# SAFETY DATA SHEET

MitoXpress Xtra –Oxygen Consumption Assay, Part Number MX-200-4

## Section 1. Identification

### 1.1 Product identifier

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>MitoXpress Xtra –Oxygen Consumption Assay, Part Number MX-200-4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part no. (chemical kit)</strong></td>
<td>MX-200-4</td>
</tr>
</tbody>
</table>
| **Part no.** | MitoXpress Xtra Reagent Pack MX-400-4  
MitoXpress HS Mineral Oil Pack HS-100D-4 |
| **Validation date** | 4/23/2018 |

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

<table>
<thead>
<tr>
<th><strong>Material uses</strong></th>
<th>For research use only. Not for use in diagnostic procedures (RUO).</th>
</tr>
</thead>
<tbody>
<tr>
<td>MitoXpress Xtra Reagent Pack</td>
<td>4 x 70 µg</td>
</tr>
<tr>
<td>MitoXpress HS Mineral Oil Pack</td>
<td>4 x 15 ml</td>
</tr>
</tbody>
</table>

### 1.3 Details of the supplier of the safety data sheet

| **Supplier/Manufacturer** | Agilent Technologies, Inc.  
5301 Stevens Creek Blvd  
Santa Clara, CA 95051, USA  
800-227-9770 |

### 1.4 Emergency telephone number

| **In case of emergency** | CHEMTREC®: 1-800-424-9300 |

## Section 2. Hazards identification

### 2.1 Classification of the substance or mixture

| **OSHA/HCS status** | MitoXpress Xtra Reagent Pack  
MitoXpress HS Mineral Oil Pack |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Classification of the substance or mixture</strong></td>
<td>This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).</td>
</tr>
<tr>
<td><strong>MitoXpress Xtra Reagent Pack</strong></td>
<td>COMBUSTIBLE DUSTS</td>
</tr>
</tbody>
</table>
| **MitoXpress HS Mineral Oil Pack** | SKIN IRRITATION - Category 2  
EYE IRRITATION - Category 2A  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 |

<table>
<thead>
<tr>
<th><strong>Ingredients of unknown toxicity</strong></th>
<th>MitoXpress HS Mineral Oil Pack</th>
</tr>
</thead>
</table>
| Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: > 60%  
Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10% |

### 2.2 GHS label elements

<table>
<thead>
<tr>
<th><strong>Hazard pictograms</strong></th>
<th>MitoXpress HS Mineral Oil Pack</th>
</tr>
</thead>
</table>

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Section 2. Hazards identification

Signal word:
- MitoXpress Xtra Reagent Pack: Warning
- MitoXpress HS Mineral Oil Pack: Warning

Hazard statements:
- MitoXpress Xtra Reagent Pack: No Code(s) - May form combustible dust concentrations in air.
- MitoXpress HS Mineral Oil Pack:
  - H319 - Causes serious eye irritation.
  - H315 - Causes skin irritation.
  - H335 - May cause respiratory irritation.

Precautionary statements

Prevention:
- MitoXpress Xtra Reagent Pack: Not applicable.
- MitoXpress HS Mineral Oil Pack:
  - P280 - Wear protective gloves. Wear eye or face protection.
  - P271 - Use only outdoors or in a well-ventilated area.
  - P261 - Avoid breathing vapor.
  - P264 - Wash hands thoroughly after handling.

Response:
- MitoXpress Xtra Reagent Pack: Not applicable.
- MitoXpress HS Mineral Oil Pack:
  - P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
  - P302 + P352 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
  - P332 + P313 - If skin irritation occurs: Get medical attention.
  - P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - P337 + P313 - If eye irritation persists: Get medical attention.

Storage:
- MitoXpress Xtra Reagent Pack: Not applicable.
- MitoXpress HS Mineral Oil Pack:
  - P405 - Store locked up.

Disposal:
- MitoXpress Xtra Reagent Pack: Not applicable.
- MitoXpress HS Mineral Oil Pack:
  - P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements:
- MitoXpress Xtra Reagent Pack: None known.
- MitoXpress HS Mineral Oil Pack: None known.

2.3 Other hazards
- Hazards not otherwise classified:
  - MitoXpress Xtra Reagent Pack: None known.
  - MitoXpress HS Mineral Oil Pack: None known.

Section 3. Composition/information on ingredients

Substance/mixture:
- MitoXpress Xtra Reagent Pack: Mixture
- MitoXpress HS Mineral Oil Pack: Mixture

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>MitoXpress HS Mineral Oil Pack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene) terphenyl</td>
<td>≥75 - ≤90</td>
<td>9003-29-6</td>
</tr>
<tr>
<td></td>
<td>≤10</td>
<td>26140-60-3</td>
</tr>
</tbody>
</table>

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Section 3. Composition/information on ingredients

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

4.1 Description of necessary first aid measures

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>MitoXpress Xtra Reagent Pack</th>
<th>Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MitoXpress HS Mineral Oil Pack</td>
<td>Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>MitoXpress Xtra Reagent Pack</th>
<th>Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. 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.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MitoXpress HS Mineral Oil Pack</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. 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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>MitoXpress Xtra Reagent Pack</th>
<th>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MitoXpress HS Mineral Oil Pack</td>
<td>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.</td>
</tr>
</tbody>
</table>

Date of issue: 04/23/2018
Section 4. First aid measures

### Ingestion
- **MitoXpress Xtra Reagent Pack**
  - 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 adverse health effects persist or are severe. 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.

- **MitoXpress HS Mineral Oil Pack**
  - 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 adverse health effects persist or are severe. 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.

### Inhalation
- **MitoXpress Xtra Reagent Pack**
  - Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

- **MitoXpress HS Mineral Oil Pack**
  - May cause respiratory irritation.

### Skin contact
- **MitoXpress Xtra Reagent Pack**
  - No known significant effects or critical hazards.

- **MitoXpress HS Mineral Oil Pack**
  - Causes skin irritation.

### Eye contact
- **MitoXpress Xtra Reagent Pack**
  - Adverse symptoms may include the following:
    - irritation
    - redness

- **MitoXpress HS Mineral Oil Pack**
  - Adverse symptoms may include the following:
    - pain or irritation
    - watering
    - redness

### Over-exposure signs/symptoms

4.2 Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- **Eye contact**
  - **MitoXpress Xtra Reagent Pack**
    - Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
    - Causes serious eye irritation.

- **Inhalation**
  - **MitoXpress Xtra Reagent Pack**
    - Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
    - May cause respiratory irritation.

- **Skin contact**
  - **MitoXpress Xtra Reagent Pack**
    - No known significant effects or critical hazards.

  - **MitoXpress HS Mineral Oil Pack**
    - Causes skin irritation.

- **Ingestion**
  - **MitoXpress Xtra Reagent Pack**
    - No known significant effects or critical hazards.

  - **MitoXpress HS Mineral Oil Pack**
    - No known significant effects or critical hazards.
Section 4. First aid measures

**Inhalation**
- **MitoXpress Xtra Reagent Pack**
  - Adverse symptoms may include the following:
  - respiratory tract irritation
  - coughing

- **MitoXpress HS Mineral Oil Pack**
  - Adverse symptoms may include the following:
  - respiratory tract irritation
  - coughing

**Skin contact**
- **MitoXpress Xtra Reagent Pack**
  - No specific data.

- **MitoXpress HS Mineral Oil Pack**
  - Adverse symptoms may include the following:
  - irritation
  - redness

**Ingestion**
- **MitoXpress Xtra Reagent Pack**
  - No specific data.

- **MitoXpress HS Mineral Oil Pack**
  - No specific data.

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician**
- **MitoXpress Xtra Reagent Pack**
  - Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

- **MitoXpress HS Mineral Oil Pack**
  - Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments**
- **MitoXpress Xtra Reagent Pack**
  - No specific treatment.

- **MitoXpress HS Mineral Oil Pack**
  - No specific treatment.

**Protection of first-aiders**
- **MitoXpress Xtra Reagent Pack**
  - No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

- **MitoXpress HS Mineral Oil Pack**
  - 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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
- **MitoXpress Xtra Reagent Pack**
  - Use dry chemical powder.

- **MitoXpress HS Mineral Oil Pack**
  - Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media**
- **MitoXpress Xtra Reagent Pack**
  - Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.

- **MitoXpress HS Mineral Oil Pack**
  - None known.

### 5.2 Special hazards arising from the substance or mixture

**Specific hazards arising from the chemical**
- **MitoXpress Xtra Reagent Pack**
  - May form explosible dust-air mixture if dispersed.

- **MitoXpress HS Mineral Oil Pack**
  - In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products**
- **MitoXpress Xtra Reagent Pack**
  - No specific data.

- **MitoXpress HS Mineral Oil Pack**
  - Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide
Section 5. Fire-fighting measures

5.3 Advice for firefighters

Special protective actions for fire-fighters:

- **MitoXpress Xtra Reagent Pack**
  - Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

- **MitoXpress HS Mineral Oil Pack**
  - Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters:

- **MitoXpress Xtra Reagent Pack**
  - Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

- **MitoXpress HS Mineral Oil Pack**
  - Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

- **MitoXpress Xtra Reagent Pack**
  - No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

- **MitoXpress HS Mineral Oil Pack**
  - No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders:

- **MitoXpress Xtra Reagent Pack**
  - If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- **MitoXpress HS Mineral Oil Pack**
  - If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
## Section 6. Accidental release measures

### 6.2 Environmental precautions

| MitoXpress Xtra Reagent Pack | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |
| MitoXpress HS Mineral Oil Pack | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |

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### 6.3 Methods and materials for containment and cleaning up

| Methods for cleaning up | MitoXpress Xtra Reagent Pack | Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. |
| MitoXpress HS Mineral Oil Pack | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |

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## Section 7. Handling and storage

### 7.1 Precautions for safe handling

| Protective measures | MitoXpress Xtra Reagent Pack | Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. |
| MitoXpress HS Mineral Oil Pack | Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. |

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**Date of issue:** 04/23/2018
### Section 7. Handling and storage

| Advice on general occupational hygiene | : | MitoXpress Xtra Reagent Pack | 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. |
| : | : | MitoXpress HS Mineral Oil Pack | 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. |

| 7.2 Conditions for safe storage, including any incompatibilities | : | MitoXpress Xtra Reagent Pack | Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. Shelf life: 24 months. 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. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. |
| : | : | MitoXpress HS Mineral Oil Pack | Storage temperature: 20 to 25°C (68 to 77°F). Store in accordance with local regulations. Shelf life: >24 months. 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. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. |

| 7.3 Specific end use(s) | : | MitoXpress Xtra Reagent Pack | Industrial applications, Professional applications. |
| Recommendations | : | MitoXpress Xtra Reagent Pack | Industrial applications, Professional applications. |
| Industrial sector specific solutions | : | MitoXpress Xtra Reagent Pack | Not applicable. |
| : | : | MitoXpress HS Mineral Oil Pack | Not applicable. |
Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MitoXpress HS Mineral Oil Pack</td>
<td>None.</td>
</tr>
<tr>
<td>Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene) terphenyl</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>ACGIH TLV (United States, 3/2017).</strong></td>
</tr>
<tr>
<td></td>
<td>C: 0.53 ppm</td>
</tr>
<tr>
<td></td>
<td>C: 5 mg/m³</td>
</tr>
<tr>
<td></td>
<td><strong>OSHA PEL 1989 (United States, 3/1989).</strong></td>
</tr>
<tr>
<td></td>
<td>CEIL: 0.5 ppm</td>
</tr>
<tr>
<td></td>
<td>CEIL: 5 mg/m³</td>
</tr>
<tr>
<td></td>
<td><strong>OSHA PEL (United States, 6/2016).</strong></td>
</tr>
<tr>
<td></td>
<td>CEIL: 1 ppm</td>
</tr>
<tr>
<td></td>
<td>CEIL: 9 mg/m³</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Appropriate engineering controls: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.

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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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.
## Section 8. Exposure controls/personal protection

**Respiratory protection**
Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Appearance**

<table>
<thead>
<tr>
<th>Property</th>
<th>MitoXpress Xtra Reagent Pack</th>
<th>MitoXpress HS Mineral Oil Pack</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid. [lyophilized]</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Color</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not available.</td>
<td>340°C (644°F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
<td>Open cup: &gt;163°C (&gt;325.4°F)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Lower and upper explosive (flammable) limits</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in the following materials: cold water and hot water.</td>
<td>Insoluble in the following materials: cold water and hot water.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

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**Date of issue:** 04/23/2018
Section 10. Stability and reactivity

10.1 Reactivity: MitoXpress Xtra Reagent Pack
- No specific test data related to reactivity available for this product or its ingredients.
- MitoXpress HS Mineral Oil Pack
- No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability: MitoXpress Xtra Reagent Pack
- The product is stable.
- MitoXpress HS Mineral Oil Pack
- The product is stable.

10.3 Possibility of hazardous reactions: MitoXpress Xtra Reagent Pack
- Under normal conditions of storage and use, hazardous reactions will not occur.
- MitoXpress HS Mineral Oil Pack
- Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid: MitoXpress Xtra Reagent Pack
- Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame).
- Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.
- MitoXpress HS Mineral Oil Pack
- No specific data.

10.5 Incompatible materials: MitoXpress Xtra Reagent Pack
- Reactive or incompatible with the following materials:
  - oxidizing materials
- MitoXpress HS Mineral Oil Pack
- May react or be incompatible with oxidizing materials.

10.6 Hazardous decomposition products: MitoXpress Xtra Reagent Pack
- Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- MitoXpress HS Mineral Oil Pack
- Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
</table>
| MitoXpress HS Mineral Oil Pack
  Butene, homopolymer (products derived from either/ or But-1-ene/But-2-ene) | LC50 Inhalation Vapor | Rat | >19171 mg/m³ | 4 hours |
| | LD50 Oral | Rat - Male | >10000 mg/kg | - |
| | LD50 Dermal | Female Rabbit - Male | >5000 mg/kg | - |
| | LD50 Oral | Rat | 1400 mg/kg | - |

Irritation/Corrosion
- Not available.

Sensitization

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Section 11. Toxicological information

Not available.

**Mutagenicity**
**Conclusion/Summary** : Not available.

**Carcinogenicity**
**Conclusion/Summary** : Not available.

**Reproductive toxicity**
**Conclusion/Summary** : Not available.

**Teratogenicity**
**Conclusion/Summary** : Not available.

**Specific target organ toxicity (single exposure)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>MitoXpress HS Mineral Oil Pack</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>MitoXpress HS Mineral Oil Pack</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)</td>
<td></td>
</tr>
</tbody>
</table>

**Information on the likely routes of exposure**

| MitoXpress HS Mineral Oil Pack   |                                                                           |

**Potential acute health effects**

**Eye contact**

| MitoXpress Xtra Reagent Pack     | Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes. |
| MitoXpress HS Mineral Oil Pack   | Causes serious eye irritation.                                              |

**Inhalation**

| MitoXpress Xtra Reagent Pack     | Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. |
| MitoXpress HS Mineral Oil Pack   | May cause respiratory irritation.                                           |

**Skin contact**

| MitoXpress Xtra Reagent Pack     | No known significant effects or critical hazards.                          |
| MitoXpress HS Mineral Oil Pack   | Causes skin irritation.                                                    |

**Ingestion**

| MitoXpress Xtra Reagent Pack     | No known significant effects or critical hazards.                          |
| MitoXpress HS Mineral Oil Pack   | No known significant effects or critical hazards.                          |

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact**

| MitoXpress Xtra Reagent Pack     | Adverse symptoms may include the following: irritation redness              |
| MitoXpress HS Mineral Oil Pack   | Adverse symptoms may include the following: pain or irritation watering redness |
Section 11. Toxicological information

Inhalation
- MitoXpress Xtra Reagent Pack
- MitoXpress HS Mineral Oil Pack
  Adverse symptoms may include the following:
  respiratory tract irritation
  coughing

Skin contact
- MitoXpress Xtra Reagent Pack
- MitoXpress HS Mineral Oil Pack
  Adverse symptoms may include the following:
  respiratory tract irritation
  coughing

Ingestion
- MitoXpress Xtra Reagent Pack
- MitoXpress HS Mineral Oil Pack
  No specific data.

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
- General: MitoXpress Xtra Reagent Pack
  Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
- MitoXpress HS Mineral Oil Pack
  No known significant effects or critical hazards.
- Carcinogenicity: MitoXpress Xtra Reagent Pack
  No known significant effects or critical hazards.
- MitoXpress HS Mineral Oil Pack
  No known significant effects or critical hazards.
- Mutagenicity: MitoXpress Xtra Reagent Pack
  No known significant effects or critical hazards.
- MitoXpress HS Mineral Oil Pack
  No known significant effects or critical hazards.
- Teratogenicity: MitoXpress Xtra Reagent Pack
  No known significant effects or critical hazards.
- MitoXpress HS Mineral Oil Pack
  No known significant effects or critical hazards.
- Developmental effects: MitoXpress Xtra Reagent Pack
  No known significant effects or critical hazards.
- MitoXpress HS Mineral Oil Pack
  No known significant effects or critical hazards.
- Fertility effects: MitoXpress Xtra Reagent Pack
  No known significant effects or critical hazards.
- MitoXpress HS Mineral Oil Pack
  No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MitoXpress HS Mineral Oil Pack Oral</td>
<td>34610.8 mg/kg</td>
</tr>
</tbody>
</table>
Section 12. Ecological information

12.1 Toxicity
Not available.

12.2 Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MitoXpress HS Mineral Oil Pack</strong> Butene, homopolymer (products derived from either/ or But-1-ene/But-2-ene)</td>
<td>OECD 301B Ready Biodegradability - CO₂ Evolution Test</td>
<td>99.9 % - 28 days</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MitoXpress HS Mineral Oil Pack</strong> Butene, homopolymer (products derived from either/ or But-1-ene/But-2-ene)</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MitoXpress HS Mineral Oil Pack</strong> Butene, homopolymer (products derived from either/ or But-1-ene/But-2-ene)</td>
<td>7.6 to 7.8</td>
<td>314 to 1882</td>
<td>high</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

- Soil/water partition coefficient (K<sub>oc</sub>): Not available.

12.5 Other adverse effects

No known significant effects or critical hazards.

Section 13. Disposal considerations

13.1 Waste treatment methods

- Disposal methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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Section 13. Disposal considerations

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA: Not regulated.

Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not available.

Section 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal regulations:

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs): Not listed
Clean Air Act Section 602 Class I Substances: Not listed
Clean Air Act Section 602 Class II Substances: Not listed
DEA List I Chemicals (Precursor Chemicals): Not listed
DEA List II Chemicals (Essential Chemicals): Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ: Not applicable.

SARA 311/312

Classification: MitoXpress Xtra Reagent Pack

COMBUSTIBLE DUSTS
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Composition/information on ingredients

Date of issue: 04/23/2018
Section 15. Regulatory information

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Classification</th>
</tr>
</thead>
</table>
| MitoXpress HS Mineral Oil Pack            | ≥75 - ≤90 | SKIN IRRITATION - Category 2  
|                                           |       | EYE IRRITATION - Category 2A  
|                                           |       | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
|                                           |       | ASPIRATION HAZARD - Category 1  
| Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene) | ≤10   | ACUTE TOXICITY (oral) - Category 4 |
| terphenyl                                  |       |                                                                                 |

State regulations
- **Massachusetts**: The following components are listed: TERPHENYLS
- **New York**: None of the components are listed.
- **New Jersey**: The following components are listed: TERPHENYLS (mixed isomers); TERPHENYL
- **Pennsylvania**: The following components are listed: TERPHENYLS

International regulations
- **Chemical Weapon Convention List Schedules I, II & III Chemicals**: Not listed.
- **Stockholm Convention on Persistent Organic Pollutants**: Not listed.
- **UNECE Aarhus Protocol on POPs and Heavy Metals**: Not listed.

Inventory list
- **Australia**: Not determined.
- **Canada**: Not determined.
- **China**: Not determined.
- **Europe**: Not determined.
- **Japan**: Japan inventory (ENCS): Not determined.  
  Japan inventory (ISHL): Not determined.
- **Malaysia**: Not determined.
- **New Zealand**: Not determined.
- **Philippines**: Not determined.
- **Republic of Korea**: Not determined.
- **Taiwan**: Not determined.
- **Thailand**: Not determined.
- **Turkey**: Not determined.
- **United States**: Not determined.
- **Viet Nam**: Not determined.

Date of issue: 04/23/2018
Section 16. Other information

History
Date of issue : 04/23/2018
Date of previous issue : No previous validation
Version : 1

Procedure used to derive the classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MitoXpress Xtra Reagent Pack</strong></td>
<td>On basis of test data</td>
</tr>
<tr>
<td>COMBUSTIBLE DUSTS</td>
<td></td>
</tr>
<tr>
<td><strong>MitoXpress HS Mineral Oil Pack</strong></td>
<td>Calculation method</td>
</tr>
<tr>
<td>SKIN IRRITATION - Category 2</td>
<td>Calculation method</td>
</tr>
<tr>
<td>EYE IRRITATION - Category 2A</td>
<td>Calculation method</td>
</tr>
<tr>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

*Indicates information that has changed from previously issued version.*

Notice to reader

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