Section 1: PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>Fibroblast Growth Factor(basic) (bFGF / FGFB / FGF2), Human, recombinant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>067-04031</td>
</tr>
<tr>
<td>CAS No</td>
<td>62031-54-3</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Wako Pure Chemical Industries, Ltd.</td>
</tr>
<tr>
<td></td>
<td>1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan</td>
</tr>
<tr>
<td></td>
<td>Phone: +81 (0)6-6203-3741</td>
</tr>
<tr>
<td></td>
<td>Fax: +81 (0)6-6201-5964</td>
</tr>
<tr>
<td>Supplier</td>
<td>Wako Pure Chemical Industries, Ltd.</td>
</tr>
<tr>
<td></td>
<td>1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan</td>
</tr>
<tr>
<td></td>
<td>Phone: +81 (0)6-6203-3741</td>
</tr>
<tr>
<td></td>
<td>Fax: +81 (0)6-6201-5964</td>
</tr>
<tr>
<td>Emergency telephone number</td>
<td>+81-6-6203-3741 / +81-3-3270-8571</td>
</tr>
<tr>
<td>Recommended uses and restrictions on use</td>
<td>For research purposes</td>
</tr>
</tbody>
</table>

Section 2: HAZARDS IDENTIFICATION

GHS classification
Classification of the substance or mixture
Serious eye damage/eye irritation          Category 2B

Pictograms
Signal word       Warning

Hazard statements
   H320 - Causes eye irritation

Precautionary statements-(Prevention)
   • Wash face, hands and any exposed skin thoroughly after handling

Precautionary statements-(Response)
   • 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 advice/attention.

Precautionary statements-(Storage)
   • Not applicable

Precautionary statements-(Disposal)
   • Not applicable

Others
Other hazards          Not available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture       Mixture
### Section 4: FIRST AID MEASURES

**Inhalation**
- Remove to fresh air. If symptoms persist, call a physician.

**Skin contact**
- Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

**Eye contact**
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

**Ingestion**
- Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

**Protection of first-aiders**
- Use personal protective equipment as required.

### Section 5: FIRE FIGHTING MEASURES

**Suitable extinguishing media**
- Water spray (loq), Carbon dioxide (CO2), Foam, Extinguishing powder, Sand

**Unsuitable extinguishing media**
- No information available

**Special extinguishing method**
- No information available

**Specific hazards arising from the chemical product**
- Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**Protection of fire-fighters**
- Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

### Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**
- For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

**Environmental precautions**
- To be careful not discharged to the environment without being properly handled waste water contaminated.

**Methods and materials for contaminent and methods and materials for cleaning up**

---

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Weight-%</th>
<th>Molecular weight</th>
<th>ENCS</th>
<th>ISHL No.</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Chloride</td>
<td>98.4</td>
<td>58.44</td>
<td>(1)-236</td>
<td>N/A</td>
<td>7647-14-5</td>
</tr>
<tr>
<td>Tris(hydroxymethyl)aminomethane Hydrochloride</td>
<td>1.3</td>
<td>157.60</td>
<td>N/A</td>
<td>N/A</td>
<td>1185-53-1</td>
</tr>
<tr>
<td>(R*,R*)-1,4-Dimercaptobutane-2,3-diol</td>
<td>0.2</td>
<td>154.25</td>
<td>N/A</td>
<td>N/A</td>
<td>3483-12-3</td>
</tr>
<tr>
<td>Fibroblast Growth Factor(basic) (bFGF / FGFb / FGF2), Human, recombinant</td>
<td>0.1</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A-06-0403-1</td>
</tr>
</tbody>
</table>

**Impurities and/or Additives:** Not applicable

**Substances Remarks:** The composition considered to be hazardous are listed in the above. The remaining ingredients are not hazardous substances, or exist at below reportable level.
Sweep up and gather scattered particles, and collect it in an empty airtight container.

**Recovery, neutralization**
No information available

**Secondary disaster prevention measures**
Clean contaminated objects and areas thoroughly observing environmental regulations.

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### Section 7: HANDLING AND STORAGE

**Handling**

**Technical measures**
Use with local exhaust ventilation.

**Precautions**
Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

**Safety handling precautions**
Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

**Storage**

**Safe storage conditions**

<table>
<thead>
<tr>
<th>Storage conditions</th>
<th>Safe packaging material</th>
<th>Incompatible substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Store away from sunlight in cold (-20°C). Keep container tightly closed.</td>
<td>Polypropylene</td>
<td>Strong oxidizing agents</td>
</tr>
</tbody>
</table>

---

### Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering controls**
In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

**Exposure limits**
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Personal protective equipment**

<table>
<thead>
<tr>
<th>Respiratory protection</th>
<th>Hand protection</th>
<th>Eye protection</th>
<th>Skin and body protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust mask</td>
<td>Protection gloves</td>
<td>protective eyeglasses or chemical safety goggles</td>
<td>Long-sleeved work clothes</td>
</tr>
</tbody>
</table>

**General hygiene considerations**
Handle in accordance with good industrial hygiene and safety practice.

---

### Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Form</th>
<th>Appearance</th>
<th>Odor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lyophilisate</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Boiling point, initial boiling point and boiling range</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No data available</td>
<td></td>
</tr>
</tbody>
</table>
Section 10: STABILITY AND REACTIVITY

Stability
- Stability: Stable under recommended storage conditions.
- Reactivity: No data available

Hazardous reactions
- None under normal processing

Conditions to avoid
- Extremes of temperature and direct sunlight

Incompatible materials
- Strong oxidizing agents

Hazardous decomposition products
- Carbon monoxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx), Halides, Sulfur oxides (SOx)

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Chloride</td>
<td>3550 mg/kg (Rat)</td>
<td>&gt;10000mg/kg(Rabbit)</td>
<td>&gt; 42 g/m³ (Rat) 1 h</td>
</tr>
</tbody>
</table>

Skin irritation/corrosion: No data available
Serious eye damage/irritation: No data available
Respiratory or skin sensitization: No data available
Reproductive cell mutagenicity: No data available
Carcinogenicity: No data available

Reproductive toxicity: No data available
STOT-single exposure: No data available
STOT-repeated exposure: No data available
Aspiration hazard: No data available

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Chloride</td>
<td>N/A</td>
<td>LC50:Oncorhynchus mykiss 4747 - 7824 mg/L 96 h</td>
<td>EC50:Daphnia magna 1000 mg/L 48 h EC50:Daphnia magna 340.7 - 469.2 mg/L 48 h</td>
</tr>
</tbody>
</table>

W01W0106-0403 JGHEEN  
Fibroblast Growth Factor(basic) (bFGF / FGFb / FGF2), Human, recombinant
Section 13: DISPOSAL CONSIDERATIONS

Waste from residues
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated container and contaminated packaging
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

ADR/RID
Not regulated
- UN number
- Proper shipping name:
- UN classification
- Subsidiary hazard class
- Packing group
- Marine pollutant
Not applicable

IMDG
Not regulated
- UN number
- Proper shipping name:
- UN classification
- Subsidiary hazard class
- Packing group
- Marine pollutant (Sea)
Not applicable
- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
No information available

IATA
Not regulated
- UN number
- Proper shipping name:
- UN classification
- Subsidiary hazard class
- Packing group
- Environmentally Hazardous Substance
Not applicable

Section 15: REGULATORY INFORMATION

International Inventories
EINECS/ELINCS
- TSCA
- Japanese regulations
Fire Service Act
Not applicable
Poisonous and Deleterious Substances Control Law
Not applicable
Section 16: OTHER INFORMATION

Key literature references and sources for data etc.

NITE: National Institute of Technology and Evaluation (JAPAN)
http://www.safe.nite.go.jp/japan/db.html
IATA dangerous Goods Regulations
RTECS:Registry of Toxic Effects of Chemical Substances
Japan Industrial Safety and Health Association GHS Model SDS
Chemical Dictionary, Kyouritsu Publishing Co., Ltd.

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GHS Classification is according to JIS Z7252(2014). *JIS: Japanese Industrial Standards

End of Safety Data Sheet