



## MATERIAL SAFETY DATA SHEET

### 1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME(S) **KOCHKLEEN® P-3 SOLUTION**  
CAS NUMBER MIXTURE  
MSDS NUMBER 5617  
PRODUCT CODE ND  
PRODUCT USE CLEANING AGENT  
SYNONYM(S) POLYAZIRIDINE  
MANUFACTURER / SUPPLIER Koch Membrane Systems, Inc.  
850 Main Street  
Wilmington, MA  
01887 USA

#### TELEPHONE NUMBERS - 24 HOUR ASSISTANCE

Canutec: 1-613-996-6666  
Chemtec: 1-800-424-9300 (inside USA)  
+1-703-527-3887 (outside USA)

#### TELEPHONE NUMBERS - GENERAL ASSISTANCE

Product Assistance 978-657-4250  
8 - 5, M - F, Eastern Time

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
AZIRIDINE, HOMOPOLYMER	9002-98-6	30 - 60 %	ND
AZIRIDINE, HOMOPOLYMER HCL	26338-45-4	1 %	ND

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

WHMIS Classification: Not a controlled product.

### 3 HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

CAUTION!

#### HEALTH HAZARDS

MAY BE IRRITATING TO THE SKIN, EYES AND RESPIRATORY TRACT

MAY CAUSE GASTROINTESTINAL IRRITATION

\*\*SEE "TOXICOLOGICAL INFORMATION" (SECTION 11) FOR MORE INFORMATION

#### FLAMMABILITY HAZARDS

NON-COMBUSTIBLE

#### REACTIVITY HAZARDS

STABLE

#### POTENTIAL HEALTH EFFECTS, SKIN

May cause skin irritation. Repeated or prolonged skin contact may cause reddening, itching and inflammation.

#### POTENTIAL HEALTH EFFECTS, EYE

May cause eye irritation.

#### POTENTIAL HEALTH EFFECTS, INHALATION

Exposure can cause irritation of the nose, throat and lungs. Symptoms may include sore throat, coughing, labored breathing, sneezing and burning sensation, depending on the concentration and duration of exposure.

#### POTENTIAL HEALTH EFFECTS, INGESTION

SLIGHTLY TOXIC. Ingestion of large amounts may cause gastrointestinal disturbances. Symptoms may include salivation, pain, nausea, vomiting and diarrhea.

Aspiration into lungs may cause chemical pneumonia and lung damage.

### 4 FIRST AID MEASURES

#### SKIN

Immediately wash skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.

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.

Keep affected person warm and at rest. 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 to dilute stomach contents.

#### NOTES TO PHYSICIAN

ND

## 5 FIRE FIGHTING MEASURES

### HAZARDOUS COMBUSTION PRODUCTS

Combustion may produce COx, NOx, reactive hydrocarbons and toxic gases.

### EXTINGUISHING MEDIA

Use carbon dioxide or dry chemical to extinguish fire.

### BASIC FIRE FIGHTING PROCEDURES

Evacuate area and fight fire from a safe distance.

Use water spray to cool adjacent structures and to protect personnel. Shut off source of flow if possible. 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 NOT AVAILABLE (50% WATER)

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

Notify local, provincial and/or federal authorities, if required. Do not wash down uncontained liquid spills with water.

### SPILL OR LEAK PROCEDURE

Keep ignition sources out of area and shut off all ignition sources. Absorb spill with inert material (e. g. dry sand or earth) then place in a chemical waste container. Large Spills: Dike far ahead of liquid spill for later disposal. Stop leak when safe to do so.

See Exposure Controls/Personal Protection (Section 8).

## 7 HANDLING & STORAGE

### HANDLING

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

### STORAGE

Store in tightly closed containers in a cool, dry, isolated, well-ventilated area away from heat, sources of ignition and incompatibles. Avoid contact with strong oxidizers. Protect from freezing.

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

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### ENGINEERING CONTROLS

General or local exhaust ventilation and other forms of engineering controls are the preferred means for controlling exposures.

### EYE PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

Wear safety goggles. Have eye washing facilities readily available where eye contact can occur.

### SKIN PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

Avoid skin contact with this material.

If skin contact is anticipated, protective clothing, including impervious gloves, should be worn. Suggested gloves for hand protection include rubber, synthetic rubber or plastic .

## RESPIRATORY PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

Under normal conditions of use, ventilation and engineering controls are sufficient. If irritation is evident, and/or a non-routine or emergency situation, NIOSH/MSHA approved breathing equipment may be required.

## 9 PHYSICAL & CHEMICAL PROPERTIES

### ODOR AND APPEARANCE

SLIGHTLY YELLOW LIQUID WITH A FAINT AMINE ODOR

Boiling Point	> 212 °F (100 °C)
Specific Gravity	1.07 @ 20° C
Melting Point	ND
Percent Volatile	ND
Vapor Pressure	ND
Vapor Density	ND
Bulk Density	9.1 LBS/GAL (1.09 G/L)
Solubility in Water	SOLUBLE
Octanol/Water Partn	ND
Volatile Organic	0 %
Pour Point	ND
pH Value	APPROX. 12
Freezing Point	14 °F (- 10 °C)
Viscosity	17 - 28 PASCAL SECONDS
Evaporation Rate	< 1
Molecular Formula	NA
Molecular Weight	ND
Chemical Family	POLYAMINES
Odor Threshold	ND

## 10 STABILITY & REACTIVITY

### STABILITY/INCOMPATIBILITY

Stable under normal conditions of use.

### HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

Combustion may produce COx, NOx, reactive hydrocarbons and toxic fumes.

## 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: occupational asthma with cough, wheezing, chest tightness and breathlessness.

## 12 ECOLOGICAL INFORMATION

### ECOTOXICOLOGICAL INFORMATION

Contains material(s) that are known to be toxic to aquatic organisms and to cause long term adverse effects in the aquatic environment.

## 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.

In Canada, wastes should be disposed of according to federal, state, provincial and local regulations.

## 14 TRANSPORT INFORMATION

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

Environmentally Hazardous Substance, Liquid, N.O.S. (Polyethyleneimine) 9, UN3082, PG III, Marine Pollutant

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

Not regulated if shipped by motor vehicle, rail car or aircraft. If shipped by vessel: Environmentally Hazardous Substance, Liquid, N.O.S. (polyethyleneimine) 9, UN3082, PG III, Marine Pollutant

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 components of this product are listed on the TSCA Inventory.

This product, as supplied, contains no hazardous substances regulated under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302), or any extremely hazardous substances regulated under the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355), and thus a release of this product as supplied has no reporting requirements under these regulations. 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 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 product.

### 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%: Water, CAS# 7732-18-5

## INTERNATIONAL REGULATIONS

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

WHMIS Classification: Not a controlled product.

All known major components of this product are listed on the Canadian DSL.

### WHMIS RATINGS

Compressed Gas	-	Flammable/Combustible	-	Oxidizer	-	Acutely Toxic
Other Toxic Effects	-	Bio Hazardous	-	Corrosive	-	Dangerously Reactive

### NFPA RATINGS

Health	1	Flammability	0	Reactivity	0	Special Hazards
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### HMIS RATINGS

Health	1	Flammability	0	Reactivity	0
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## 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.

Current Revision Date 12-Nov-2009

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Completed By Koch Chemical Technology Group, LLC, call (978) 694-7346 or (978) 657-4250