



Product name
 First issue: Oct. 8, 2009
 Revised issue: Jun. 30, 2010
 SDS No. 712F

Safety Data Sheet

1 Chemical product and company identification

Identification of the product	Diaphorase
Product Code	DAD-311
SUPPLIER	TOYOBO CO.,LTD.
Name	2-8, Dojima-Hama 2-chome Kita-ku, Osaka 530-8230, Japa
Address	Biotechnology Overseas Sales and Marketing Department
Telephone No.	+81-6-6348-3843
Fax No.	+81-6-6348-3833
Recommended uses and restrictions on use	diagnostic product

2 Hazards identification

Important hazards	The product might cause allergic reactions upon inhaling or skin contact because of the protein contained.
GHS classification	Classification not possible
Label elements	None

3 Composition/information on ingredients

Chemical product (a substance or a mixture)	Mixture
〈Mixtures〉	Diaphorase
Hazardous ingredients 〈>cut-off levels of GHS〉	
Chemical identity	9001-68-7
Concentration or concentration range	ca. 50 - 80 %(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	Wash off with running water for several minutes immediately, consult a physician afterwards.
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.
Precautions for fire-fighters 〈special protective ec	Avoid working at leeward.

6 Accidental release measures

Personal precautions, protective equipment, and e	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.



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Methods and materials for containment and metho Use cloth, paper or anything similar to soak up the solution leaking out of the container. Take up under vacuum using dust collecting filter, wash residual spill with copious amounts of water.(Waste water should be treated with activated sludge etc.)

7 Handling and storage

Handling (precautions for safe 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 (local/total ventilation)

None specified.

Prevention of contact

Wear protective gear, avoiding contact on eye, skin and cloths.

Storage (conditions for safe storage)

Technical measures

Keep sealed container in freezer. Store under -20°C .

(suitable storing conditions and unsuitable storing conditions)

Incompatible substances and mixtures

None specified.

Packaging Materials

Use the initial container of the product.

8 Exposure controls and personal protection

Permissible concentration

Occupational exposure limit, biological limit

Engineering controls

Set local ventilation equipment.

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.

9 Physical and chemical properties

Physical State, Form, Colour

Solid

Odour

Light yellow / No odour

pH

Approximate pH 6.5–7.5 in the case of 100 mg/ml in water.

Flash point

No information available.

Density/relative density

No information available.

Solubility(ies)

Easily soluble in water.

Decomposition temperature

No information available.

10 Stability and reactivity

Chemical stability and hazardous reactions

Stable at temperatures below -20°C . Proteins, when left for long at room temperature, might be degraded, which does not cause any hazardous reaction though.

Conditions to Avoid

Prolonged storage under higher temperature than room temperature and high humidity.

Incompatible materials

Any materials which dissolve or destroy proteins such as strong acid or alkali.



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Hazardous decomposition products

No information available.

11 Toxicological information

Acute toxicity	Not available.
Skin irritation/corrosion	Not available.
Eye damage/irritation	Not available.
Respiratory or skin sensitization	Not available.
Reproductive cell mutagenicity	Not available.
Carcinogenicity	Not available.
Reproductive toxicity	Not available.
Specific target organ toxicity-single exposure	Not available.
Specific target organ toxicity-repeated exposure	Not available.
Aspiration hazard	Not available.

12 Ecological information

Ecotoxicity	
Persistence and degradability	The product decomposes and does not remain on the environment for long, since it mainly consists of protein.

13 Disposal considerations

Waste from residues	Dispose of protein in accordance with all applicable local and national laws and regulations.
Contaminated container and 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	None specified (Not classified as hazardous material as per the UN recommendation).
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15 REGULATORY INFORMATION

⟨The names of laws, the regulation labelling⟩ None specified.

16 OTHER INFORMATION

⟨Specific training, recommended use, possible⟩ The contents specified here are made based on the documents, information or data which is currently available and subject to revision in the future. TOYOBO makes no warranty and assumes no liability whatsoever in connection with any use of this information.