MATERIAL SAFETY DATA SHEET
METREX RESEARCH

SECTION 1
PRODUCT AND COMPANY INFORMATION

Product name: **EMPOWER**

Uses/Application: Dual Enzymatic Detergent

Manufacturer: **METREX RESEARCH**
28210 Wick Road
Romulus, Michigan 48174
USA
Telephone.: 1-800-841-1426

Supplier: **VDI Health Care**
250 First Gulf Boulevard
Brampton ON L6W4T5
Canada
Telephone no.: (905) 796 – 3365
Fax no.: (905) 796 - 7818

In Case of Emergency: CHEMTREC, U.S.: 1-800-424-9300 International: +1-703-527-3887

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SECTION 2
COMOSITION INFORMATION

HAZARDOUS INGREDIENTS	CAS N.	PEL	TLV	%
Propylene glycol	57-55-6	NE	NE	10 - 30
Proteinase Subtilisin	94441-92-6	NE	NE	0.1 - 1
Subtilisin	9014-01-1	NE	NE	0.1 - 1

NE – Not Established.

Other:
Propylene glycol and water

SECTION 3
Hazard Identification

CPR/WHMIS: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS: Class: D-2A: Material causing other toxic effects (Very toxic)
Class: B-2B: Material causing other toxic effects (Toxic)

Hazard Statements:	Can cause respiratory track and eye and skin irritation. Prolonged or repeated contact may dry skin and cause irritation. Contains material that may cause target organ damage based on animal data.
Precautions:	Do not breathe vapor or mist. Do not get in eyes or on skin or clothing. Exposure to decomposition product may cause a health hazard. Keep container tightly closed and sealed until ready for use. Wash after handling.
Routes of Entry:	Dermal Contact. Eye Contact. Inhalation.

SECTION 4
PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid.
Flash point:	Not Available
Color:	Blue. Green.
Odor:	Floral
pH:	6.5 to 8.6
Boiling/condensation point:	100 to 105°C (212 to 221°F)
Melting/freezing point:	Not available
Evaporation Rate:	<1 (butyl Acetate = 1)
Relative density:	1.07 (H2O=1)
Vapor pressure:	Not available
Vapor density:	>1.015 [Air = 1]
Viscosity:	Not available.
Solubility:	Easily soluble in the following materials: cold water and hot water.

SECTION 5
FIRE AND EXPLOSION HAZARD DATA

Flammability of the product:	In a fire or if heated, a pressure increase will occur and the container may burst.
Extinguishing Media:	
Suitable:	Use an extinguishing agent suitable for the surrounding fire.
Special exposure hazards:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Hazardous thermal decomposition products:	Decomposition products may include the following materials: Carbon dioxide, carbon monoxide, nitrogen oxides, and volatile organic compounds
Special Fire Fighting Procedures:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6
STABILITY AND REACTIVITY DATA

Stability: The product is stable.

Conditions to Avoid: Avoid excessive heat. Avoid evaporation.

Incompatibility & Reactive (Material to Avoid): Oxidizing materials, reducing materials, acids and alkalis.

Hazardous Decomposition: Under normal conditions of storage and use, hazardous decomposition will not occurred

Hazardous Polymerization: Under normal conditions of storage and use, hazardous polymerization will not occur.

SECTION 7
HEALTH HAZARD DATA

Potential Acute Health Affects:

Inhalation: Irritating to respiratory system. Exposure to decomposition product may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion: No known significant effects or critical hazards.

Skin: Irritating to skin.

Eyes: Irritating to eyes. Risk of serious damage to eyes.

Potential chronic health effects:

Chronic effects: Contains material that can cause target organ damage based on animal data. Prolong or repeated contact can defeat the skin and lead to irritation, cracking and/or dermatitis.

Target organs: Contains material which causes damage to the following organs: blood and upper respiratory tract.

Carcinogenicity:

Classification: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

SECTION 8
TOXICOLOGICAL INFORMATION

Acute toxic:

Product/ingredient name	Result	Species	Dose	Exposure
Propylene glycol	LD50 Dermal LD50 Oral	Rabbit Rat	20800 mg/kg 20 g/kg	- -
Subtilisin	LD50 Oral	Rat	3700 mg/kg	-

Chronic Toxic:
Not available.

Irritation/Corrosion:
Not available

Sensitizer:
Not available.

Carcinogenicity Classification:
Not available.

Mutagenicity:
Not available.

Teratogenicity:
Not available.

Reproductive Toxicity:
Not available.

SECTION 9
EMERGENCY FIRST AID PROCEDURES

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms persist.

Eyes: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Inhalation: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention immediately.

Ingestion: Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms persist.

Note to physician: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

SECTION 10
CONTROL MEASURES

Engineering measures: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Work/Hygiene Practices: Handle in accordance with good personal hygiene and safety practices. These practices include avoiding unnecessary exposure.

Personal Protection:	
Hands:	If a risk assessment indicates gloves are necessary, Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products.
Eye Protection:	If risk assessment indicates safety eyewear is needed, safety eyewear complying with an approved standard should be used to avoid exposure to liquid splashes, mists or dusts.
Respiratory:	If a risk assessment indicates that respirators are needed, use a properly fitted, air-purifying or air-fed respirator complying with an approved standard this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Skin:	Based on the risks assessment, personal protective equipment for the body should be selected based on the task being performed and recommendations.
Environmental exposure controls:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 11
PRECAUTIONS FOR HANDLING & STORAGE

Precautions to be taken in Handling:	Wash hands before eating, drinking, chewing gum, or using the toilet. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Avoid breathing vapor or mist. Empty containers retain product residue and can be hazardous. Do not reuse container.
Precautions to be taken for storage:	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 6) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
Other Precautions:	Keep out of reach of children. Avoid skin and eye contact. Avoid contamination of food.

SECTION 12
ACCIDENTAL RELEASE MEASURES

Personal Precautions:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Put on appropriate personal protective equipment
Environmental precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Product is toxic to aquatic organisms. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Methods for cleaning up:	
Small spills:	Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spills:	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

SECTION 13
DISPOSAL CONSIDERATION

Waste Disposal:	The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

SECTION 14
TRANSPORTATION INFORMATION

TDG/IMDG/IATA:	Not regulated.

SECTION 15
OTHER INFORMAITON

HMIS (Hazardous Material Identification System) Rating:

Health 2 Flammability 0 Physical Hazard 0

Caution:

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). The customer is responsible for determining the PPE code for this material.

National Fire Protection Association:

Health 2 Flammability 0 Instability 0

Note: To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.