



PMC WATER SYSTEMS SERVICES INC.

124 CONNIE CRES. UNIT 9 CONCORD, ONTARIO.

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MATERIAL SAFETY DATA SHEET

B-3210

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-3210
Product Use : Water Treatment

SECTION 2 – COMPOSITION/INGREDIENTS OF MATERIAL

Ingredients	Concentration	CAS #	LD ₅₀	LC ₅₀
Ammonium Hydroxide	60-100%	1336-21-6	350 mg/kg (oral rat)	3670ppm, 4h (inhalation – rat)

SECTION 3 – HAZARDS IDENTIFICATION

Potential Health Effects Signs and Symptoms of Short-Term (Acute) Exposure

Eye Contact Liquid, vapour or mist irritation, experienced as stinging, excessive blinking and tear production, with excess redness of the conjunctiva.

Skin Contact Corrosive. Skin contact may cause irritation or burns. Severe and fatal skin burns can occur with necrosis and scarring.

Inhalation Corrosive! Inhalation can cause irritation and inflammation of the respiratory system resulting in hoarseness and tightness of the throat, laryngitis, tracheitis, bronchopneumonia and pulmonary edema. Productive cough with blood stain sputum may develop. Airway obstruction and diminished diffusion capacity and impaired ciliary function may result from exposure. Chronic lung disease or residual dysfunction is possible if overexposure has caused lower airway injury.

Ingestion Corrosive! May cause severe pain in mouth, chest and abdomen, leading to cough, vomiting and collapse. Gastric or esophageal perforation may occur and lung irritation or edema may occur as a delayed effect.

SECTION 4 – FIRST AID MEASURES

Eye Contact Flush eyes with gently flowing water for at least 15 minutes or until the chemical is removed while holding eyelid(s) open. Seek immediate medical attention. Do not transport victim until the recommended flushing period is complete unless flushing can be continued during transport.

Skin Contact Immediately flush skin with plenty of water for at least 15 minutes. Get medical attention. Remove contaminated clothing and laundry before reuse. Do not transport victim until the recommended flushing period is complete unless flushing can be continued during transport.

Inhalation Remove source of contamination or move victim to fresh air. If breathing is difficult, give artificial respiration. Immediate medical assistance is required.

Ingestion Seek immediate medical attention. Do NOT induce vomiting unless directed to do so by a physician or poison control centre. If vomiting occurs spontaneously, keep below hips to prevent aspiration of liquid into lungs. Never give anything by mouth to an unconscious or convulsing person. If conscious, give large amounts of water to drink. May drink orange juice, citrus juice or diluted vinegar (1:4) to counteract ammonia.

Notes to Physician Pulmonary edema may be delayed. Injury may be more severe than would be indicated on early presentation.

SECTION 5 - FIRE FIGHTING MEASURES

Flammability Ammonium Hydroxide is not flammable. Ammonia gas is flammable.
Flash Point Not Applicable
Autoignition 651°C, 1204°F (ammonia gas)

Temperature	
Extinguishing media	If ammonia vapours or gas is burning, use dry chemical powder or carbon dioxide for small fires and water spray, fog or foam for large fires. Otherwise, use extinguishing media appropriate to the surrounding fire conditions. Containers exposed to intense heat from fires should be cooled with water to prevent vapour pressure build-up, which could result in container rupture.
Special Exposure Hazards	Firefighters should wear NIOSH-approved self-contained breathing apparatus and protective clothing. When heated, product will give off ammonia vapor, which is a strong irritant to the eye, skin and respiratory tract. In confined areas, ammonia vapors may be a fire hazard, especially if oil and other combustible materials are present. Containers may rupture violently due to over pressurization if exposed to fire or excessive heat for a sufficient period of time. This rupture may release flammable and toxic gases.
Hazardous Combustion Products	Decomposition products may include oxides of nitrogen. Ammonia gas decomposes into hydrogen and nitrogen at about 450-500°C. It has also been reported that the main products of combustion in air (at/or above 780°C) are nitrogen and water, with small amounts of nitrogen dioxide and ammonium nitrate.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wear appropriate protective equipment.
Environment precautions	Ensure spilled product does not enter sewers or streams.
Spill Response/Cleanup	Isolate hazard area and restrict access. Stop leak only if safe to do so. Remove ignition sources and work with non-sparking tools. Small spills: soak up with absorbent material and scoop into containers. Large spills: dike and pump into suitable containers. Clean up residual with absorbent material; place in appropriate container and flush with water.

SECTION 7 – HANDLING AND STORAGE

Handling	For industrial use only. Handle and open containers with care. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid inhalation of dust and vapours. Keep containers closed when not in use.
Storage Requirements	Store in a cool, dry, well-ventilated area away from direct sunlight. Store away from incompatible materials such as chlorine, acids and copper. Store below 27°C, 80°F.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation	Use only in well ventilated areas. Use local exhaust if mist or spray is generated.
Respiratory Protection	For dusty or misty conditions, wear NIOSH-approved dust or mist respirator.
Skin Protection	Butyl rubber, neoprene or PVC gloves. Chemical resistant clothing and boots
Eye/Face Protection	Chemical goggles; face shield if splashing hazard exists. Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
Other Comments	An eyewash station and safety shower should be available
General Hygiene	Wash thoroughly after handling

Ingredient	Exposure Limit – ACGIH	Exposure Limit – OSHA	Immediately Dangerous to Life and Health - IDLH
Ammonium Hydroxide	25 ppm TLV-TWA 35 ppm STEL	50ppm PEL-TWA	300 ppm

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State	:	Liquid
Odour and Appearance	:	Pungent irritating odour; clear and colourless
Odour Threshold	:	2 to 5 ppm
Specific Gravity (Water = 1)	:	0.897
Vapour Pressure (mmHg)	:	3.75 psi @ 20°C, 68°F (20%)
Vapour Density (Air = 1)	:	The highest know value is 1
Evaporation Rate	:	Not Available
Boiling Point	:	27°C, 81°F
Freezing/Melting Point	:	-72°C, -98°F
pH	:	12
Solubility in Water	:	Soluble in water. Soluble in alcohol.

SECTION 10 – STABILITY AND REACTIVITY

Stability/Reactivity	Stable
Incompatible Materials	Strong oxidizers. Strong acids. Halogens. Iodine. Bromine. Sodium or calcium hypochlorite.

Conditions of Reactivity

Incompatible with copper, copper alloys, galvanized iron, zinc, aluminum, bronze, dimethyl sulphate, mercury and alkali metals.

Excessive heat, open flame and all ignition sources. Reacts exothermically with acids. Evolves toxic gaseous ammonia with strong bases. Reacts violently with dimethyl sulphate. Reacts with aqueous silver nitrate sodium hydroxide to give a black precipitate of silver nitride, which can explode upon stirring.

**Hazardous Decomposition Products
Hazardous Polymerization**

Oxides of nitrogen. Ammoniacal vapours.
Will not occur.

SECTION 11 – TOXICOLOGICAL INFORMATION**Effects of Acute Exposure****Skin Contact**

: Corrosive. Capable of producing severe burns, blisters, ulcers and permanent scarring.

Eye Contact

: Corrosive. Capable of producing severe eye burns and permanent injury, including blindness.

Ingestion

: Can cause burns to the lips, tongue, esophagus and stomach; abdominal pain; vomiting; diarrhea and death.

Inhalation

: Ammonia gas is a severe respiratory tract irritant.

Chronic Exposure Effects

: Repeated or prolonged contact with spray mist may produce chronic eye irritation, severe skin irritation (drying, cracking, and dermatitis), and respiratory tract irritation leading to frequent attacks of bronchial infection.

Irritancy

: Severe irritant

Carcinogenicity

: Not listed by IARC or ACGIH.

Teratogenicity

: Not Available

Mutagenicity

: Not Available

Reproductive Effects

: Not Available

SECTION 12 – ECOLOGICAL INFORMATION**General Comments**

Harmful to aquatic life at low concentrations. This material is not expected to bioaccumulate. Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams or public waterways.

SECTION 13 – DISPOSAL CONSIDERATIONS**Waste Disposal**

Dispose in accordance with federal, provincial or local government requirements. Reclaim as fertilizer if possible. Empty containers should be recycled or disposed through an approved waste management facility.

SECTION 14 – TRANSPORT INFORMATION**Shipping Regulations**

UN 2672, Ammonia Solution, Class 8, PG III

Domestic Substances List

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

SECTION 15 – REGULATORY INFORMATION**WHMIS Classification**

Class D1B: Toxic Material
Class E: Corrosive Material

SECTION 16 – OTHER INFORMATION**Prepared by:**

Lab Services
PMC Water Systems Services Inc.
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Concord Ontario L4K 1L7

Preparation Date:

January 3, 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.