

## MATERIAL SAFETY DATA SHEET

---

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name :** Glutamine Synthetase

**Synonym(s):** GS II (T-136)

**General Use:** Only for clinical diagnostic use

**Product Description:** GS II is an enzyme produced by microorganisms.  
This product shall be used for a diagnostics reagent.

**MSDS Number:** HC09-068

**Name of manufacturer :** ASAHI KASEI PHARMA CORPORATION

**Address :** Diagnostics Department  
9-1, Kanda Mitoshirocho, Chiyoda-ku, Tokyo 101-8481, JAPAN

**Telephone number :** +81-3-3259-5775

**Fax number :** +81-3-3259-5741

**Emergency Telephone Number :** +81-3-3259-5775  
9:00am - 6:00pm Japan Time (+9:00 GMT) M-F

---

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

**Ingredients** : Enzyme Protein 40~71%, Organic Salt 1~5%, Sugar 24~48%.  
**Composition** : Biocatalytic activity = More than 15U/mg solid.  
**Chemical formula** : Not given.  
**Molecular weight** : -----  
**CAS Registry No.** : 9023-70-5

### 3. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW :** It is very soluble in water.  
**PHYSICAL AND CHEMICAL HAZARDS:** Non-inflammable powder.  
**POTENTIAL HEALTH EFFECTS:**  
**Inhalation:** Possible allergic reaction.  
**Eye contact:** May cause irritation.  
**Skin contact:** May cause irritation.  
**Ingestion:** May cause allergic reaction and hyper sensitization.

---

### 4. FIRST-AID MEASURES

**Inhalation :** Remove the exposed individual from the area to take fresh air and contact physician.  
**Eye contact :** Wash eyes immediately with large amounts of water then get medical attention immediately.  
**Skin contact :** Wash skin immediately with large amounts of water.  
**Ingestion :** Rinse mouth with water.  
If vomiting occurs then get medical attention immediately.  
**NOTE TO PHYSICIAN:** Nothing special.

---

### 5. FIRE FIGHTING MEASURES

**FIRE AND EXPLOSION HAZARD:** Nothing special.  
**FIRE EXTINGUISHING MEDIA:** Carbon dioxide, Dry Chemical or Spray water.  
**FIRE FIGHTING INSTRUCTIONS:** Nothing special (Normal extinguishing the fire).

---

### 6. ACCIDENTAL RELEASE MEASURES

**LAND SPILL:** Small spills should be wiped up immediately with wet gauze.  
Large spills should be eliminated all ignition sources with vacuum or sweep material and place in a disposal container. Clean all contaminated surfaces thoroughly with wet gauze.  
**WATER SPILL:** Waste resolved material to sewerage.

## 7. HANDLING AND STORAGE

- HANDLING:**    **Keep the container in an upright position and do not roll and scattering.**  
                  **Use dust-proof mask and clothing, safety glasses in a well ventilated place.**  
                  **Minimize dust generation and accumulation.**  
                  **Wash hands, face and other exposed section thoroughly after handling.**
- STORAGE:**    **Keep in freezer(-20~-80°C), dry place in well-closed containers and away**  
                  **from direct sun light.    Keep out of reach of children.**
- 

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTON

**ENGINEERING CONTROLS:**    **No specific controls are needed.**

### **PERSONAL PROTECTIVE EQUIPMENT:**

- Eye / Face protection:**       **Safety glasses.**  
**Skin Protection:**               **Dust-proof clothing.**  
**Respiratory Protection:**      **Dust-proof masks.**

**EXPOSURE GUIDELINES :**    **Not established by OSHA, ACGIH, or NIOSH.**

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance:**       **White to light brownish, lyophilized.**  
**Odor:**               **Slightly odor and tasteless.**  
**Melting point :**     **No data available.**  
**Boiling point:**     **Not applicable.**  
**Vapor pressure:**    **Not applicable.**  
**Vapor density:**     **Not applicable.**  
**Solubility :**         **It is freely soluble in water.**  
**PH:**                 **Not applicable.**  
**Density:**            **No data available.**  
**Explosion limit:**    **No data available.**

---

## 10. STABILITY AND REACTIVITY

**CHEMICAL STABILITY:** Stable for 1 years under the freezing condition(-20~-80°C).

**CONDITIONS TO AVOID:** High temperature and humidity.

**INCOMPATIBILITY WITH OTHER MATERIALS:** Nothing special.

**HAZARDOUS DECOMPOSITION:** Nothing special.

**HAZARDOUS POLYMERIZATION:** Nothing special.

---

## 11. TOXICOLOGICAL INFORMATION

**ACUTE INHALATION EFFECTS:** No data available.

**SKIN EFFECTS:** No data available.

**EYE EFFECTS:** No data available.

**ACUTE EFFECTS:** No data available.

**SUBACUTE EFFECTS:** No data available.

**MUTAGENICITY:** No data available.

**TERATOGENICITY:** No data available.

**CARCINOGENICITY:** No data available.

---

## 12. ECOLOGICAL INFORMATION

**ECOTOXICITY:** Nothing special.

**ENVIRONMENTAL FATE:** Nothing special.

The material is easy to decomposed with active sludge treatment.

---

## 13. DISPOSAL CONSIDERATIONS

Comply with national and local regulations.

---

## 14. TRANSPORT INFORMATION

No classification currently assigned, however, loading carefully to avoid any damage, do not overturn and fall down.

Reference: IMDG Cord, Hazard class = Packing group

ICAO-TI, Hazard class = Packing group

IATA-DGR, Hazard class = Packing group

## **15. REGULATORY INFORMATION**

No regulations currently assigned.

---

## **16. OTHER INFORMATIONS**

**This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Asahi Kasei Pharma Corporation.**

**It relates only to the specific material designated herein, and does not relate to use in combination with any other material or in any process.**

**Asahi Kasei Pharma Corporation assumes no legal responsibility for use of or reliance upon this information.**

---