



SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

- 1.1 Product Identifier: **KOCHKLEEN® P-3 SOLUTION** Version: 12
Date of approval: 19 December 2014
- Trade Names: **KOCHKLEEN® P-3 SOLUTION**
- 1.2 General Use: Cleaning Agent
Product Description: White to pale yellow viscous liquid with slight odor
- 1.3 Manufacturer Koch Membrane Systems, Inc.
850 Main Street
Wilmington, MA
01887 USA
- 1.4 Telephone 8 – 5 (M-F, EST): +1 (978) 657-4250
- Emergency Telephone: CHEMTREC +1 (800) 424-9300 (inside USA)
+1 (703) 527-3887 (outside USA)

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

SECTION 2 – HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture:
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR §1910.1200).
- 2.2 Emergency overview:
Slightly yellow liquid with a faint amine odor. May cause allergic skin reaction (sensitizer). Harmful if swallowed.
- 2.3 Most important symptoms and effects, both acute and delayed:
- EYES: Not expected to be irritating based on animal studies.
- SKIN: Not expected to be irritating based on animal studies. Repeated or prolonged skin contact may cause reddening, itching and inflammation. May cause an allergic reaction in some individuals (sensitizer).
- INGESTION: May cause toxic effects if ingested. Ingestion of large amounts may cause gastrointestinal disturbances. Symptoms may include salivation, pain, nausea, vomiting and diarrhea.
- INHALATION: Exposure may 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.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

CAS #	Chemical Name	Percentage (wt/wt)
9002-98-6	Aziridine, homopolymer	30 – 60
26338-45-4	Aziridine, homopolymer, hydrochloride	1

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

SECTION 4 – FIRST AID MEASURES

- 4.1 Description of first aid measures:
- EYES: Flush immediately with large amounts of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation develops or persists.
- SKIN: Immediately wash skin with plenty of soap and water while removing contaminated clothing and shoes. Seek medical attention if irritation develops or persists.
- Place contaminated clothing in closed container for storage until laundered or discarded. If clothing is to be



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- laundered, inform person performing operation of contaminant's hazardous properties. Discard contaminated leather goods.
- INGESTION:** Rinse out mouth with water. Keep affected person warm and at rest.
Do not induce vomiting unless directed by a physician. **GET IMMEDIATE MEDICAL ATTENTION.** Never give anything by mouth to an unconscious person. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side.
If victim is conscious and alert, give 1-3 glasses of water to dilute stomach contents.
- 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 medical attention.

4.2 Indication of any immediate medical attention and special treatment needed: None

SECTION 5 – FIREFIGHTING MEASURES

Flammable properties: Not flammable or combustible

- 5.1 Extinguishing media Use any means suitable for extinguishing surrounding fire. Water spray may be used to extinguish surrounding fire and cool exposed containers. Water spray will also reduce fume and irritant gases.
Unsuitable: Water jet (frothing may occur).
- 5.2 Special hazards arising from the substance or mixture Product will burn under fire conditions. Thermal decomposition may produce oxides of carbon and oxides of nitrogen, reactive hydrocarbons and toxic gases.
- 5.3 Advice for firefighters 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.
Fire fighters must wear MSHA/NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind.
- 6.2 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. Do not wash down uncontained liquid spills with water. Notify local, provincial and/or federal authorities, if required.
- 6.3 Methods and material for containment and cleaning up 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.
- 6.4 Reference to other sections Use proper protective equipment indicated in Section 8.



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SECTION 7 – HANDLING AND STORAGE

- 7.1 Precautions for safe handling

Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. Use non-sparking tools. Do not cut, grind, drill, weld in the vicinity of the product or reuse containers unless adequate precautions are taken against these hazards.

Do not eat, drink or smoke in areas of use or storage.
- 7.2 Conditions for safe storage, including any incompatibilities

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.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:

8.1.1 Occupational exposure limits:

Chemical	Limit value – 8 hours		Limit value – Short term	
	ppm	mg/m ³	ppm	mg/m ³
<u>Ethoxylated dodecyl mercaptan:</u>				
OSHA	Not established	Not established	Not established	Not established
ACGIH	Not established	Not established	Not established	Not established

8.1.2 Currently recommended monitoring procedures:

Not determined

8.1.3 Exposure guidelines for air contaminants, if any:

Not determined

8.1.4 DNELs and PNECs for exposure scenarios:

Not determined

8.1.5 Control banding for risk management:

Not determined

8.2 Exposure controls:

- Engineering controls:

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

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.
- Skin & body protection:

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

Use good personal hygiene.
- Eye protection:

Wear approved chemical safety goggles to prevent eye contact. Have eye wash stations readily available where eye contact can occur.
- Thermal hazards:

None
- Environmental exposure controls:

None



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SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance:	Slightly yellow liquid
Odor:	Faint amine
Odor threshold:	ND
pH:	Approximately 12
Melting/freezing point	14°F (-10°C)
Initial boiling point & boiling range:	> 212°C (> 100°C)
Evaporation rate:	< 1
Flash point:	> 212°F (> 100°C)
Flammability (solid, gas):	NA
Upper flammability or explosive limits:	ND
Lower flammability or explosive limits:	ND
Vapour pressure:	ND
Vapour density:	ND
Relative density:	1.08 @ 20°C
Solubility(ies)	Soluble (water)
Partition coefficient:	ND
Auto-ignition temperature:	> 392°F (>200°C)
Decomposition temperature:	ND
Viscosity:	18,000 – 40,000 mPa•s
Explosive properties:	None
Oxidising properties:	None
Other:	
Density:	9.1 lbs/gal (1.09 g/cm ³)

9.2 Other information: None

SECTION 10 – STABILITY AND REACTIVITY

10.1 Reactivity:	Stable
10.2 Chemicals stability:	Stable under normal conditions of use.
10.3 Possibility of hazardous reactions:	Will not occur
10.4 Conditions to avoid:	Heat, open flame, spark, ignition sources.
10.5 Incompatible materials:	Incompatible with strong acids. See precautions under Section 7.
10.6 Hazardous decomposition products:	Thermal decomposition may product CO _x and NO _x , reactive hydrocarbons and toxic fumes.

SECTION 11 – TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Chemical	Oral LD ₅₀	Dermal LD ₅₀	Inhalation LC ₅₀
KochKleen P-3 Solution	>500 <2000 mg/kg (rat)	No data	No data



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<u>Category</u>	<u>Available data</u>
Acute toxicity:	Harmful if swallowed. Acute or chronic overexposure to this material or its components may cause systemic toxicity. For dermal contact and inhalation the criteria are not met based on available information.
Skin/eye irritation:	Based on available data the criteria are not met.
Corrosivity:	Not corrosive
Respiratory or skin sensitisation:	Caused skin sensitization when tested using Guinea Pig Maximization test protocol.
Germ cell mutagenicity:	Based on available data the criteria are not met.
Carcinogenicity:	The product does not contain any chemicals that are listed by U.S. OSHA, NTP, IARC or ACGIH as "probable" or "suspected" human carcinogens.
Reproductive toxicity:	Data lacking
Specific target organ effect – single exposure (STOT-SE):	Data lacking
Specific target organ effect – repeated exposure (STOT-RE):	Data lacking
Aspiration hazard:	Data lacking

ROUTE OF ENTRY: Inhalation. Ingestion. Skin and eye contact.

SECTION 12 – ECOLOGICAL INFORMATION

12.1 Toxicity:	Acutely toxic for aquatic organisms. Cationic charge may be neutralized in natural water by anionic species. Acute aquatic (fish – Brachydanio rerio) – LC ₅₀ (96 h) 7.1 mg/l Acute aquatic (invertebrate – Daphnia magna) – EC ₅₀ (48 h) 8.84 mg/l
12.2 Persistence and degradability:	50 – 60% DOC reduction (28d)
12.3 Bioaccumulative potential:	Not determined
12.4 Mobility in soil:	Not determined
12.5 Results of PBT and vPvB assessment:	Does not meet criteria
12.6 Other adverse effects:	None

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste treatment methods: This product, as supplied, when discarded or disposed of, is not a hazardous waste according to US Federal regulations (40 CFR 261). Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product 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 Parts 262, 263, 264, 268 and 279. 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 product may make the waste management information present in this SDS incomplete, inaccurate or otherwise inappropriate. Disposal of the product must be conducted in compliance with all federal, state and local regulation.

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



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SECTION 14 – TRANSPORT INFORMATION

US DOT

Proper Shipping Name Not regulated
Class
UN Number
Packing Group
Environmental hazard

IMDG

Proper Shipping Name Environmentally hazardous substance, liquid, N.O.S. (contains aziridine homopolymer)
Class 9
UN Number UN 3082
Packing Group III
Flashpoint > 100°C
Marine pollutant Yes

ICAO/IATA

Proper Shipping Name Not regulated
Environmentally hazardous substance, liquid, N.O.S. (contains aziridine homopolymer)
Class 9
UN Number UN 3082
Packing Group III

Special precautions for user: None

SECTION 15 – REGULATORY INFORMATION

Safety health and environmental regulations:

a. Federal regulations:

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

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 site/provincial level that pertain to this product.

SARA TITLE III Ratings

Immediate hazard: Yes Delayed hazard: No Fire hazards: No
Pressure hazard: No Reactivity hazard: No

b. State regulations:

California Proposition 65: WARNING: This material contains a chemical(s) known to the state of California to cause cancer.

PENNSYLVANIA: Non-hazardous ingredients present at >3%: Water, CAS# 7732-18-5.

c. International regulations

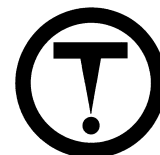
1. Canada

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 CPR.

WHMIS Classification: D2B

WHMIS Ratings:

Compressed Gas: No Flammable/Combustible: No Oxidizer: No Acutely Toxic: No
Other Toxic Effects: Yes Bio Hazardous: No Corrosive: No Dangerously Reactive: No



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2. Australia

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

3. Globally Harmonized System (GHS) Classification and Labeling

GHS Signal Word: WARNING

GHS Pictograms: Exclamation mark, Environment

GHS Hazard Classes and Hazard Statements:

Acute Toxicity – Category 4

H302 – Harmful if swallowed

Skin Sensitization – Category 1

H317 – May cause an allergic skin reaction

Acute Aquatic Toxicity – Category 2

H401 – Toxic to aquatic life



GHS Precautionary Statements:

P264 – Wash thoroughly after handling

P270 – Do not eat, drink or smoke when using this product.

P261 – Avoid breathing mist/vapours/ spray.

P272 – Contaminated work clothing should not be allowed out of the work place

P280 – Wear protective gloves.

P273 – Avoid release to the environment.

P362 + P364 – Take off contaminated clothing and wash it before reuse.

P301 + P312 – IF SWALLOWED: Ca POISON CENTER/doctor if you do not feel well.

P330 – Rinse mouth.

P302 + P352 – IF ON SKIN: Wash with plenty of water.

P333 + P313 – If skin irritation or rash occurs: Get medical advice/attention.

P362 + P364 – Take off contaminated clothing and wash it before reuse.

P405 – Store locked up.

P501 – Dispose of contents/container in accordance with local/regional/national regulations.

Note: Hazard and precautionary statement numbers are included here for reference and translation purposes only and do not need to be included on the final label.

SECTION 16 – OTHER INFORMATION

SDS Status: Version 12

Current version: December 19, 2014

Replaces version: May 28, 2012

Changes: Format; Section 2, 4, 11, 12, 14, 15, 16

NFPA 704 RATINGS

Health	1	Flammability	1	Reactivity	0	Special Hazards	-
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HMIS® RATINGS

Health	1*	Flammability	1	Reactivity	0	PPE	-
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RATING CODES[†]: 0=slight; 1=mild; 2=moderate; 3=severe; 4=very severe; *=chronic hazard

[†]Consult NFPA 704 and HMIS for full explanation of codes

KEY: DNEL = Derived No-Effect Level; IARC = International Agency for Research of Cancer; WEL = Workplace Exposure Limits; OEL = Occupational Exposure Limits; PBT = Persistent, Bioaccumulative, Toxic; PNEC = Predicted No-Effect Concentration; TWA = Time Weighted Average (8 hours); STEL = Short Term Exposure Limit (15 minutes); ppm = parts per million; NTP = National Toxicology Program; ACGIH = American Conference of Governmental Industrial Hygienists; vPvB = very Persistent, very Bioaccumulative; NFPA = National Fire Protection Association; HMIS = Hazardous Materials Information System

DISCLAIMER

ND = No Data NA = Not Applicable

Product Identifier: **KOCHKLEEN® P-3 SOLUTION**

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NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet. However, SDS 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.

For related trademark information, visit www.kochmembrane.com

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