Section 1: PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>Fibroblast Growth Factor(basic) (bFGF / FGFb / FGF2), Human, recombinant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product code</strong></td>
<td>064-04541,060-04543,068-04544</td>
</tr>
<tr>
<td><strong>CAS No</strong></td>
<td>N/A</td>
</tr>
</tbody>
</table>

Manufacturer

Wako Pure Chemical Industries, Ltd.
1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan
Phone: +81 (0)6-6203-3741
Fax: +81 (0)6-6201-5964

Supplier

Wako Pure Chemical Industries, Ltd.
1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan
Phone: +81 (0)6-6203-3741
Fax: +81 (0)6-6201-5964

Emergency telephone number

+81-6-6203-3741 / +81-3-3270-8571

Recommended uses and restrictions on use

For research purposes

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
<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>91</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>8</td>
<td>157.60</td>
<td>N/A</td>
<td>N/A</td>
<td>1185-53-1</td>
</tr>
<tr>
<td>Fibroblast Growth Factor(basic) (bFGF / FGFb / FGF2), Human, recombinant</td>
<td>1</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A-06-0454-1</td>
</tr>
</tbody>
</table>

Impurities and/or Additives: Not applicable

Source: Human fibroblast growth factor (basic) cDNA expressed in E.coli

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.

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 (fog), 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
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**

Avoid contact with strong oxidizing agents. 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**

- Storage conditions: Store away from sunlight in cold (-20°C). Keep container tightly closed.
- Safe packaging material: Polypropylene
- Incompatible substances: Strong oxidizing agents

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**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**

- Respiratory protection: Dust mask
- Hand protection: Protection gloves
- Eye protection: protective eyeglasses or chemical safety goggles
- Skin and body protection: Long-sleeved work clothes

**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice.

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**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Form**

- Appearance: lyophilisate
- Odor: No data available
- pH: No data available
- Melting point/freezing point: No data available
- Boiling point, initial boiling point and boiling range: No data available
- Flash point: No data available
- Evaporation rate: No data available
- Flammability (solid, gas): No data available
- Upper/lower flammability or explosive limits: No data available
Section 10: STABILITY AND REACTIVITY

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), 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;10000 mg/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>
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</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>
### 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

<table>
<thead>
<tr>
<th>ADR/RID</th>
<th>Not regulated</th>
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</thead>
<tbody>
<tr>
<td>UN number</td>
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<tr>
<td>Proper shipping name:</td>
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</tr>
<tr>
<td>UN classification</td>
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</tr>
<tr>
<td>Subsidiary hazard class</td>
<td></td>
</tr>
<tr>
<td>Packing group</td>
<td></td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>Not applicable</td>
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</table>

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

<table>
<thead>
<tr>
<th>IATA</th>
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<tbody>
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<td>Proper shipping name:</td>
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<tr>
<td>UN classification</td>
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<td>Subsidiary hazard class</td>
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<td>Packing group</td>
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<tr>
<td>Environmentally Hazardous Substance</td>
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### Section 15: REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>International Inventories</th>
<th>EINECS/ELINCS</th>
<th>Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Listed</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Japanese regulations</th>
<th>Fire Service Act</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poisonous and Deleterious Substances Control Law</td>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>
Industrial Safety and Health Act
Not applicable
Regulations for the carriage and storage of dangerous goods in ship
Not applicable
Civil Aeronautics Law
Pollutant Release and Transfer Register Law
Not applicable
Export Trade Control Order
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.
etc

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