

Safety Data Sheet

1 Chemical Product and Company Identification

Identification of the product	D-Lactate dehydrogenase
Product Code	LCD-221
Supplier	
Name	TOYOBO CO.,LTD.
Address	Osaka Umeda Twin Towers South, 1-13-1 Umeda Kita-ku, Osaka 530-0001, Japan
Department	Biotechnology Overseas Sales and Marketing Department
Phone	+81-6-6348-3846
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	D-Lactate dehydrogenase
CAS#	9028-36-8
Concentration or concentration range	ca. 85 % (W/W)

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.	Wear protective gear to avoid eye/skin contact and inhalation. Do not work at leeward.
Environmental Precautions	High concentrated waste fluid should not be directly discharged into rivers.
Methods and materials for containment and cleaning up.	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.
Precautions	Do not drop the container to prevent the content popping out.
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.

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9 Physical and Chemical Properties

Physical State
Colour/Odour
pH
Decomposition Temperature
Flash Point
Density
Solubility

Powder
White /No odour
ca. pH 7.0 in the case of 10mg/ml in water.
No information available.
No information available.
No information available.
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
Skin corrosion/irritation
Eye damage/irritation
Sensitization

Germ cell mutagenicity
Carcinogenicity
Toxic to reproduction
Specific target organ toxicity
(Single exposure)
Specific target organ systemic toxicity
(Repeated exposure)
Aspiration toxicity

No information available.
No information available.
No information available.
Might cause allergic reactions upon inhaling or skin contact because of the protein contained.
No information available.
No information available.
No information available.
No information available.
No information available.
No information available.
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 specified (Not classified as hazardous material as per the UN recommendation).

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.