

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Choline oxidase

Synonym(s): COD (T-05)

General Use: Only for clinical diagnostic use

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

MSDS Number: HC09-002

Name of manufacturer: ASAHI KASEI PHARMA CORPORATION

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2. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients : Enzyme Protein 65~84%, Inorganic Salt 12~22% ,Organic Salt 1~3% ,Ethylene Diamine Tetra Acetic acid(EDTA) 0.1~2%.

Composition : Biocatalytic activity = 8~20 U/mg solid.

Chemical formula : Not given.

Molecular weight : 83 kDa (Sephadex G-150)

CAS Registry No. : 9028-67-5

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.
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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.

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.

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.

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 decompose 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.

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