

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2012 and GHS Rev 03.

Issue date 08/11/2020

Reviewed on 08/11/2020

* 1 Identification

- **Product Identifier**
- **Trade Name:** α -Amylase From *Aspergillus Oryzae*
- **Product Number:** 1700-0320
- **CAS Number:**
9001-19-8
- **EC number:**
232-588-1
- **Index number:**
647-016-00-X
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description:** α -Amylase From *Aspergillus Oryzae*
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**
Pickering Laboratories, Inc.
1280 Space Park Way
Mountain View, CA 94043
Phone: (650) 694-6700
Fax: (650) 968-0749
www.pickeringlabs.com
support@pickeringlabs.com
- **Emergency telephone number:**
Clean Harbors Environmental Services
1-800-645-8265

2 Hazard(s) Identification

- **Classification of the substance or mixture:**



Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



Acute Tox. 4 H302 Harmful if swallowed.

- **Label elements:**
- **Hazard pictograms:**



- **Signal word:** Danger
- **Hazard-determining components of labeling:**
 α -Amylase, from *Aspergillus Oryzae*
- **Hazard statements:**
H302 Harmful if swallowed.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- **Precautionary statements:**
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

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Trade Name: α -Amylase From Aspergillus Oryzae

- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P284 [In case of inadequate ventilation] wear respiratory protection.
- P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
- P330 Rinse mouth.
- 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/doctor.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Unknown acute toxicity:**

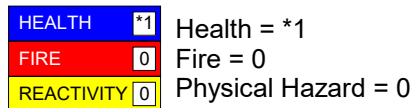
This value refers to knowledge of known, established toxicological or ecotoxicological values.
0 % of the mixture consists of component(s) of unknown toxicity.

· **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **Hazard(s) not otherwise classified (HNOC):** None

* **3 Composition/Information on Ingredients**

- **Chemical characterization:** Substance
- **CAS No. Description**
9001-19-8 α -Amylase, from Aspergillus Oryzae
- **Identification number(s)**
- **EC number:** 232-588-1
- **Index number:** 647-016-00-X

* **4 First-Aid Measures**

- **Description of first aid measures**
- **General information:** If symptoms persist, call a physician.
- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in the side position for transportation.
- **After skin contact:** If skin irritation occurs, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water.
If eye irritation occurs, consult a doctor.
- **After swallowing:**
Contact a physician or Poison Control Center immediately.
Never give anything by mouth to an unconscious person.
Do not induce vomiting without medical advice.
Rinse mouth with water.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed:** No further relevant information available.
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- **Indication of any immediate medical attention and special treatment needed:**
No further relevant information available.

5 Fire-Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No further relevant information.
- **Special hazards arising from the substance or mixture:** No further relevant information available.
- **Advice for firefighters**
- **Special protective equipment for firefighters:**
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures:** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**
Dispose of contaminated material as waste according to section 13.
Dispose of the collected material according to regulations.
- **Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

Substance is not listed.

· **PAC-2:**

Substance is not listed.

· **PAC-3:**

Substance is not listed.

7 Handling and Storage

- **Handling**
- **Precautions for safe handling:**
Use personal protection equipment as outlined in section 8.
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store refrigerated
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s):** No further relevant information available.

* 8 Exposure Controls/Personal Protection

- **Additional information about design of technical systems:** No further data; see section 7.

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- **Control parameters:**
- **Components with occupational exposure limits:**
- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.
- **Exposure controls:**
- **Personal protective equipment**
- **General protective and hygienic measures:**
 Use adequate exhaust ventilation to prevent inhalation of product vapors.
 Do not eat or drink while handling product.
 Immediately remove all soiled and contaminated clothing.
 Keep away from foodstuffs, beverages and feed.
 Wash hands before breaks and at the end of work.
- **Breathing equipment:**
 Respiratory protection is not required unless handling of the material produces nuisance airborne concentrations.
- **Protection of hands:** Not required.
- **Material of gloves:** Not applicable.
- **Penetration time of glove material:** Not applicable.
- **Eye protection:** Not required.
- **Body protection:** Lab coat
- **Limitation and supervision of exposure into the environment:** None

9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
 - Form:** Liquid
 - Color:** Clear
- **Odor:** Odorless
- **Odor threshold:** Not determined.
- **pH-value:** Not applicable.
- **Change in condition**
 - Melting point/Melting range:** Not determined.
 - Boiling point/Boiling range:** Not determined.
- **Flash point:** None
- **Flammability (solid, gaseous):** Product is not flammable.
- **Ignition temperature:** Not applicable
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Not determined.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
 - Lower:** Not determined.
 - Upper:** Not determined.
- **Vapor pressure:** Not applicable.
- **Density:**
 - Relative density:** Not determined.
 - Vapor density:** Not applicable.

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Trade Name: α -Amylase From Aspergillus Oryzae

- Evaporation rate:** Not applicable.
- **Solubility in / Miscibility with:**
 - Water:** Aqueous solution
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic:** Not applicable.
 - Kinematic:** Not applicable.
 - VOC content:** 0.00 %
- **Solids content:** 100.0 %
- **Other information:** No further relevant information available.

10 Stability and Reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological Information

- **Information on toxicological effects:**
- **Acute toxicity:**

LD/LC50 values that are relevant for classification:		
9001-19-8 α-Amylase, from Aspergillus Oryzae		
Oral	LD50 Oral	2,000 ml/kg (Rat)

- **Primary irritant effect:**
- **On the skin:** Mild irritant effect.
- **On the eye:** Mild irritant effect.
- **Sensitization:** Sensitization possible through inhalation.
- **Additional toxicological information:**

- **Carcinogenic categories:**

IARC (International Agency for Research on Cancer):
Substance is not listed.

- **NTP (National Toxicology Program):**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration):**

Substance is not listed.

12 Ecological Information

- **Toxicity:**

Aquatic toxicity:		
9001-19-8 α-Amylase, from Aspergillus Oryzae		
EC50	100 mg/l	(Daphnia)

- **Persistence and degradability:** No further relevant information available.

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- **Behavior in environmental systems:**
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
 Water hazard class 1 (Self-assessment): slightly hazardous for water
 Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:** No further relevant information available.

13 Disposal Considerations

- **Waste treatment methods**
- **Recommendation:**
 This product may be mixed with a combustible solvent and burned in a chemical incinerator equipped with an after burner and scrubber. This product can also be sent to an EPA approved waste disposal facility. Observe all federal, state and local environmental regulations when disposing of this material.
- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport Information

- **UN-Number:**
- **DOT, ADR/ADN, IMDG, IATA** Non-Regulated Material
- **UN proper shipping name:**
- **DOT, ADR/ADN, IMDG, IATA** Non-Regulated Material
- **Transport hazard class(es):**
- **DOT, ADR/ADN, ADN, IMDG, IATA**
- **Class:** Non-Regulated Material
- **Packing group:**
- **DOT, ADR/ADN, IMDG, IATA** Non-Regulated Material
- **Environmental hazards:** Not applicable.
- **Special precautions for user:** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **UN "Model Regulation":** Non-Regulated Material

15 Regulatory Information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
- **SARA (Superfund Amendments and Reauthorization):**

· **Section 355 (extremely hazardous substances):**
 Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**
 Substance is not listed.

· **TSCA (Toxic Substances Control Act):**

ACTIVE

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Trade Name: α -Amylase From Aspergillus Oryzae

· Hazardous Air Pollutants
Substance is not listed.
· California Proposition 65:
· Chemicals known to cause cancer:
Substance is not listed.
· Chemicals known to cause reproductive toxicity for females:
Substance is not listed.
· Chemicals known to cause reproductive toxicity for males:
Substance is not listed.
· Chemicals known to cause developmental toxicity:
Substance is not listed.
· New Jersey Right-to-Know List:
Substance is not listed.
· New Jersey Special Hazardous Substance List:
Substance is not listed.
· Pennsylvania Right-to-Know List:
Substance is not listed.
· Pennsylvania Special Hazardous Substance List:
Substance is not listed.
· Carcinogenic categories:
· EPA (Environmental Protection Agency):
Substance is not listed.
· TLV (Threshold Limit Value established by ACGIH):
Substance is not listed.
· NIOSH-Ca (National Institute for Occupational Safety and Health):
Substance is not listed.

· **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms:**



· **Signal word:** Danger

· **Hazard-determining components of labeling:**

α -Amylase, from Aspergillus Oryzae

· **Hazard statements:**

H302 Harmful if swallowed.

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

· **Precautionary statements:**

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P284 [In case of inadequate ventilation] wear respiratory protection.

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

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- P330 Rinse mouth.
- 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/doctor.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· National regulations:

Non-Regulated Material

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· Date of last revision/ revision number: 08/11/2020 / 1

· Abbreviations and acronyms:

- ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- ACGIH: American Conference of Governmental Industrial Hygienists
- EINECS: European Inventory of Existing Commercial Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- NFPA: National Fire Protection Association (USA)
- HMIS: Hazardous Materials Identification System (USA)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- NIOSH: National Institute for Occupational Safety and Health
- OSHA: Occupational Safety & Health Administration
- TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit
- Acute Tox. 4: Acute toxicity – Category 4
- Resp. Sens. 1: Respiratory sensitisation – Category 1

· * Data compared to the previous version altered.

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