



PMC WATER SYSTEMS SERVICES INC.

124 CONNIE CRES. UNIT 9 CONCORD, ONTARIO.

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MATERIAL SAFETY DATA SHEET

B-3505

Protection Required



SECTION 1 - MATERIAL IDENTIFICATION AND USE

Manufacturer's Name : PMC Water Systems Services Inc.
Manufacturer's Address : 124 Connie Crescent, Unit 9, Concord, ON L4K 1L7
Manufacturer's Phone # : (905) 669-8262
24 Emergency Phone # : Canutec (613) 996-6666
Product Identifier : B-3505
Product Use : Boiler Water Inhibitor

SECTION 2 – COMPOSITION/INGREDIENTS OF MATERIAL

Ingredients	Concentration	CAS #	LD ₅₀	LC ₅₀
Potassium Hydroxide	8-15%	1310-73-2	205 mg/kg (oral – rat)	No Data Available
Phosphonic Acid	1-5%	2809-21-4	2400 mg/kg (oral – rat)	No Data Available
Sodium Polymethacrylate	1-5%	54193-36-1	1000 mg/kg (oral – rat)	No Data Available

SECTION 3 – HAZARDS IDENTIFICATION

Acute Health Effects Caution: Potassium Hydroxide burns can be painless and may not warn of dangerous injury
Eye Contact CORROSIVE. Contact causes severe burns with redness, swelling, pain and blurred vision. Causes eye burns. Irreversible damage to the eyes.
Skin Contact CORROSIVE. Contact can cause pain, itching, redness, scaling, burns, and blistering. Permanent scarring can result. Severe exposure can cause death. Burns may not be immediately painful; onset of pain may be delayed minutes to hours.
Inhalation Not expected to be an inhalation hazard unless it becomes an airborne dust or mist. Can cause severe irritation of the mucous membranes of the eyes, mouth and respiratory tract.
Ingestion Can burn the lips, tongue, throat and stomach. Symptoms may include nausea, vomiting, stomach cramps and diarrhea. Can cause death.
Chronic Health Effects Repeated or prolonged contact with spray mist may produce chronic eye irritation, severe skin irritation and respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

SECTION 4 – FIRST AID MEASURES

Eye Contact Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is any irritation.
Skin Contact Wash with plenty of water. Remove contaminated clothing and do not reuse until thoroughly cleaned or laundered.
Inhalation Remove victim to fresh air. If breathing stops, administer artificial respiration and seek medical aid promptly. If breathing is difficult, get immediate medical attention.
Ingestion Give plenty of water to dilute product. Do not induce vomiting. Keep victim quiet. If vomiting occurs, keep victim's head below hips to prevent inhalation of vomited material. **Seek medical help immediately!**
Notes to Physician NOTE: Inadvertent inhalation of vomited material may seriously damage the lungs. The risk and danger of this is greater than the risk of poisoning through absorption of this product. *Moreover, this product can damage the esophagus on the way down and will cause further damage in the reverse direction!* The stomach should be emptied under medical supervision after the installation of an airway to protect the lungs.

SECTION 5 - FIRE FIGHTING MEASURES

Flammability	Not Flammable
Flash Point	Not Applicable
Autoignition Temperature	Not Applicable
Extinguishing Media	Does not burn. Use extinguishing media appropriate for surrounding fire. Water is not recommended, but may be applied in large quantities as a fine spray when other extinguishing agents are not available.
Special Firefighting Procedures/Equipment	Evacuate nonessential personnel from fire area. Product reacts with water, possibly violently. Reaction may produce heat and/or gases. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Contact with some metals (particularly magnesium, aluminum and galvanized zinc) can rapidly generate hydrogen. Fire fighters must wear full face, positive pressure, self-contained breathing apparatus and appropriate protective clothing.
Explosion Data	Not Applicable
Hazardous Combustion Products	Potassium oxide, peroxides, carbonates may form in fire
NFPA Ratings	Health 3, Flammability 0, Instability 1
HMS Ratings:	Health 3, Flammability 0, Reactivity 1

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions	Safety eye goggles. Wear protective clothing and equipment.
Environment Precautions	Avoid discharge to natural waters and sewers.
Spill Response/Cleanup	Isolate hazard area and restrict access. Stop leak if without risk. Dike and contain spill with inert material (sand, earth, etc.) and transfer liquid and solid separately to containers for recovery or disposal. Neutralize with lime or soda ash. Sweep or shovel material into waste container. Flush residue with water.

SECTION 7 – HANDLING AND STORAGE

Handling	Corrosive material. Avoid contact with eyes, skin and clothing. Do not ingest. Do not inhale vapour or mist. Use appropriate personal protective equipment. Use with adequate ventilation. Handle in accordance with good industrial hygiene and safety practices. Keep containers closed when not in use. Empty product containers may contain residue. Follow label warnings even after container is emptied.
Storage Requirements	Store in a cool, dry, well-ventilated area, away from heat and ignition sources. Store in original tightly closed container to prevent moisture absorption and/or contamination. Place away from incompatible materials. Product has a shelf life of 24 months. Storage Temperature: >16°C (>60.8°F).

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation	Good general ventilation should be sufficient for most conditions.
Respiratory Protection	Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use a NIOSH approved air-purifying respirator.
Skin Protection	Polyethylene, neoprene or natural rubber gloves, impervious footwear, rubber safety boots.
Eye/Face Protection	Chemical safety goggles; face shield.
Other Comments	An eyewash station and safety shower should be available

Ingredients	Exposure Limit - ACGIH	Exposure Limit - OSHA	Immediately Dangerous to Life or Health - IDLH
Potassium Hydroxide	2 mg/m3 Ceiling	2 mg/m3 Ceiling	10 mg/m3

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical State	:	Liquid
Odour and Appearance	:	Slight sweet odour; amber liquid
Odour Threshold	:	Not Available
Specific Gravity (Water = 1)	:	1.06 to 1.08 g/cc
Vapour Pressure (mmHg)	:	Not Available
Vapour Density (Air = 1)	:	Not Available
Evaporation Rate	:	Not Available
Boiling Point	:	100° C, 212° F
Freezing/Melting Point	:	-10 to -15°C, 14 to 5° F
pH	:	12 - 13
Coefficient Water/Oil Distribution	:	Not Applicable
Solubility in Water	:	Soluble

SECTION 10 – STABILITY AND REACTIVITY

Stability/Reactivity	Stable
Conditions for Instability	Heat, water, moisture or humidity.
Incompatible Materials	Reacts violently with many chemicals including: water, organic acids, inorganic acids, oxidizing agents and glycols. Corrosive to alloys of aluminum, zinc, tin and copper releasing hydrogen. Damages leather, wool and some other textiles. Contact with water causes violent frothing and spattering. Flammable hydrogen may be generated from contact with metals such as: aluminum, brass, tin, zinc. Avoid contact with acids, halogenated organics, organic nitro compounds, glycols. Caustic soda solution reacts readily with various reducing sugars (fructose, galactose, maltose, dry whey solids) to produce carbon monoxide.
Hazardous Decomposition Products	Oxides of potassium
Hazardous Polymerization	Hazardous polymerization will not occur.

SECTION 11 – TOXICOLOGICAL INFORMATION

Routes of Entry	:	Eyes, skin, respiratory and digestive system Absorbed through skin.
Skin Contact	:	Brief contact may cause severe skin burns
Eye Contact	:	Causes severe burns. Small quantities can result in permanent damage and/or loss of vision
Ingestion	:	Can cause severe burns to mouth, esophagus and stomach
Inhalation	:	Can cause damage to upper respiratory tract and lung tissue
Chronic Exposure Effects	:	Chronic inhalation exposure may lead to respiratory disorders, such as emphysema and chronic bronchitis. Chronic skin contact may cause dermatitis.
Irritancy	:	Irritant
Sensitization	:	Not Available
Carcinogenicity	:	Not Available
Teratogenicity	:	Not Available
Mutagenicity	:	Not Available
Reproductive Effects	:	Not Available

SECTION 12 – ECOLOGICAL INFORMATION

General Comments	Toxic to aquatic life. May increase pH of waterways and adversely affect aquatic life.
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SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal	Dispose in accordance with federal, provincial or local government requirements. Contact your local, provincial or federal environmental agency for specific regulations.
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SECTION 14 – TRANSPORT INFORMATION

TDG Shipping Regulations	UN 1760, Corrosive Liquid, N.O.S. (Potassium Hydroxide), Class 8 (9.2), PG III
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SECTION 15 – REGULATORY INFORMATION

WHMIS Classification	Class D2B: Toxic Material Class E: Corrosive Material
Domestic Substances List	All ingredients are listed on the DSL or are not required to be listed.

SECTION 16 – OTHER INFORMATION

Prepared by:	Lab Services PMC Water Systems Services Inc. 124 Connie Crescent, Unit 9 Concord Ontario L4K 1L7
Preparation Date:	February 10, 2017

While all the data presented is believed to be accurate at the time of preparation, PMC Water Systems Services Inc. makes no warranty; the data is offered for your consideration, investigation and verification.