



TOKYO CHEMICAL INDUSTRY CO., LTD.

2'-(4-Hydroxyphenyl)-5-(4-methyl-1-piperazinyl)-2,5'-bibenzimidazole Trihydrochloride Hydrate [for Biochemical Research] Revision 1 number:

Revision date: 10/16/2018

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## SAFETY DATA SHEET

### 1. IDENTIFICATION

**Product name:** 2'-(4-Hydroxyphenyl)-5-(4-methyl-1-piperazinyl)-2,5'-bibenzimidazole Trihydrochloride Hydrate [for Biochemical Research]  
**Product code:** H1343  
**Company:** TOKYO CHEMICAL INDUSTRY CO., LTD.  
**Address:** 4-10-2, Nihonbashi-honcho, Chuo-ku, Tokyo 103-0023, Japan  
**Responsible department:** Global Business Department  
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**Revision number:** 1

### 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

**PHYSICAL HAZARDS** Not classified

**HEALTH HAZARDS**

**Skin corrosion/irritation** Category 2

**Serious eye damage/eye irritation** Category 2A

**ENVIRONMENTAL HAZARDS** Not classified

**Label elements**

**Pictograms or hazard symbols**



**Signal word** Warning

**Hazard statements**

Causes skin irritation

Causes serious eye irritation

**Precautionary statements**

**[Prevention]**

Wash hands and face thoroughly after handling.

Wear protective gloves, eye protection.

**[Response]**

IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse.

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 or attention.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance/mixture:** Substance  
**Components:** 2'-(4-Hydroxyphenyl)-5-(4-methyl-1-piperazinyl)-2,5'-bibenzimidazole Trihydrochloride Hydrate [for Biochemical Research]  
**Percent:** >98.0%(HPLC)  
**CAS RN:** 23491-45-4  
**Synonyms:** Bisbenzimidazole H 33258 Hydrate  
**Chemical Formula:** C<sub>25</sub>H<sub>24</sub>N<sub>6</sub>O · 3HCl · xH<sub>2</sub>O  
**Notice Through Official Gazettes Reference Number**  
**ENCS:** Not Listed

#### 4. FIRST-AID MEASURES

- Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
- Skin contact:** Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
- Eye contact:** 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.
- Ingestion:** Get medical advice/attention if you feel unwell. Rinse mouth.
- Protection of first-aiders:** A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

#### 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media:** Dry chemical, foam, water spray, carbon dioxide.
- Specific hazards arising from the chemical:** Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.
- Precautions for firefighters:** Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so.
- Special protective equipment for firefighters:** When extinguishing fire, be sure to wear personal protective equipment

#### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.
- Environmental precautions:** Prevent product from entering drains.
- Methods and materials for containment and cleaning up:** Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

#### 7. HANDLING AND STORAGE

##### Precautions for safe handling

- Technical measures:** Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling.  
Use a local exhaust if dust or aerosol will be generated.
- Advice on safe handling:** Avoid contact with skin, eyes and clothing.

##### Conditions for safe storage, including any incompatibilities

- Storage conditions:** Keep container tightly closed. Store in a freezer.  
Store away from incompatible materials such as oxidizing agents.  
Heat-sensitive, Light-sensitive
- Packaging material:** Comply with laws.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Engineering controls:** Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.
- Control parameters:** Not set up
- Personal protective equipment**
- Respiratory protection:** Dust respirator. Follow local and national regulations.
- Hand protection:** Protective gloves.
- Eye protection:** Safety glasses. A face-shield, if the situation requires.
- Skin and body protection:** Protective clothing. Protective boots, if the situation requires.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (20°C):	Solid
Form:	Crystal - Powder
Colour:	Pale yellow green - Greyish reddish yellow
Odour:	No data available
pH:	No data available
Melting point/freezing point:	280°C
Boiling point/range:	No data available
Flash point:	No data available
Flammability or explosive limits:	
Lower:	No data available
Upper:	No data available
Relative density:	No data available
Solubility(ies):	
[Water]	No data available
[Other solvents]	No data available

## 10. STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical stability:	Stable under proper conditions.
Possibility of hazardous reactions:	No special reactivity has been reported.
Incompatible materials:	Oxidizing agents
Hazardous decomposition products:	Carbon dioxide, Carbon monoxide, Nitrogen oxides (NOx), Hydrogen chloride

## 11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	ivn-rat LD50:32200 ug/kg
Skin corrosion/irritation:	No data available
Serious eye damage/irritation:	No data available
Germ cell mutagenicity:	sce-ham-Ing 15 umol/L cyt-rat-fbr 1 mg/L
Carcinogenicity:	
IARC =	No data available
NTP =	No data available
Reproductive toxicity:	No data available
RTECS Number:	SM1140500

## 12. ECOLOGICAL INFORMATION

Ecotoxicity:	
Fish:	No data available
Crustacea:	No data available
Algae:	No data available
Persistence / degradability:	No data available
Bioaccumulative potential(BCF):	No data available
Mobility in soil	
Log Pow:	No data available
Soil adsorption (Koc):	No data available
Henry's Law (PaM <sup>3</sup> /mol):	No data available
Other adverse effects:	No data available

## 13. DISPOSAL CONSIDERATIONS

Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

#### 14. TRANSPORT INFORMATION

**Hazards Class:** Does not correspond to the classification standard of the United Nations  
**UN-No:** Not listed  
**Specific precautionary transport measures and conditions:**

#### 15. JAPANESE REGULATORY INFORMATION

- Not applicable

#### 16. OTHER INFORMATION

**The reference company name of written contents**

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This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.