



SAFETY DATA SHEET

1. Product and Company Identification

Product identifier	Enzymax Powder
Other means of identification	IMS1230, IMS1232, IMS1232SP, IMS1233
Recommended use	Detergent
Recommended restrictions	None known.
Manufacturer	Hu-Friedy Mfg. Co., LLC 3232 N. Rockwell Chicago, IL 60618-5982 US Phone: 773.975.6100 Fax: 773.868.3599 Emergency Phone: 1-800-535-5053 Outside US: 001-352-323-3500

2. Hazards Identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
	Sensitization, respiratory	Category 1
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	Causes skin irritation. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Precautionary statement	
Prevention	Avoid breathing dust. Wear protective gloves. Wear eye/face protection. In case of inadequate ventilation wear respiratory protection. Wash thoroughly after handling.
Response	If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center/doctor. If on skin: Wash with plenty of water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.
Storage	Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	7% of the mixture consists of component(s) of unknown acute oral toxicity.

3. Composition/Information on Ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
Carbonic acid, sodium salt (2:3)		533-96-0	60-100
Sodium dodecylbenzene sulfonate		25155-30-0	1-5
Sodium metasilicate		6834-92-0	1-5
Subtilisin carlsburg		9014-01-1	0.1-1

Composition comments The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

4. First Aid Measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
Skin contact	Take off contaminated clothing and wash before reuse. Wash with plenty of soap and water. If irritation persists, get medical attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation persists.
Ingestion	If ingested, do not induce vomiting. Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause allergic respiratory reaction. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Suitable extinguishing media	Treat for surrounding material.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	In the event of fire, cool tanks with water spray.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.
General fire hazards	No unusual fire or explosion hazards noted.
Hazardous combustion products	May include and are not limited to: Oxides of carbon.
Explosion data	
Sensitivity to mechanical impact	Not available.
Sensitivity to static discharge	Not available.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Precautions for safe handling	Avoid breathing dust. Avoid contact with eyes and skin. Avoid prolonged exposure. Provide adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Use care in handling/storage.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep out of the reach of children.

8. Exposure Controls/Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values Components

	Type	Value
Subtilisin carlsburg (CAS 9014-01-1)	Ceiling	0.00006 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Subtilisin carlsburg (CAS 9014-01-1)	STEL	0.00006 mg/m3
Biological limit values	No biological exposure limits noted for the ingredient(s).	
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.	
Individual protection measures, such as personal protective equipment		
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.	
Skin protection		
Hand protection	Wear appropriate chemical resistant gloves.	
Other	Wear appropriate chemical resistant clothing.	
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.	
Thermal hazards	Not applicable.	
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.	

9. Physical and Chemical Properties

Appearance	Powder.
Physical state	Solid.
Form	Solid.
Color	White with beige specs
Odor	Lemon
Odor threshold	Not available.
pH	10 (Dilution 0.5%)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not applicable
Pour point	Not available.
Specific gravity	Not available.
Partition coefficient (n-octanol/water)	Not available
Flash point	Not available.
Evaporation rate	Not applicable
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable
Flammability limit - upper (%)	Not applicable
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not applicable
Vapor density	Not available.
Relative density	0.79
Solubility(ies)	Not available.
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and Reactivity

Reactivity	None known.
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Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Excessive heat. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon.

11. Toxicological Information

Routes of exposure Eye, Skin contact, Inhalation, Ingestion.

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	Prolonged inhalation may be harmful. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Components	Species	Test Results
Carbonic acid, sodium salt (2:3) (CAS 533-96-0)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Rat	5600 mg/kg
Sodium dodecylbenzene sulfonate (CAS 25155-30-0)		
Acute		
<i>Dermal</i>		
LD50	Rat	2700 mg/kg
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Rat	438 mg/kg
Sodium metasilicate (CAS 6834-92-0)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Mouse	2400 mg/kg
	Rat	1153 mg/kg
Subtilisin carlsburg (CAS 9014-01-1)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Rat	1800 mg/kg

Skin corrosion/irritation	Causes skin irritation.
Exposure minutes	Not available.
Erythema value	Not available.
Oedema value	Not available.
Serious eye damage/eye irritation	Causes serious eye damage.
Corneal opacity value	Not available.
Iris lesion value	Not available.
Conjunctival reddening value	Not available.
Conjunctival oedema value	Not available.
Recover days	Not available.
Respiratory or skin sensitization	
Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Teratogenicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Chronic effects	Prolonged inhalation may be harmful.
Further information	Not available.
Name of Toxicologically Synergistic Products	Not available.

12. Ecological Information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. See below

Components		Species	Test Results
Sodium dodecylbenzene sulfonate (CAS 25155-30-0)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	3.26 - 14.51 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss)	3.2 - 5.6 mg/l, 96 hours
Sodium metasilicate (CAS 6834-92-0)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	0.28 - 0.57 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	1800 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Mobility in general No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal Considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

U.S. Department of Transportation (DOT)

Not regulated as dangerous goods.

Transportation of Dangerous Goods (TDG - Canada)

Not regulated as dangerous goods.

15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

Canada WHMIS Ingredient Disclosure: Threshold limits

Sodium dodecylbenzene sulfonate (CAS 25155-30-0)	1 %
Sodium metasilicate (CAS 6834-92-0)	1 %

WHMIS status Controlled

WHMIS classification Class D - Division 2A, 2B

WHMIS labeling



US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US CWA Section 311 Hazardous Substances: Listed substance

Sodium dodecylbenzene sulfonate (CAS 25155-30-0) Listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium dodecylbenzene sulfonate (CAS 25155-30-0) Listed.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting) Not regulated.

Other federal regulations

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130) Hazardous substance

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US - California Hazardous Substances (Director's): Listed substance

Sodium dodecylbenzene sulfonate (CAS 25155-30-0) Listed.
 Subtilisin carlsburg (CAS 9014-01-1) Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

US - Illinois Chemical Safety Act: Listed substance

Sodium dodecylbenzene sulfonate (CAS 25155-30-0) Listed.

US - Louisiana Spill Reporting: Listed substance

Sodium dodecylbenzene sulfonate (CAS 25155-30-0) Listed.

US - New Jersey RTK - Substances: Listed substance

Sodium dodecylbenzene sulfonate (CAS 25155-30-0) Listed.

US - New York Release Reporting: Hazardous Substances: Listed substance

Sodium dodecylbenzene sulfonate (CAS 25155-30-0) Listed.

US - Texas Effects Screening Levels: Listed substance

Sodium dodecylbenzene sulfonate (CAS 25155-30-0) Listed.
 Sodium metasilicate (CAS 6834-92-0) Listed.
 Subtilisin carlsburg (CAS 9014-01-1) Listed.

US. Massachusetts RTK - Substance List

Sodium dodecylbenzene sulfonate (CAS 25155-30-0) Listed.

US. Pennsylvania RTK - Hazardous Substances

Sodium dodecylbenzene sulfonate (CAS 25155-30-0) Listed.

US. Rhode Island RTK

Sodium dodecylbenzene sulfonate (CAS 25155-30-0) Listed.

Inventory status

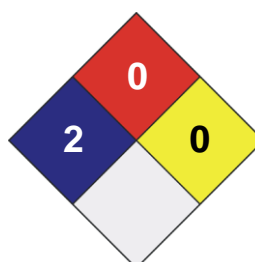
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	* 2
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	X



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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Further information For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.

Prepared by
Other information

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This Safety Data Sheet was prepared to comply with the current OSHA Hazard Communication Standard (HCS) adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

This SDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.