (E. coli-expressed)
- Application of the substance / the preparation: For Research Use Only
- Manufacturer/Supplier:  
Bio-techne/R&D Systems™  
614 McKinley Place N.E.  
Minneapolis, MN 55413  
USA
- For product related questions call: 1-800-343-7475. In Europe call: +44(0)1235-529449.
- Emergency information: In case of a chemical emergency, spill, fire, or exposure, call R&D Systems at (612) 379-2956 or (800)-343-7475. In Europe call +44(0)1235-529449.

### 2. Hazard Identification:

- Classification: This substance does not meet the classification criteria to be listed as a hazardous material according to the EC Directives 67/548/EEC, 1999/45/EC, 1272/2008. (EC) No. 1272/2008 [CLP/GHS]. **Lyophilized solid**
- Pictogram: Not applicable.
- Signal Word: Not applicable.
- Hazard statements: Not applicable.
- Precautionary statements: Not applicable.
- Response: Not applicable.
- Hazard Symbol / R-Phrase / S-Phrase: Not applicable.
- Label Elements: Not applicable.
- Special Hazards: Not applicable.

### 3. Information on Ingredients:

- Description: This product does not contain hazardous chemicals at concentrations of 1% or greater. Additionally, this product is not known to contain carcinogens at concentrations of 0.1% or greater.

### 4. First Aid Measures:

- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Immediately wash with water and soap and rinse thoroughly. Generally the product does not irritate the skin.
- After eye contact: Rinse opened eye for several minutes under running water. Consult a doctor.
- After swallowing: Rinse mouth with water. Seek medical attention and appropriate follow-up.

### 5. Fire Fighting Measures:

- Suitable extinguishing agents: Use water spray or extinguishing measure that is appropriate to local circumstances and the surrounding environment.
- Hazards from the substance or mixture: Not available.
- Special precautions for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
- Other information: This product does not burn.

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## 6. Accidental Release Measures:

- **Person-related safety precautions:** Use standard laboratory practices and appropriate personal protective equipment to prevent contamination of skin, eyes and personal clothing. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.
- **Measures for environmental protection:** Keep away from drains.
- **Measures for containment and cleaning:** Soak up with inert absorbent material and dispose of as per section 13. Keep in suitable, closed containers for disposal.
- **Additional information:** Not available.

## 7. Handling and Storage:

- **Precautions for safe handling:** Avoid inhalation of vapor or mist. Avoid contact with eyes and skin. No special precautions are necessary if used appropriately.
- **Conditions for safe storage:** Store in a cool, dry place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Do not store in incompatible containers.

## 8. Exposure Controls and Personal Protection:

- **Control parameters:** Not available
- **Appropriate engineering controls:** Use with adequate ventilation including local extraction. Ensure that eyewash stations and safety showers are close to the workstation location. Follow standard laboratory practices.
- **Individual protection measures:** Wash hands thoroughly after handling chemical products and before eating, smoking or using the restroom. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

**Eye/face protection:** Wear approved safety goggles.

**Skin/hand protection:** Handle with protective gloves, plastic or rubber. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body protection:** Wear suitable protective clothing as protection against splashing or contamination.

**Other skin protection:** Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

**Respiratory protection:** In case of inadequate ventilation, use a suitable respirator. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## 9. Physical and Chemical Properties:

|  |   |
|--|---|
| ▪ <b>Appearance:</b> Lyophilized white powder or clear liquid. | ▪ <b>Upper/lower flammability or explosive limits:</b> Not available. |
| ▪ <b>Odor:</b> Little to none.                                 | ▪ <b>Vapor pressure/density:</b> Not available.                       |
| ▪ <b>Odor threshold:</b> Not available.                        | ▪ <b>Relative Density:</b> Not available.                             |
| ▪ <b>pH:</b> Not available.                                    | ▪ <b>Solubility in/Miscibility with Water:</b> Not available.         |
| ▪ <b>Melting point/freezing point:</b> Not available.          | ▪ <b>Partition coefficient: noctanol/water:</b> Not available         |
| ▪ <b>Boiling point/Boiling range:</b> Not available.           | ▪ <b>Auto igniting:</b> Product is not self igniting.                 |
| ▪ <b>Flash point:</b> Not available.                           | ▪ <b>Decomposition temperature:</b> Not available.                    |
| ▪ <b>Evaporation rate:</b> Not available.                      | ▪ <b>Viscosity:</b> Not available.                                    |

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▪ **Flammability:** Not available.

## 10. Stability and Reactivity:

- **Reactivity:** Stable under recommended transport and storage conditions.
- **Chemical Stability:** Stable under recommended storage and handling temperatures.
- **Possible hazardous reactions:** Hazardous reactions will not occur under normal transport or storage conditions.
- **Incompatible materials to be avoided:** Heat and moisture.
- **Incompatible materials:** Strong acids/alkalis, strong oxidizing/reducing agents.
- **Hazardous decomposition products:** In combustion may emit toxic fumes. No known decomposition information.

## 11. Toxicological Information:

- **Acute toxicity:** Not available.
- **Skin corrosion/irritation:** Not available.
- **Serious eye damage/irritation:** Not available.
- **Respiratory or skin sensitization:** Not available.
- **Germ cell mutagenicity:** Not available.
- **Carcinogenicity:** IARC: Not available.
- **Reproductive toxicity:** Not available.
- **Specific target organ toxicity (STOT):** Not available.
- **Specific target organ toxicity (STOT) - repeated exposure:** Not available.
- **Aspiration hazard:** Not available.
- **Information on likely routes of exposure:** Routes of entry anticipated; oral, dermal, inhalation.
- **Symptoms related to the physical, chemical and toxicological characteristics:**
  - Inhalation:** Not available.
  - Ingestion:** Not available.
  - Skin contact:** Not available.
  - Eye contact:** May cause eye burns.
- **Delayed and immediate effects and also chronic effects from short and long term exposure:**
  - Short term exposure / Potential immediate effects:** Not available.
  - Potential delayed effects:** Not available.
  - Long term (chronic) exposure: Potential immediate effects:** Not available.
- **Potential delayed effects:** Not available.
- **Numerical measures of toxicity:** Not available.
- **Other Information:** Not available.

## 12. Ecological Information:

- **Ecotoxicity:** Not available.
- **Biodegradability:** Not available.
- **Bioaccumulative potential:** Not available.
- **Mobility in soil:** Not available.
- **Other adverse effects:** Not available.

## 13. Disposal Considerations:

- **Disposal methods:** Dispose of waste in accordance to applicable national, regional, or local regulations.
- **Contaminated packaging:** Dispose in the same manner as unused product.

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- **Special precautions:** Dispose of small amounts of spilled material as described in section 6. Large spills must be dealt with separately by qualified disposal personnel. Avoid dispersal of spilt material to soil, waterways, drains and sewers.

### 14. Transportation Information:

- **ADR/RID ADN/ADNR IMDG IATA/DOT:** Not applicable.
- **UN Number:** Not applicable.
- **DOT regulations:** Not applicable.
- **Hazard class:** Not applicable.
- **Land transport ADR/RID (cross-border):** Not applicable.
- **Maritime transport IMDG:** Not applicable.
- **Marine pollutant:** Not applicable.
- **Air transport ICAO-TI and IATA-DGR:** Not applicable.
- **Transport/Additional information:** Not applicable.

### 15. Regulations:

- **US Federal and State Regulations**
  - TSCA (Toxic Substances Control Act):** Not applicable.
  - SARA 313:** Not applicable.
  - SARA 311/312 Hazards:** Not applicable.
  - CERCLA Reportable Quantity:** Not applicable.
  - California Proposition 65:** Not applicable.
- **European Union**

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

### 16. Other Information:

- **Notice to reader:** To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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### 1. Identification of Substance:

- **Other means of identification / Catalog Number:**
- **GHS product identifier:**
- **Application of the substance / the preparation:** For Research Use Only
- **Manufacturer/Supplier:**  
Bio-technne/R&D Systems™  
614 McKinley Place N.E.  
Minneapolis, MN 55413  
USA
- **For product related questions call:** 1-800-343-7475. In Europe call: +44(0)1235-529449.
- **Emergency information:** In case of a chemical emergency, spill, leak, fire, or accident call **CHEMTREC** at 1-800-424-9300 (US or Canada). Outside USA and Canada: +1 703-527-3887 (collect calls accepted).

### 2. Hazard Identification:

- **Classification:** EC Directives 67/548/EEC, 1999/48/EC, Regulation (EC) No. 1272/2008 [CLP/GHS]: Acetonitrile Solution - Liquid
- **Pictogram(s):**  
Flam. Liq. 2,  
Acute Tox. 4, Oral  
Acute Tox. 4, Dermal  
Acute Tox. 4, Inhalation  
Eye Irrit. 2A
- **Signal Word:** DANGER
- **Hazard statements:** H225: Highly flammable liquid and vapor. H302: Harmful if swallowed. H312: Harmful in contact with skin. H332: Harmful if inhaled. H319: Causes serious eye irritation.
- **Precautionary statements:**  
**Prevention:** P280: Wear protective gloves/eye protection/face protection. P210: Keep away from heat, sparks, open flames and hot surfaces. No smoking. P241: Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P233: Keep container tightly closed. P271: Use only outdoors or in a well-ventilated area. P261: Avoid breathing dust/fume/gas/mist/vapors and spray. P270: Do not eat, drink or smoke when using this product. P264: Wash hands thoroughly after handling.  
**Response:**  
IF INHALED: Remove victim to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.  
IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention. See specific treatment in this SDS.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention/advice.  
IN CASE OF FIRE: Use dry chemical, CO<sub>2</sub>, or alcohol-resistant foam to extinguish.
- **Classification according to Directive 1999/45/EC [DPD]:** The product is classified as dangerous according to Directive 1999/45/EC and its amendments.
- **Classification:** F: Highly flammable. Xn: Harmful. Xi: Irritant. C: Corrosive
- **R Phrases:** R11: R20/21/22: Harmful by inhalation, in contact with skin and if swallowed. R36/38: Irritating to eyes and skin. R35: Causes severe burns. R52: harmful to aquatic organisms. R53: May cause long-term adverse effects in the aquatic environment.
- **S Phrases:** S1/2: Keep locked up and out of reach of children. S9: Keep container in a well ventilated place. S16: keep away from sources of ignition – No smoking. S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S27: Take off immediately all contaminated clothing. S28: After contact with skin, wash immediately with plenty of water. S36/37: Wear suitable protective clothing and gloves. S45: In case of accident or if you feel unwell seek medical advice





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immediately. S61: Avoid release to the environment. Refer to special instructions/safety data sheet.

### 3. Information on Ingredients:

**Description:** Mixture of the substances listed below with nonhazardous additions.

| Contains             | CAS No.   | EC-No.    | Content  |
|----------------------|-----------|-----------|----------|
| Water                | 7732-18-5 | 231-791-2 | 55 – 80% |
| Acetonitrile         | 75-05-8   | 200-835-2 | 20 – 45% |
| Trifluoroacetic Acid | 76-05-1   | 200-929-3 | 0.1%     |

### 4. First Aid Measures:

- **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention.
- **IF ON SKIN (or hair):** Take off immediately all contaminated clothing. Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention.
- **IF INHALED:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
- **IF SWALLOWED:** Call a POISON CENTER or physician if you feel unwell. Rinse mouth.
- **Skin contact:** Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- **Ingestion:** Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- **Protection of first-aiders:** No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- **Potential acute health effects:**
  - Eye contact:** Causes serious eye irritation.
  - Inhalation:** Harmful if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
  - Skin contact:** Toxic in contact with skin. Causes skin irritation.
  - Ingestion:** Harmful if swallowed. Irritating to mouth, throat and stomach.
- **Over-exposure signs/symptoms:**
  - Eye contact:** Adverse symptoms may include the following: pain or irritation, watering, redness
  - Inhalation:** No specific data.
  - Skin contact:** Adverse symptoms may include the following: irritation, redness.
  - Ingestion:** No specific data.
- **Notes to physician:** In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- **Specific treatments:** No specific treatment.

### 5. Fire Fighting Measures:

- **Suitable extinguishing agents:** Dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Do not extinguish fire unless

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flow can be stopped. Use water in flooding quantities as fog. Solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible.

- **Special hazards arising from the substance or mixture:** Emits toxic fumes under fire conditions: Carbon oxides.
- **Protective equipment:** Wear self contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
- **Further information:** Use water spray to cool unopened containers.

### 6. Accidental Release Measures:

- **Personal precautions, protective equipment and emergency procedures:** Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate all personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
- **Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- **Methods and materials for containment and cleaning up:** Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

### 7. Handling and Storage:

- **Precautions for safe handling:**
- **Protective measures:** Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- **Advice on general occupational hygiene:** Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- **Conditions for safe storage:** Store in a well-ventilated place. Keep cool. Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well ventilated area, away from incompatible materials (see section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

### 8. Exposure Controls and Personal Protection:

- **Control parameters:**
  - Occupational exposure limits Product/ingredient name Exposure limit values**
  - Acetonitrile (EH40/2005 WELs (United Kingdom (UK), 8/2007).
  - STEL: 102 mg/m<sup>3</sup> 15 minute(s).
  - STEL: 60 ppm 15 minute(s).
  - TWA: 40 ppm 8 hour(s).
  - TWA: 68 mg/m<sup>3</sup> 8 hour(s).
- **Recommended monitoring procedures:** If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

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- **Derived effect levels:** No DELs available.
- **Predicted effect concentrations:** No PECs available.
- **Exposure controls Appropriate engineering controls:** Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- **Individual protection measures Hygiene measures:** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- **Eye/face protection:** Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
- **Skin protection Hand protection:** Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- **Body protection:** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- **Other skin protection:** Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- **Respiratory protection:** Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- **Environmental exposure controls:** Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. Physical and Chemical Properties:

|   |   |
|---|---|
| ▪ <b>Appearance:</b> Colorless liquid.                | ▪ <b>Upper/lower flammability or explosive limits:</b> Not available. |
| ▪ <b>Odor:</b> Not available.                         | ▪ <b>Vapor pressure/density:</b> 73 mmHg at 20° C.                    |
| ▪ <b>Odor threshold:</b> Not available.               | ▪ <b>Relative Density:</b> 0.786 g/mL at 20° C.                       |
| ▪ <b>pH:</b> 2.0 ± 0.3                                | ▪ <b>Solubility in/Miscibility with Water:</b> Soluble                |
| ▪ <b>Melting point/freezing point:</b> Not available. | ▪ <b>Partition coefficient: noctanol/water:</b> Not available         |
| ▪ <b>Boiling point/Boiling range:</b> Not available.  | ▪ <b>Auto igniting:</b> Product is not self igniting.                 |
| ▪ <b>Flash point:</b> 5° C                            | ▪ <b>Decomposition temperature:</b> Not available.                    |
| ▪ <b>Evaporation rate:</b> Not available.             | ▪ <b>Viscosity:</b> Not available.                                    |
| ▪ <b>Flammability:</b> Not available.                 |   |

## 10. Stability and Reactivity:

- **Reactivity:** No specific test data related to reactivity available for this product or its ingredients.
- **Chemical Stability:** Stable under normal ambient storage and handling temperatures.
- **Possibility of hazardous reactions:** Under normal conditions of storage and use, hazardous reactions will not occur.
- **Conditions to be avoided:** Avoid all possible sources of ignition (heat, spark, flame and direct sunlight).
- **Incompatible materials to be avoided:** Oxidizing or reducing materials, acids and bases, sulfites, perchlorates, alcohols and aluminum. May attack many plastics, rubbers and coatings.
- **Hazardous decomposition products:** In case of fire hazardous decomposition products may be produced such as: Hydrogen cyanide (hydrocyanic acid), carbon dioxide, carbon monoxide, oxides of nitrogen, dense black smoke.



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### 11. Toxicological Information:

- **Acute toxicity:**

|             |                      |  |
|-------------|----------------------|--|
| Oral:       | Acetonitrile         | LD50 rat oral – Dose: 2460 mg/kg                     |
|             | Trifluoroacetic Acid | LD50 rat oral – Dose: 500 mg/kg                      |
| Dermal:     | Acetonitrile         | LD50 rabbit – Dose: >2000 mg/kg                      |
| Inhalation: | Acetonitrile         | LD50 rat – Dose: 12.68 mg/L with 8 hours of exposure |
|             | Trifluoroacetic Acid | LD50 rat – Dose: 10 mg/L                             |
- **Skin irritant effect:** Acetonitrile – Mild irritant rabbit
- **Eye irritant effect:** Acetonitrile – Moderate irritant rabbit
- **Sensitization:** Not available.
- **Mutagenicity:** Not available.
- **Carcinogenicity:** Not available.
- **Reproductive toxicity:** Not available.
- **Specific target organ toxicity (single exposure):** Not available.
- **Specific target organ toxicity (repeated exposure):** Not available.
- **Aspiration hazard:** Not available.
- **Information on likely routes of exposure:** Routes of entry anticipated; oral, dermal, inhalation.
- **Symptoms related to the physical, chemical and toxicological characteristics:**
  - Inhalation: No specific data.
  - Ingestion: No specific data.
  - Skin contact: Adverse symptoms may include the following: irritation, redness.
  - Eye contact: Adverse symptoms may include the following: pain or irritation, watering, redness.
- **Delayed and immediate effects and also chronic effects from short and long term exposure:**
  - Short term exposure: Potential immediate effects: Not available. Potential delayed effects: Not available.
  - Long term exposure: Potential immediate effects: Not available. Potential delayed effects : Not available.
- **Potential chronic health effects:** Not available.

### 12. Ecological Information:

- **Ecotoxicity:**
  - Acetonitrile: Acute LC50 3600000 µg/L Fresh water Daphnia - Daphnia magna - <24 hours.
  - Acute LC50 >1500 mg/L Fresh water Fish - Pimephales promelas - Juvenile) - 0.2 to 0.5 g at 96 hours.
- **Biodegradability:** Not available.
- **Bioaccumulative potential:** Acetonitrile – potential low.
- **Mobility in soil:** Not available.

### 13. Disposal Considerations:

- **Disposal methods:** Dispose of waste in accordance to applicable national, regional, or local regulations.
- **Hazardous waste:** The classification of the product may meet the criteria for a hazardous waste.
- **Special precautions:** This material and its container must be disposed of in a safe way. Emptied containers should be cleaned or rinsed out. Empty containers may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Avoid dispersal of spilt material to soil, waterways, drains and sewers.

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#### 14. Transportation Information:

▪ **ADR/RID ADN/ADNR IMDG IATA/DOT**

**DOT:** UN Number: UN 1648  
Proper Shipping Name: Acetonitrile Solution  
Hazard class: 3  
Packing group: II

**IATA:** UN Number: UN 1648  
Proper Shipping Name: Acetonitrile Solution  
Hazard class: 3  
Packing group: II

**IMDG:** UN Number: UN 1648  
Proper Shipping Name: Acetonitrile Solution  
Hazard class: 3  
Packing group: II  
EmS Number: F-E, S-D  
Marine Pollutant: No

#### 15. Regulations:

▪ **US Federal and State Regulations.**

**TSCA (Toxic Substances Control Act):** Not applicable.

**SARA 313:** Not applicable.

**SARA 311/312 Hazards:** Not applicable.

**CERCLA Reportable Quantity:** Not applicable.

**California Proposition 65:** Not applicable.

▪ **European Union.**

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

#### 16. Other Information:

▪ **Notice to reader:**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.