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## MATERIAL SAFETY DATA SHEET

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Pyruvate oxidase

**Synonym(s):** P O P G (T-45)

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

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

**MSDS Number:** HC09-018

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

**Address:** Diagnostics Department  
1-105 Kanda Jinbocho, Chiyoda-ku, Tokyo 101-8101, JAPAN

**Telephone number:** +81-3-3296-3618

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9:00am - 6:00pm Japan Time (+9:00 GMT) M-F

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### 2. COMPOSITION / INFORMATION ON INGREDIENTS

**Ingredients** : Enzyme Protein 50~91%, Flavin Adenine Dinucleotide(FAD)0.8~2%  
Sugar 4~35%, Inorganic Salt 0~1%, Organic Salt 3~6% .

**Composition** : Biocatalytic activity = 25~60 U/mg solid.

**Chemical formula** : Not given.

**Molecular weight** : 155 kDa (gel filtration), 70 kDa (SDS-PAGE)

**CAS Registry No.** : 9001-96-1

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### 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.

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### 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.

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### 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).

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### 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.

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## 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.

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## 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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Yellowish amorphous, 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.

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## 10. STABILITY AND REACTIVITY

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

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

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

**HAZARDOUS DECOMPOSITION:** Nothing special.

**HAZARDOUS POLYMERIZATION:** Nothing special.

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## 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.

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## 12. ECOLOGICAL INFORMATION

**ECOTOXICITY:** Nothing special.

**ENVIRONMENTAL FATE:** Nothing special.

The material is easy to decomposed with active sludge treatment.

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## 13. DISPOSAL CONSIDERATIONS

Comply with national and local regulations.

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## 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**

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## **15. REGULATORY INFORMATION**

**No regulations currently assigned.**

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## **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.**

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