



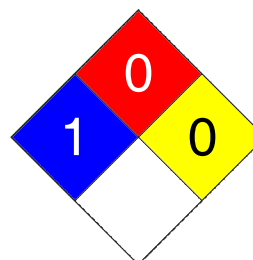
MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name Enzymax Powder
CAS # Mixture
Product Use Cleaner
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

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	* 1
Flammability	0
Physical Hazard	0
Personal Protection	X



2. Hazards Identification

Emergency Overview

WARNING
 MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN IRRITATION.
 MAY CAUSE ALLERGIC RESPIRATORY REACTION.

Potential short term health effects

Routes of exposure

Eye, Skin contact, Skin absorption, Inhalation, Ingestion.

Eyes

May cause irritation.

Skin

May cause irritation. May be absorbed through the skin.

Inhalation

Dusts of this product may cause irritation of the nose, throat, and respiratory tract.

Ingestion

May cause stomach distress, nausea or vomiting.

Target organs

Eyes. Respiratory system. Skin.

Chronic effects

Prolonged or repeated exposure can cause drying, defatting and dermatitis.

Signs and symptoms

Symptoms may include redness, oedema, drying, defatting and cracking of the skin.
 Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Potential environmental effects

See section 12.

3. Composition/Information on Ingredients

Ingredient(s)	CAS #	Percent
Cellulase (ID# 3.2.1.4)	9012-54-8	0.1 - 1
Subtilisin protease enzyme	9014-01-1	0.5 - 1.5
Sodium tripolyphosphate	7758-29-4	1 - 5
Sodium metasilicate	6834-92-0	1 - 5
Sodium dodecylbenzenesulfonate	25155-30-0	1 - 5
Tetrasodium ethylenediamine tetraacetate	64-02-8	5 - 10
Carbonic acid, sodium salt (2:3)	533-96-0	60 - 100

4. First Aid Measures

First aid procedures

Eye contact	Flush with cool water. Remove contact lenses, if applicable, and continue flushing. Obtain medical attention if irritation persists.
Skin contact	Flush with cool water. Wash with soap and water. Obtain medical attention if irritation persists.
Inhalation	If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.
Ingestion	Do not induce vomiting. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.

Notes to physician

Symptoms may be delayed.

General advice

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire-fighting Measures

Flammable properties	Not flammable by WHMIS criteria.
Extinguishing media	
Suitable extinguishing media	Treat for surrounding material.
Unsuitable extinguishing media	Not available
Protection of firefighters	
Specific hazards arising from the chemical	Not available
Protective equipment for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Oxides of sulphur.
Explosion data	
Sensitivity to mechanical impact	Not available
Sensitivity to static discharge	Not available

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
Environmental precautions	Do not discharge into lakes, streams, ponds or public waters.
Methods for containment	Stop the flow of material, if this is without risk. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Before attempting clean up, refer to hazard data given above. Use broom or dry vacuum to collect material for proper disposal without raising dust. Rinse area with water. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice.

7. Handling and Storage

Handling	Use good industrial hygiene practices in handling this material. Avoid contact with eyes and skin. Avoid breathing dust. Use only with adequate ventilation. Wash thoroughly after handling.
Storage	Keep out of reach of children. Store in a closed container away from incompatible materials.

8. Exposure Controls / Personal Protection

Exposure limit values

Ingredient(s)	Exposure limit values
Carbonic acid, sodium salt (2:3)	ACGIH-TLV Not established
Cellulase (ID# 3.2.1.4)	ACGIH-TLV Not established
Sodium dodecylbenzenesulfonate	ACGIH-TLV Not established
Sodium metasilicate	ACGIH-TLV TWA: 10 mg/m ³
Sodium tripolyphosphate	ACGIH-TLV Not established
Subtilisin protease enzyme	ACGIH-TLV Ceiling: 0.0001 mg/m ³
Tetrasodium ethylenediamine tetraacetate	ACGIH-TLV Not established

Engineering controls

General ventilation normally adequate.

Personal protective equipment

Eye/Face protection

Wear safety glasses with side shields.

Hand protection

Rubber gloves. Confirm with a reputable supplier first.

Skin and body protection

As required by employer code.

Respiratory protection

Avoid inhalation of dust. Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Appearance	Solid.
Colour	White
Form	powder
Odour	Citrus
Odour threshold	Not available
Physical state	Solid
pH	9.5 - 10.5
Freezing point	Not available
Boiling point	Not applicable
Pour point	Not available
Evaporation Rate	Not applicable
Flash point	None
Auto-ignition temperature	Not applicable
Flammability limits in air, lower, % by volume	Not applicable
Flammability Limits in Air, Upper, % by Volume	Not applicable
Vapour pressure	Not applicable
Vapour density	Not applicable
Specific gravity	Not available
Octanol/water coefficient	Not available

Solubility (H2O)	Not available
VOC (Weight %)	Not available
Viscosity	Not applicable
Percent volatile	Not available

10. Stability and Reactivity

Reactivity	This product may react with strong acids.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with other chemicals.
Incompatible materials	Acids. Oxidizers.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Oxides of sulphur.

11. Toxicological Information

Component analysis - LC50

Ingredient(s)	LC50
Carbonic acid, sodium salt (2:3)	Not available
Cellulase (ID# 3.2.1.4)	Not available
Sodium dodecylbenzenesulfonate	Not available
Sodium metasilicate	Not available
Sodium tripolyphosphate	Not available
Subtilisin protease enzyme	Not available
Tetrasodium ethylenediamine tetraacetate	Not available

Component analysis - Oral LD50

Ingredient(s)	LD50
Carbonic acid, sodium salt (2:3)	5600 mg/kg rat
Cellulase (ID# 3.2.1.4)	30900 mg/kg mouse
Sodium dodecylbenzenesulfonate	438 mg/kg rat
Sodium metasilicate	1153 mg/kg rat
Sodium tripolyphosphate	3100 mg/kg rat
Subtilisin protease enzyme	2000 mg/kg rat
Tetrasodium ethylenediamine tetraacetate	2000 mg/kg rat

Effects of acute exposure

Eye	May cause irritation.
Skin	May cause irritation. May be absorbed through the skin.
Inhalation	Dusts of this product may cause irritation of the nose, throat, and respiratory tract.
Ingestion	May cause stomach distress, nausea or vomiting.
Sensitisation	May cause sensitisation by inhalation.
Chronic effects	Non-hazardous by WHMIS criteria.
Carcinogenicity	Non-hazardous by WHMIS criteria.
Mutagenicity	Non-hazardous by WHMIS criteria.
Reproductive effects	Non-hazardous by WHMIS criteria.
Teratogenicity	Non-hazardous by WHMIS criteria.
Name of Toxicologically Synergistic Products	Not available

12. Ecological Information

Ecotoxicity Components of this product have been identified as having potential environmental concerns.

Ecotoxicity - Freshwater Algae - Acute Toxicity Data

Tetrasodium ethylenediamine tetraacetate 64-02-8 72 Hr EC50 *Desmodesmus subspicatus*: 1.01 mg/L

Ecotoxicity - Freshwater Fish - Acute Toxicity Data

Sodium dodecylbenzenesulfonate 25155-30-0 96 Hr LC50 *Oncorhynchus mykiss*: 10.8 mg/L [static]
Sodium metasilicate 6834-92-0 96 Hr LC50 *Brachydanio rerio*: 210 mg/L [semi-static]; 96 Hr LC50 *Brachydanio rerio*: 210 mg/L
Sodium tripolyphosphate 7758-29-4 48 Hr LC50 *Leuciscus idus*: 1650 mg/L
Tetrasodium ethylenediamine tetraacetate 64-02-8 96 Hr LC50 *Lepomis macrochirus*: 41 mg/L [static]; 96 Hr LC50 *Pimephales promelas*: 59.8 mg/L [static]

Ecotoxicity - Water Flea - Acute Toxicity Data

Sodium metasilicate 6834-92-0 96 Hr EC50 *Daphnia magna*: 216 mg/L
Tetrasodium ethylenediamine tetraacetate 64-02-8 24 Hr EC50 *Daphnia magna*: 610 mg/L

Persistence and degradability Not available
Bioaccumulation/accumulation Not available
Mobility in environmental media Not available
Environmental effects Not available
Aquatic toxicity Not available
Partition coefficient Not available
Chemical fate information Not available
Other adverse effects Not available

13. Disposal Considerations

Disposal instructions Review federal, provincial, and local government requirements prior to disposal.
Waste from residues / unused products Not available
Contaminated packaging Not available

14. Transport Information

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 MSDS contains all the information required by the Controlled Products Regulations.

Canada - WHMIS - Ingredient Disclosure List

Sodium dodecylbenzenesulfonate 25155-30-0 1 %
Sodium metasilicate 6834-92-0 1 %

WHMIS classification Class D - Division 2A, 2B
WHMIS status Controlled
WHMIS labeling



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

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

16. Other Information

Disclaimer	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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Prepared by	Dell Tech Laboratories Ltd. (519) 858-5021
Other Information	For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.