



MATERIAL SAFETY DATA SHEET

1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME(S) **KOCHKLEEN® ENZ-10 P**
CAS NUMBER MIXTURE
MSDS NUMBER 7195
PRODUCT CODE ND
PRODUCT USE ENZYME/DETERGENT CLEANER
SYNONYM(S) ND
MANUFACTURER / SUPPLIER Koch Membrane Systems, Inc.
850 Main Street
Wilmington, MA
01887

TELEPHONE NUMBERS - 24 HOUR ASSISTANCE

Chemtrec: 800-424-9300 (within USA),
+1-703-527-3887 (outside USA)

TELEPHONE NUMBERS - GENERAL ASSISTANCE

(8-5, M-F EST) Product 978-657-4250
Assistance

For technical assistance regarding this product, please contact your local Koch Membrane Systems representative.

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	Concentration*	Exposure Limits / Health Hazards
SODIUM CARBONATES	MIXTURE	< 60 %	ND
SODIUM PHOSPHATES	MIXTURE	< 40 %	ND
SODIUM DODECYLBENZENE SULFONATE	25155-30-0	< 20 %	ND
SODIUM LAURYL SULFATE	151-21-3	< 3 %	ND

*Values do not reflect absolute minimums and maximums; these values are typical which may vary from time to time.

3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER!

MAY BE SEVERELY IRRITATING TO THE SKIN, EYES AND RESPIRATORY TRACT
MAY CAUSE EYE DAMAGE
MAY CAUSE ALLERGIC SKIN REACTION (SENSITIZER)
**SEE "TOXICOLOGICAL INFORMATION" (SECTION 11) FOR MORE INFORMATION

FLAMMABILITY HAZARDS
NON-COMBUSTIBLE

REACTIVITY HAZARDS
STABLE

POTENTIAL HEALTH EFFECTS, SKIN

SEVERELY IRRITATING. Contact may cause reddening, itching, inflammation, burns, blistering and possibly severe tissue damage. Repeated or prolonged contact may result in drying, reddening, itching, pain, inflammation, cracking and possible secondary infection with tissue damage.

May cause an allergic reaction in some individuals (sensitizer).

POTENTIAL HEALTH EFFECTS, EYE

MODERATELY TO SEVERELY IRRITATING. Direct contact may cause pain, tears, burns, sensitivity to light, swelling and possible corneal damage. Exposure may cause severe burns, destruction of eye tissue and possible permanent injury or blindness. Prolonged or repeated exposure may cause irritation, pain, conjunctivitis and possible corneal damage.

POTENTIAL HEALTH EFFECTS, INHALATION

EXTREMELY IRRITATING AND CORROSIVE. May cause severe burns and tissue damage to the respiratory tract. Symptoms may include throat burns, constriction of the windpipe (bronchospasms), severe pulmonary edema and death, depending on the concentration and duration of exposure.

Symptoms may include sore throat, coughing, labored breathing, sneezing and burning sensation, depending on the concentration and duration of exposure.

POTENTIAL HEALTH EFFECTS, INGESTION

MODERATELY TO SEVERELY IRRITATING AND/OR CORROSIVE. May cause painful irritation and burning of the mouth and throat, painful swallowing, labored breathing, burns or perforation of the gastrointestinal tract leading to ulceration and secondary infection. Corrosive damage to the stomach and esophagus may be delayed.

Other specific symptoms of exposure are listed under "Toxicological Information" (Section 11).

4 FIRST AID MEASURES

SKIN

Immediately flush skin with plenty of water, for at least 15 minutes, while removing contaminated clothing and shoes. GET IMMEDIATE MEDICAL ATTENTION. Place contaminated clothing in closed container for storage until laundered or discarded. If clothing is to be laundered, inform person performing operation of contaminant's hazardous properties. Discard contaminated leather goods.

EYE

Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. GET IMMEDIATE MEDICAL ATTENTION.

INHALATION

Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear and give oxygen.

GET IMMEDIATE MEDICAL ATTENTION.

INGESTION

Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

Never give anything by mouth to an unconscious person. Do not induce vomiting. If victim is conscious and alert, give 1-3 glasses of water or milk to dilute stomach contents. If spontaneous vomiting occurs keep head below hips to prevent aspiration and monitor for breathing difficulty.

NOTES TO PHYSICIAN

Treat as an alkali corrosive; these agents damage the gastrointestinal tract by liquefaction necrosis which permits deep tissue penetration. Severe alkali burns may extend to adjacent viscera. Acute symptoms may not indicate the severity of tissue injury, but signs of chronic injury may include drooling, inability to swallow, erythema and/or ulceration of the oral pharynx, hematemesis, and occasionally shock and respiratory distress. Necrosis and associated inflammatory processes peak at 48 hours, but extend up to 4 days. Initial healing processes occur during the period of 4-14 days, but the esophageal wall is the weakest during this period and the hazard of perforation is greatest.

5 FIRE FIGHTING MEASURES

HAZARDOUS COMBUSTION PRODUCTS

Combustion may produce COx, SOx, POx, sodium oxides and phosphoxides.

EXTINGUISHING MEDIA

Material itself will not burn.

BASIC FIRE FIGHTING PROCEDURES

Evacuate area and fight fire from a safe distance. Use extinguishing agent suitable for type of surrounding fire.

Use water spray to cool adjacent structures and to protect personnel. Stay away from storage tank ends. Withdraw immediately in case of rising sound from venting safety device or any discoloration of storage tank due to fire.

Firefighters must wear MSHA/NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

Flash Point	ND
Autoignition Temperature	ND
Flammability Limits in Air, Lower, % by Volume	ND
Flammability Limits in Air, Upper, % by Volume	ND

6 ACCIDENTAL RELEASE MEASURES

EMERGENCY ACTION

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind. (See Exposure Controls/Personal Protection in Section 8.)

ENVIRONMENTAL PRECAUTIONS

If product is released to the environment, take immediate steps to stop and contain release. Caution should be exercised regarding personnel safety and exposure to the released product. Notify local authorities and the National Response Center, if required.

SPILL OR LEAK PROCEDURE

Shovel into a container for later disposal. Avoid cleanup procedures that may result in water pollution.

Do not touch or walk through spilled material.

Avoid excessive generation of dust. If dust is generated, appropriate respiratory, eye and skin protection should be used to protect personnel during clean-up.

See Exposure Controls/Personal Protection (Section 8).

7 HANDLING & STORAGE

HANDLING

Do not cut, grind, drill, weld in the vicinity of the product or reuse containers unless adequate precautions are taken against these hazards.

Avoid skin or eye contact. Materials should be handled, stored and shipped in a manner to prevent dust evolution.

Do not eat, drink or smoke in areas of use or storage.

STORAGE

Store in a dry area to prevent caking.

Empty containers may contain product residue. Do not reuse without adequate precautions.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

Ventilation and other forms of engineering controls are the preferred means for controlling exposures.

EYE PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

Wear chemical safety goggles and face shield. Have eye washing facilities readily available where eye contact can occur.

SKIN PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

Avoid skin contact with this material. Use appropriate chemical protective gloves when handling.

Use good personal hygiene.

RESPIRATORY PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

A NIOSH/MSHA approved dust respirator should be used as a precautionary measure when airborne contaminants may occur, when there is a potential for uncontrolled release, or when exposure levels are not known.

9 PHYSICAL & CHEMICAL PROPERTIES

ODOR AND APPEARANCE

ODORLESS, WHITE POWDER WITH CREAM COLORED FLAKES AND BROWN SPECKS

Boiling Point	NA
Specific Gravity	ND
Melting Point	NA
Percent Volatile	0 %
Vapor Pressure	NA
Vapor Density	NA
Bulk Density	ND
Solubility in Water	TO 10% AT AMBIENT CONDITIONS
Octanol/Water Partn	ND
Volatile Organic	ND
Pour Point	NA
pH Value	9.5 1% SOLUTION
Freezing Point	NA
Viscosity	NA
Evaporation Rate	NA
Molecular Formula	ND
Molecular Weight	ND
Chemical Family	Anionic Enzymatic Powdered Detergent
Odor Threshold	ND

10 STABILITY & REACTIVITY

STABILITY/INCOMPATIBILITY

Avoid contact with strong acids.

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

Decomposes to form toxic fumes of sodium oxide and phosphoxides.

11 TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE

Inhalation, ingestion, skin and eye contact.

LD50

ND

TOXICOLOGICAL DATA

Acute or chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the following: skin, eye, and respiratory systems and kidneys.

Exposure to components of this material may cause the following specific symptoms, depending on the concentration and duration of exposure: inflammation of the jaw bone, vomiting, diarrhea, erythema and edema of the GI tract, drop in blood pressure, or cyanosis coma.

TERATOGENICITY, MUTAGENICITY, OTHER REPRODUCTIVE EFFECTS

This product contains a chemical which has shown significant toxicity in developing chicken embryos. The relevance to humans is unknown.

PRE-EXISTING CONDITIONS AGGRAVATED BY EXPOSURE

Pre-existing medical conditions which may be aggravated by exposure include disorders of the skin, eye and respiratory tract.

12 ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

ND

13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

This product, as supplied, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261). Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the product to determine, at the time of disposal, whether the material is a hazardous waste subject to RCRA.

The transportation, storage, treatment and disposal of RCRA waste material must be conducted in compliance with 40 CFR 262, 263, 264, 268 and 270. Disposal can occur only in properly permitted facilities. Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Disposal of this material must be conducted in compliance with all federal, state and local regulations.

14 TRANSPORT INFORMATION

BILL OF LADING - BULK (U. S. DOT)

Non-Regulated

BILL OF LADING - NON-BULK (U. S. DOT)

Non-Regulated

The above description may not cover shipping in all cases, please consult 49 CFR 172.101 for specific shipping information.

15 REGULATORY INFORMATION

FEDERAL REGULATIONS

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

This product, as supplied, contains sodium phosphate, tribasic and sodium dodecylbenzenesulfonate all of which are regulated as hazardous substances per 40 CFR Part 302.4. The reportable quantities for these components are 5,000 and 1,000 pounds, respectively. Any release of this product that results in a release of these components equal to or exceeding the reportable quantities must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies as described in 40 CFR Part 302.6 and 40 CFR 355.40. Failure to report may result in substantial civil and criminal penalties. Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations.

This material contains one or more components designated as hazardous substances or toxic pollutants pursuant to the Federal Clean Water Act (40 CFR 116.4 Table A; 40 CFR 401.15). Any unpermitted introduction of this material into a facility stormwater or wastewater discharge may constitute a violation of the Clean Water Act. Facilities must notify the appropriate permitting agency prior to introducing this material into the aforementioned discharges.

This product does not contain toxic chemicals (in excess of the applicable de minimis concentration) that are subject to the annual toxic chemical release reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313 (40 CFR 372).

There may be specific regulations at the local, regional or state/provincial level that pertain to this material.

SARA TITLE III RATINGS

Immediate Hazard: X Delayed Hazard: - Fire Hazard: - Pressure Hazard: -
Reactivity Hazard: -

STATE REGULATIONS

Based on available information this product does not contain any components or chemicals currently known to the State of California to cause cancer, birth defects or reproductive harm at levels which would be subject to Proposition 65. Reformulation, use or processing of this product may affect its composition and require re-evaluation.

PENNSYLVANIA - Non-hazardous ingredients present at >3%: None

NFPA RATINGS

Health 2 Flammability 0 Reactivity 0 Special Hazards -

HMIS RATINGS

Health 2 Flammability 0 Reactivity 0

16 OTHER INFORMATION

DISCLAIMER

NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However, MSDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

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Completed By Safety & Emergency Response, Koch Chemical Technology Group, LLC