SAFETY DATA SHEET

DIASTASE KIT

SECTION 1. IDENTIFICATION

Product name : DIASTASE KIT
Mat.-No./ Genisys-No. : 05279208001

Manufacturer or supplier’s details
Company name of supplier : Roche Diagnostics
Address : 9115 Hague Road
           46250 Indianapolis IN
Telephone : 1-800-428-5074
Emergency telephone: In case of emergencies: CHEMTREC
                    1-800-424-9300 (U.S. or Canada)
                    1-703-527-3887 (International)

Recommended use of the chemical and restrictions on use
Restrictions on use : For professional users only.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
The product is a kit consisting of individual ingredients. The classification of the ingredients can be obtained from section 3. Section Label elements contains the resulting labelling for the kit

GHS Label element
Hazard pictograms :

Signal Word : Danger
Hazard Statements : H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Precautionary Statements : Prevention:
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P285 In case of inadequate ventilation wear respiratory protection.
Response:
P304 + P341 IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.
Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Diastase**

**GHS Classification**
Respiratory sensitization
Category 1
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Hazardous ingredients**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>57-55-6</td>
<td>&gt;= 50 - &lt; 70</td>
</tr>
<tr>
<td>alpha-Amylase</td>
<td>9000-90-2</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

**General advice**
Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled
Call a physician or poison control center immediately.
Move to fresh air.
If unconscious place in recovery position and seek medical advice.

In case of skin contact
If on skin, rinse well with water.

In case of eye contact
Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.
Rinse mouth with water.

Most important symptoms and effects, both acute and delayed
No information available.

Notes to physician
The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5. FIRE-FIGHTING MEASURES
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Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: High volume water jet

Specific hazards during fire fighting: No information available.

Further information: Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Ensure adequate ventilation. Refer to protective measures listed in sections 7 and 8.

Environmental precautions: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion: Normal measures for preventive fire protection.

Advice on safe handling: Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Conditions for safe storage: Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.
Technical measures/Precautions: See label, package insert or internal guidelines

SECTION 8. EXPOSURE CONTROLS/PERSOINAL PROTECTION

**Diastase**

**Ingredients with workplace control parameters**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>57-55-6</td>
<td>TWA</td>
<td>10 mg/m3</td>
<td>US WEEL</td>
</tr>
</tbody>
</table>

**Hazardous components without workplace control parameters**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>alpha-Amylase</td>
<td>9000-90-2</td>
</tr>
</tbody>
</table>

**Engineering measures**: No data available

**Personal protective equipment**

Respiratory protection: In the case of vapor formation use a respirator with an approved filter.

Hand protection

Material: Protective gloves

Remarks: Wear appropriate protective gloves to prevent skin contact. Replace torn or punctured gloves promptly.

Eye protection: Eye wash bottle with pure water

Tightly fitting safety goggles

Skin and body protection: Impervious clothing

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures: Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Diastase**

Appearance: liquid

Color: transparent

Odor: odorless

Odor Threshold: No data available

pH: 7.29
Melting point/range: No data available
Boiling point/boiling range: No data available
Flash point: No data available
Evaporation rate: No data available
Upper explosion limit: No data available
Lower explosion limit: No data available
Vapor pressure: No data available
Relative vapor density: No data available
Relative density: No data available
Solubility(ies)
  Water solubility: No data available
  Solubility in other solvents: No data available
Partition coefficient: n-octanol/water: No data available
Autoignition temperature: No data available
Decomposition temperature: Heating can release hazardous gases.
Viscosity
  Viscosity, dynamic: No data available
  Viscosity, kinematic: No data available

SECTION 10. STABILITY AND REACTIVITY
Reactivity: No dangerous reaction known under conditions of normal use.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions: Reacts with the following substances:
  Oxidizing agents
  Reducing agents
  Do not allow to dry.
  No decomposition if stored and applied as directed.
Conditions to avoid: No data available
Incompatible materials: No data available
Hazardous decomposition products: Gaseous hydrogen chloride (HCl).
  Carbon oxides
  Sulfur oxides
SECTION 11. TOXICOLOGICAL INFORMATION

**Diastase**

**Acute toxicity**
Not classified based on available information.

**Ingredients:**

- **Propylene glycol:**
  - Acute oral toxicity: LD50 (Rat): 20,000 mg/kg
  - LD50 (Mouse): 20,300 mg/kg
  - Acute inhalation toxicity: Acute toxicity estimate: > 30 mg/l
  - Method: Expert judgment
  - Acute dermal toxicity: LD50 (Rabbit): 20,800 mg/kg

**Skin corrosion/irritation**
Not classified based on available information.

**Ingredients:**

- **Propylene glycol:**
  - Remarks: This information is not available.

**Serious eye damage/eye irritation**
Not classified based on available information.

**Ingredients:**

- **Propylene glycol:**
  - Remarks: This information is not available.

  - **alpha-Amylase:**
    - Remarks: Product dust may be irritating to eyes, skin and respiratory system.

**Respiratory or skin sensitization**
Skin sensitization: Not classified based on available information.
Respiratory sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Ingredients:**

- **alpha-Amylase:**
  - Result: May cause sensitization by inhalation.

**Germ cell mutagenicity**
Not classified based on available information.

**Carcinogenicity**
Not classified based on available information.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed
human carcinogen by IARC.

OSHA
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcino-
gen by OSHA.

NTP
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity
Not classified based on available information.

STOT-single exposure
Not classified based on available information.

Ingredients:
Propylene glycol:
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

alpha-Amylase:
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure
Not classified based on available information.

Ingredients:
Propylene glycol:
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

alpha-Amylase:
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration toxicity
Not classified based on available information.

Ingredients:
Propylene glycol:
No data available

alpha-Amylase:
No data available

SECTION 12. ECOLOGICAL INFORMATION

Diastase
Ecotoxicity

Ingredients:

Propylene glycol:
Toxicity to fish:
- LC0 (Oncorhyncus mykiss (rainbow trout)): > 1,000 mg/l
  Exposure time: 24 h

- NOEC (Pimephales promelas (fathead minnow)): 52,930 mg/l
  Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:
- EC50 (Daphnia magna (Water flea)): 34,400 mg/l
  Exposure time: 48 h

Toxicity to algae:
- EC50 (Chlorella pyrenoidosa): 92,000 mg/l

Toxicity to fish (Chronic toxicity):
- > 1 mg/l

Toxicity to bacteria:
- EC50 (Photobacterium phosphoreum): 26,800 mg/l
  Exposure time: 0.5 h

Ecotoxicology Assessment
Toxicity Data on Soil:
- Not expected to adsorb on soil.

Other organisms relevant to the environment:
- No data available

alpha-Amylase:
Ecotoxicology Assessment
Toxicity Data on Soil:
- Not expected to adsorb on soil.

Other organisms relevant to the environment:
- No data available

Persistence and degradability

Ingredients:

Propylene glycol:
Biodegradability:
- Zahn-Wellens Test
  Result: Readily biodegradable.
  Biodegradation: 98%
  Exposure time: 5 d
  Method: OECD Test Guideline 302

Bioaccumulative potential

Ingredients:

Propylene glycol:
Partition coefficient: n-octanol/water:
- log Pow: -0.92

alpha-Amylase:
Partition coefficient: n-octanol/water:
- Remarks: No data available
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Mobility in soil
No data available

Other adverse effects

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.
Can be disposed as waste water, when in compliance with local regulations.

Contaminated packaging: Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulation

UNRTDG:
Not regulated as a dangerous good

IATA-DGR:
Not regulated as a dangerous good

IMDG-Code:
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

49 CFR:
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

Diastase

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Component RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>26628-22-8</td>
<td>1000</td>
<td>*</td>
</tr>
</tbody>
</table>

*: Calculated RQ exceeds reasonably attainable upper limit.
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SARA 304 Extremely Hazardous Substances Reportable Quantity

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>26628-22-8</td>
<td>1000</td>
<td>*</td>
</tr>
</tbody>
</table>

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards: No SARA Hazards

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

- Propylene glycol 57-55-6 50 %

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

- Hydrochloric acid (theor. 100%) 7647-01-0 0.076 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

- Hydrochloric acid (theor. 100%) 7647-01-0 0.076 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

- Sodium azide 26628-22-8 0 - 0.1 %
- Hydrochloric acid (theor. 100%) 7647-01-0 0 - 0.1 %

Pennsylvania Right To Know

- Propylene glycol 57-55-6 50 - 70 %
- Water 7732-18-5 30 - 50 %
- alpha-Amylase 9000-90-2 1 - 5 %
- Sodium azide 26628-22-8 0 - 0.1 %
- Hydrochloric acid (theor. 100%) 7647-01-0 0 - 0.1 %

New Jersey Right To Know

- Propylene glycol 57-55-6 50 - 70 %
- Water 7732-18-5 30 - 50 %
alpha-Amylase

California Prop. 65
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:
- CH INV: On the inventory, or in compliance with the inventory
- TSCA: On TSCA Inventory
- DSL: This product contains the following components that are not on the Canadian DSL nor NDSL:
  alpha-Amylase
- AICS: On the inventory, or in compliance with the inventory
- NZIoC: On the inventory, or in compliance with the inventory
- ENCS: Not in compliance with the inventory
  Water
  alpha-Amylase
- ISHL: Not in compliance with the inventory
  alpha-Amylase
- KECI: On the inventory, or in compliance with the inventory
- PICCS: On the inventory, or in compliance with the inventory
- IECSC: On the inventory, or in compliance with the inventory

TSCA list
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

**Diastase**

**GHS Label element**

Hazard pictograms

Signal Word: Danger

Hazard Statements: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary Statements: Prevention:
  P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
  P285 In case of inadequate ventilation wear respiratory protection.
Response:
P304 + P341 IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
P342 + P311 IF experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Disposal:
P501 Dispose of contents/container to an approved waste disposal plant.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

(Q)SAR - (Quantitative) Structure Activity Relationship; ASTM - American Society for the Testing of Materials; bw - Body weight; DIN - Standard of the German Institute for Standardisation; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemicals and Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; EHS - Extremely Hazardous Substance; HMIS - Hazardous Materials Identification System; MSHA - Mine Safety and Health Administration; NFPA - National Fire Protection Association; RCRA - Resource Conservation and Recovery Act; RQ - Reportable Quantity; SARA - Superfund Amendments and Reauthorization Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice; ERG - Emergency Response Guide; NTP - National Toxicology Program; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

Further information

Diastase
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / Z8