



Safety Data Sheet

1 Chemical product and company identification

Identification of the product	Gultamate dehydrogenase
Product Code	GTD-209 / 309 / 409
Supplier	
Name	TOYOBO CO.,LTD.
Address	2-8, Dojimahama 2-chome Kita-ku, Osaka 530-8230, Japan
Department	Biotechnology Overseas Sales and Marketing Department
Phone	+81-6-6348-3843
Fax	+81-6-6348-3833
Recommended use and restrictions on use	diagnostic product

2 Hazard Identification

Most Important Hazards and Effects	Harmful if Sodium azide is swallowed. Insufficient data are available on the effect of this substance on human health, therefore care must be taken.
GHS classification	Classification not possible

3 Composition/Information on Ingredients

Substance/Mixture	Mixture
Chemical Nature	Gultamate dehydrogenase
Chemical specificity	Freeze and drying powder including enzyme
Concentration or concentration range	ca. 2-4%(W/V)
CAS#	9029-11-2
Stabilizer, etc	ca. 96-98% (W/V)
Ingredients Contributing to the Hazard	
Common Chemical name	Sodium azide
Concentration or concentration range	ca. 0.05% (W/V)
Chemical formula	NaN ₃
CAS#	26628-22-8

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. If eye irritation persists, get medical advise/attention.
Ingestion	Rinse mouth. 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	Avoid working at leeward.

6 Accidental Release Measures

Personal Precautions, protective equipment and emergency procedure.	Wear proper protective gear to avoid eye/skin contact and inhalation. Work from the windward side.
Environmental Precautions	High concentrated waste fluid should not be directly discharged into rivers.
Methods and materials for containment and cleaning up.	Use cloth, paper or anything similar to soak up the solution leaking out of the container. (Waste water should be treated with activated sludge or adsorbed with activated carbon etc.)



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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 refrigerator.

Incompatible substances and mixtures

None specified.

Storage Conditions

Store at 4°C to avoid deactivating.

Packaging Materials

Use the initial container of the product.

8 Exposure Controls/Personal Protection

Engineering controls

Provide shower and eye washing equipment nearby.

Occupational exposure limit, biological limit

(ACGIH) Sodium azide TLV: 0.29mg/m³

Personal Protective Equipment

Respiratory Protection

Protecting mask

Hand Protection

Protecting gloves

Eye Protection

Safety goggles

Skin and Body Protection

Long sleeve working wear

9 Physical and Chemical Properties

Physical State, form and color

Liquid

Odour

Colorless/No odour

pH

ca. pH7.8 (1% W/V)

Flash Point

No information available.

Explosiveness

No information available.

Density

ca 1.0g/cm³ (4°C)

Solubility

Freely soluble in water.

10 Stability and Reactivity

Stability

Stable at 2-8°C. When left for long at room

Possible hazard reactions at specific condition

temperature, proteins might be degraded, which does not cause any hazardous reaction.

Conditions to avoid

Prolonged storage under higher temperature than room temperature.

Materials to avoid

Compound which decompose strong acid or strong alkali protein.

Hazardous Decomposition Products

Nitric monoxide, metal azide, hydrazoic acid.

11 Toxicological Information

Acute Toxicity (Oral)

(Sodium azide) LD₅₀ 27mg/Kg

Skin corrosion/irritation

May cause serious corrosion on skin with sodium azide. No information as products.

Serious eye damage/irritation

May cause serious eye damage with sodium azide. No information as products.

Sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

No information available.

Toxic to reproduction

No information available.

Specific target organ toxicity

No information available.

(Single exposure)

Specific target organ toxicity

No information available.

(Repeated exposure)

Aspiration hazards

No information available.



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12 Ecological Information

Persistence/Degradability

This product is biodegradable and does not remain on the environment for long.

13 Disposal Considerations

Residues

Dispose in accordance with all applicable local and national laws and regulations. May cause explosion by any shock under dried condition, because sodium azide is easy to combine with heavy metal. Wash off drainpipe with plenty of water not to keep residues in after draining.

A pollution container and packing

Wash with copious amounts of water and waste conforming to local regulations depending on the type of the material.

14 Transport Information

International regulations

IMO information

Not applicable

IATA information

Not applicable

Domestic regulations

Rail and road transportation information

Not applicable

Marine transportation information

Not applicable

Aviation transportation information

Not applicable

Specific precautions transport measures and conditions

Avoid direct sunshine and check the container and loading to prevent leakage or turnover, fall and damage. Transport in accordance with regulations. Do not load with foods and feed. Keep at temperatures 2-8°C.

15 Regulatory Information

Regulations

Follow all of 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.