Safety Data Sheet

1 Chemical Product and Company Identification

Identification of the product
Product Code
Cholesterol esterase
COE-301

Supplier
Name
TOYOBIO CO., LTD.
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2-8, Dojimahama 2-chome Kita-ku, Osaka 530-8230, Japan
Department
Biotechnology Overseas Sales and Marketing Department
Phone
+81-6-6348-3843
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+81-6-6348-3833

Recommended use and restrictions on use
diagnostic product

2 Hazard Identification

Important hazards
Adverse effects on human health
Harmful if Boric acid is swallowed.
Lethal dose (Boric acid) : Adult 10g, Child 5g

GHS classification
Physical hazards
Health hazards
Acute toxicity : Oral Category 5
Acute toxicity : Dermal
Acute toxicity : Inhalation (Gas, Vapour)
Acute toxicity : Inhalation (Dust, Mist)
Skin corrosion/irritation Category 2
Serious eye damage/Eye irritation Category 2
Sensitization : Respiratory
Sensitization : Skin
Germ cell mutagenicity
Carcinogenicity
Toxic to reproduction Category 1B
Specific target organ toxicity (Single exposure)
Category 1 (nervous system, gastrointestinal trace)
Specific target organ toxicity (Repeated exposure)
Category 1 (kidneys)
Aspiration hazard
Environment hazards
Acute hazards to the aquatic environment Category 3
Long-term hazards to the aquatic environment Category 3
Hazard to the ozone layer

GHS Label Elements

Signal word
Hazard statements
Danger
Harmful if swallowed.
Cause skin irritation.
Cause serious eye irritation.
May damage fertility or the unborn
Cause damage to nervous system, gastrointestinal tract.
Cause damage to kidneys through prolonged or repeated exposure.
Harmful to aquatic life with long lasting effects.
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Precautionary statements

Prevention
 Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves/protective clothing/eye protection/face protection.

Do not breathe dust/fume.

Do not eat, drink or smoke when using this product.

Wash hands thoroughly after handling.

Avoid release to the environment.

Response
 Get medical advice/attention if you feel unwell.

If on skin: Take off immediately all contaminated clothing and wash it before reuse. Wash with plenty of water/shower.

If skin irritation occurs: Get medical advice/attention.

If in eye: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international/regulation.

Obtain special instructions before use.

Wear protective gloves/protective clothing/eye protection/face protection.

Remove to fresh air. Consult a physician when unpleasantness occurs.

Wash off with plenty of water. Consult a physician when inflammation on the skin occurs.

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Rinse mouth. Swill plentiful amount of water or milk for immediate vomiting. Consult a physician.

3 Composition/Information on Ingredients

Substance/Mixture
Mixture

Chemical Nature
Freeze and drying powder including enzyme

Concentration or concentration range
ca 9%(W/W)

CAS#
9026-35-3

Ingredients Contributing to the Hazard

Common Chemical name
Boric acid

Concentration or concentration range
ca 60%(W/W)

Chemical formula
H₃BO₃

CAS#
10043-35-3

Polyethylene Glycol-p-octylphenyl Ether (Triton X-100)

Concentration or concentration range
ca 4.5%(W/W)

Chemical formula
Not specified

CAS#
9002-93-1

4 First Aid Measures

Inhalation

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
Rinse mouth. Swill plentiful amount of water or milk for immediate vomiting. Consult a physician.
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5 Fire Fighting Measures
Specific extinguishing methods
Water spray, dry chemical powder, or carbon dioxide etc.
Precautions for fire-fighters
Firefighter should work from the windward side.

6 Accidental Release Measures
Personal Precautions
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.
Take up under vacuum using dust collecting filter, wash residual spill with copious amounts of water. 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.)

7 Handling and Storage
Handling
Wear protective gear to avoid eye/skin contact and inhalation.
Technical Measures
Do not drop the container to prevent the content popping out.
Precautions
Storage
Keep sealed container in freezer.
Technical Measures
None specified.
Incompatible substances and mixtures
Store under -20°C to avoid deactivating.
Not specified.
Storage Conditions
Use the initial container of the product.
Packaging Materials

8 Exposure Controls/Personal Protection
Engineering controls
Provide shower and eye washing apparatus nearby.
Occupational exposure limit, biological limit
Boric acid TLV: 5mg/m³ (TWA)
ACGIH (2005)
Personal Protective Equipment
Protecting mask
Respiratory Protection
Protecting gloves
Hand Protection
Safety goggles
Eye Protection
Long sleeve working wear
Skin and Body Protection

9 Physical and Chemical Properties
Physical State, form and color
Powder / Light Brown
Odour
No odour
pH
ca. pH 7.0 (1% W/V)
Flash Point
No information available.
Explosiveness
No information available.
Density
No information available.
Solubility
Freely 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
Prolonged storage under higher temperature than room temperature and high humidity.
Conditions to avoid
No information available.
Materials to avoid
May react with strong oxidizing compound.
Hazardous Decomposition Products
11 Toxicological Information
(1) TritonX-100
   Acute Toxicity (Oral)
   LD₅₀ 1700mg/kg (Rat)
   May cause serious eye irritation.
(2) Boric acid
   Acute Toxicity (Oral)
   Rat LD₅₀ 2660mg/kg
   Moderate irritation (guinea pig, 24hr, 72hr)
   Rebeaction /Pain
   No data available

12 Ecological Information
   Acute hazards to the aquatic environment
   LC₅₀/96hr = 3mg/L (bluegill)
   This product is biodegradable and does not remain on the
   environment for long.
   22% by BOD (National Institute of Technology and
   Evaluation, Japan)

13 Disposal Considerations
   Contaminated packaging
   Dispose of in accordance with all applicable local and
   national laws and regulations.
   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 applicable
   Not applicable
   Domestic regulations
   Not applicable
   Not applicable
   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 below -20°C.
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A following component of this product is put on a list of Substances of Very High Concern (SVHC).

- Boric acid
  - Concentration or concentration range: ca. 47% (W/W)
  - Chemical formula: H₃BO₃
  - CAS#: 10043-35-3

- Polyethylene Glycol-p-octylphenyl Ether (Triton X-100)
  - Concentration or concentration range: ca. 4.5% (W/W)
  - Chemical formula: Not specified
  - CAS#: 9002-93-1

Follow all of laws and regulations in your country.

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, TOYOB makes no warranty and assumes no liability whatsoever in connection with any use of this information.