**SAFETY DATA SHEET**

According to JIS Z 7253:2012  
**Revision Date** 13-Jul-2018  
**Version** 2

### Section 1: PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>N,N-Bis(2-hydroxyethyl)-1,4-phenylenediamine Sulfate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product code</strong></td>
<td>328-48032,322-48035</td>
</tr>
<tr>
<td><strong>CAS No</strong></td>
<td>54381-16-7</td>
</tr>
<tr>
<td><strong>Formula</strong></td>
<td>C10H16N2O2·H2SO4</td>
</tr>
<tr>
<td><strong>Manufacturer</strong></td>
<td>FUJIFILM Wako Pure Chemical Corporation</td>
</tr>
<tr>
<td></td>
<td>1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan</td>
</tr>
<tr>
<td></td>
<td>Phone: +81-6-6203-3741</td>
</tr>
<tr>
<td></td>
<td>Fax: +81-6-6203-5964</td>
</tr>
<tr>
<td><strong>Supplier</strong></td>
<td>FUJIFILM Wako Pure Chemical Corporation</td>
</tr>
<tr>
<td></td>
<td>1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan</td>
</tr>
<tr>
<td></td>
<td>Phone: +81-6-6203-3741</td>
</tr>
<tr>
<td></td>
<td>Fax: +81-6-6203-2029</td>
</tr>
<tr>
<td><strong>Emergency telephone number</strong></td>
<td>+81-6-6203-3741 / +81-3-3270-8571</td>
</tr>
<tr>
<td><strong>Recommended uses and restrictions on use</strong></td>
<td>For research purposes</td>
</tr>
<tr>
<td><strong>Announcement of company name change</strong></td>
<td>Company name has changed since April 1, 2018. Former name was “Wako Pure Chemical Industries, Ltd.”</td>
</tr>
</tbody>
</table>

### Section 2: HAZARDS IDENTIFICATION

**GHS classification**

<table>
<thead>
<tr>
<th>Classification of the substance or mixture</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>Category 3</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2A</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

**Pictograms**

![Pictogram for Danger]

**Signal word**

Danger

**Hazard statements**

- H319 - Causes serious eye irritation
- H301 - Toxic if swallowed
- H317 - May cause an allergic skin reaction

**Precautionary statements-(Prevention)**

- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Wear protective gloves/protective clothing/eye protection/face protection
• Avoid breathing dust/fume/gas/mist/vapors/spray
• Contaminated work clothing should not be allowed out of the workplace

**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.
- IF ON SKIN: Wash with plenty of soap and water
- IF skin irritation or rash occurs: Get medical advice/attention
- Wash contaminated clothing before reuse.
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- Rinse mouth.

**Precautionary statements-(Storage)**
- Store locked up.

**Precautionary statements-(Disposal)**
- Dispose of contents/container to an approved waste disposal plant

**Others**

| Other hazards | Not available |

**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**Single Substance or Mixture**
Substance

**Formula**
C10H16N2O2·H2SO4

<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>N,N-Bis(2-hydroxyethyl)-4-phenylenediamine Sulfate (1:1)</td>
<td>90.0</td>
<td>294.32</td>
<td>N/A</td>
<td>N/A</td>
<td>54381-16-7</td>
</tr>
</tbody>
</table>

**Impurities and/or Additives**
Not applicable

**Section 4: FIRST AID MEASURES**

**Inhalation**
Remove to fresh air. Call a physician immediately.

**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**
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 contaminant 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.

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
Safe packaging material
Glass

Incompatible substances
Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSOANL 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, protective boots

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

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>White - light gray</td>
</tr>
<tr>
<td>Appearance</td>
<td>crystals - crystalline powder</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point, initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td></td>
</tr>
<tr>
<td>Upper :</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower :</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific Gravity / Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubilities</td>
<td>water : soluble</td>
</tr>
<tr>
<td>n-Octanol/water partition coefficient:(log Pow)</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity (coefficient of viscosity)</td>
<td>No data available</td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>No data available</td>
</tr>
</tbody>
</table>

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
No data available

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: No information available
Other data: No data available
Persistency and degradability: No information available
Bioaccumulative potential: No information available
Mobility in soil: No information available
Hazard to the ozone layer: No information available

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
UN number: UN2811
Proper shipping name: Toxic solid, organic, n.o.s. (N,N-Bis(2-hydroxyethyl)-4-phenylenediamine Sulfate (1:1))
UN classification: 6.1
Subsidiary hazard class: 
Packing group: III
Marine pollutant: Not applicable

IMDG
UN number: UN2811
Proper shipping name: Toxic solid, organic, n.o.s. (N,N-Bis(2-hydroxyethyl)-4-phenylenediamine Sulfate (1:1))
UN classification: 6.1
Subsidiary hazard class: 
Packing group: III
Marine pollutant (Sea): Not applicable
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: No information available

IATA
UN number: UN2811
Proper shipping name: Toxic solid, organic, n.o.s. (N,N-Bis(2-hydroxyethyl)-4-phenylenediamine Sulfate (1:1))
UN classification: 6.1
Subsidiary hazard class: 
Packing group: III
Environmentally Hazardous Substance: Not applicable
Section 15: REGULATORY INFORMATION

International Inventories
- EINECS/ELINCS: Listed
- TSCA: Listed

Japanese regulations
- Fire Service Act: Not applicable
- Poisonous and Deleterious Substances Control Law: Not applicable
- Industrial Safety and Health Act: Not applicable
- Regulations for the carriage and storage of dangerous goods in ship: Toxic Substances - Poison (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
- Civil Aeronautics Law: Toxic and Infectious Substances (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)
- 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

Product information
You might get a product which indicates a former company name, during the period of transition.

End of Safety Data Sheet