Safety Data Sheet

1 Chemical Product and Company Identification
Identification of the product: p-Hydroxybenzoate hydroxylase
Product Code: HBH-311
Supplier
Name: TOYOBO CO., LTD.
Address: 2-8, Dojima Hama 2-chome, Kita-ku, Osaka 530-8230, Japan
Department: Biotechnology Overseas Sales and Marketing Department
Phone: +81-6-6348-3843
Fax: +81-6-6348-3833
Recommended use and restrictions on use: diagnostic product

2 Hazard Identification
Most Important Hazards and Effects
The product might cause allergic reactions upon inhaling or skin contact because of the protein contained.
GHS classification: Classification not possible

3 Composition/Information on Ingredients
 Substance/Mixture: Mixture
 Chemical Nature: p-Hydroxybenzoate hydroxylase
CAS#: 
Concentration or concentration range: ca. 30% (W/W)
Stabilizer, etc: ca. 70% (W/W)
Ingredients Contributing to the Hazard: The ingredients known as hazardous are not included.

4 First Aid Measures
Inhalation: Remove to fresh air. Consult a physician when unpleasantness occurs.
Skin Contact: Wash off with plenty of water. Consult a physician when inflammation on the skin occurs.
Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion: Swill plentiful amount of water or milk for immediate vomiting, consult a physician.

5 Fire Fighting Measures
Extinguishing Media: Water spray, dry chemical powder, or carbon dioxide etc.
Protection of Firefighters: Avoid working at leeward.

6 Accidental Release Measures
Personal Precautions, protective equipment and emergency procedure.
Environmental Precautions: Wear protective gear to avoid eye/skin contact and inhalation. Do not work at leeward.
Methods and materials for containment and cleaning up: High concentrated waste fluid should not be directly discharged into rivers.
Clean up the solution spilled with cloth, paper or anything similar to soak up the solution leaking out of the container.

7 Handling and Storage
Handling
Technical Measures: Wear protective gear to avoid eye/skin contact and inhalation. Do not drop the container to prevent the content popping out.
Precautions: None specified.
Storage
Technical Measures: Keep sealed container in freezer
Incompatible substances and mixtures: None specified.
Storage Conditions: Store below -20°C to prevent deactivating.
Packaging Materials: Use the initial container of the product.

8 Exposure Controls/Personal Protection
Engineering Measures: Provide shower and eye washing apparatus nearby.
Personal Protective Equipment
Respiratory Protection: Protecting mask.
Hand Protection: Protecting gloves (rubbers or plastic gloves etc.).
Eye Protection: Safety goggles.
Skin and Body Protection: Long sleeve working wear.
# Safety Data Sheet

## 9 Physical and Chemical Properties

### Physical State
- Powder

### Colour/Odour
- Yellow / No odour

### pH
- ca. pH 6.0 in the case of 10mg/ml in water.

### Decomposition Temperature
- No information available.

### Flash Point
- No information available.

### Density
- No information available.

### Solubility
- Easily soluble in water.

## 10 Stability and Reactivity

### Stability
- Stable at temperatures below -20°C. When left for long at room temperature, proteins might be degraded, which does not cause any hazardous reaction.

### Possible hazard reactions at specific condition
- Not specified.

### Conditions to avoid
- Prolonged storage at temperatures higher than room temperature and high humidity.

### Materials to avoid
- Any materials which dissolve or destroy proteins such as strong acid or alkali.

### Hazardous Decomposition Products
- No information available.

## 11 Toxicological Information

### Acute Toxicity
- No information available.

### Skin corrosion/irritation
- No information available.

### Eye damage/irritation
- No information available.

### Sensitization
- Might cause allergic reactions upon inhaling or skin contact because of the protein contained.

### Germ cell mutagenicity
- No information available.

### Carcinogenicity
- No information available.

### Toxic to reproduction
- No information available.

### Specific target organ toxicity
- No information available.

### Specific target organ systemic toxicity (Single exposure)
- No information available.

### Specific target organ systemic toxicity (Repeated exposure)
- No information available.

### Aspiration toxicity
- No information available.

## 12 Ecological Information

### Persistence/Degradability
- This product is biodegradable and does not remain on the environment for long.

## 13 Disposal Considerations

### Residues
- Dispose of in accordance with all applicable local and national laws and regulations.

### Contaminated packaging
- Wash with copious amounts of water and waste conforming to local regulations depending on the type of the material.

## 14 Transport Information

### International Regulations
- Not applicable.

### Domestic Regulations
- Not applicable.

### Specific Precautions
- Keep at temperatures below -20°C.

## 15 Regulatory Information

### Regulations
- Follow all of the laws and regulations in your country.

## 16 Other Information

### Notice
- The information shall not be taken as being all inclusive and is to be used only a guide. All materials and mixtures may be present unknown hazards and should be used with caution. The SDS is subject to revision as new information becomes available. The information in this SDS, to the best of our knowledge, is accurate and correct. However, TOYOBO makes no warranty and assumes no liability whatsoever in connection with any use of this information.