



COLUMBUS CHEMICAL INDUSTRIES INC.

P.O. BOX 8
 COLUMBUS, WISCONSIN 53925-0008
 (920) 623-2140
 FAX (920) 623-2577

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements

U.S. Department of Labor

Occupational Safety and Health Administration
 (Non-Mandatory Form)
 Form Approved
 OMB No. 1218-0072

IDENTITY (as Used on Label and List)

Perchloric Acid 0.100N in Acetic acid

Note: Blank spaces are not permitted. If any item is not applicable or no information is available, the space must be marked to indicate that.

Section I

Manufacturers /Distributor Address Number Street City State and Zip Code

Columbus Chemical Industries

N4335 Temkin Road

Columbus, Wisconsin 53925

Emergency Telephone Number

CHEMTREC 1 (800) 424-9300

Telephone Number for Information

1-920-623-2140

Date Prepared

10-20-2005

Signature of Preparer (optional)

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s))	CAS #	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Acetic Acid*	64-19-7	10 ppm TWA	10 ppm TWA	15 ppm	>96%
Perchloric Acid	7601-90-3	Not Available	Not Available	Not Available	<1%
Acetic Anhydride	108-24-7	5 ppm	Not Available	Not Available	<2%

*SYNONYMS: Ethanoic Acid; Ethanylic Acid; Methanecarboxylic Acid; Vinegar Acid.

Section III - Physical/Chemical Characteristics

Boiling Point	Not Available	Specific Gravity (H ₂ O = 1)	1.0622
Vapor Pressure (mm Hg) @ 20°C	~11 mmHg	Melting Point	Not Available
Vapor Density (AIR = 1)	~2.1	Evaporation Rate (Butyl Acetate = 1)	Not Available

Solubility in Water

Complete.

Appearance and Odor

Colorless liquid; pungent, vinegar odor.

Section IV Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
39°C / 103°F (Tagliabue Closed-cup)	%	5.4	16.0

Extinguishing Media

Water spray, dry chemical, carbon dioxide, alcohol foam.

Special Fire Fighting Procedures

In the event of a fire, wear full protective clothing and NIOSH/MSHA-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Unusual Fire and Explosion Hazards

Emits toxic fumes under fire conditions.

Section V Reactivity Data

Stability	Unstable		Conditions to Avoid	Strong oxidizing reagents, metals, strong bases, amines.
	Stable	X		

Incompatibility Materials to Avoid

Material reacts violently with strong oxidizing reagents; material reacts with metals, strong bases, and amines.

Hazardous Decomposition or Byproducts

Carbon dioxide; carbon monoxide, Hydrogen Chloride gas.

Hazardous Polymerization**Conditions to Avoid**

	May Occur		
	Will Not Occur	X	Not listed

Section VI Health Hazard Data

Routes of Entry	Inhalation ?	Skin ?	Ingestion ?
	Yes	Yes	Yes

Health Hazards (Acute and Chronic)

Causes chemical burns. Irritating to the skin, eyes, mucous membranes and upper respiratory tract. May be harmful if swallowed. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Ingestion or inhalation may cause damage to respiratory and digestive tracts.

Carcinogenicity	NTP	IARC Monographs	OSHA REGULATED?
	Not listed	Not listed	Not listed

Signs and Symptoms of Exposure.

Burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting, erythema, blisters, tissue destruction, bloody diarrhea, edema, convulsions, bronchitis, pneumonia, cardiovascular collapse, shock and death.

Medical Conditions Generally Aggravated by Exposure

Asthma, emphysema, other respiratory diseases.

Emergency and First Aid Procedures EYES/SKIN: Flush immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. Remove contact lenses if possible. Call physician/poison control center immediately. Wash clothing before reuse. INGESTION: DO NOT induce vomiting. Give cupful of water to conscious victim. INHALATION: Move to fresh air. Give oxygen if breathing is difficult, artificial respiration if not breathing.

Section VII Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled Evacuate unprotected personnel from area. Eliminate all ignition sources. Wear respirator, rubber boots, heavy protective gloves and chemical safety goggles. Neutralize spill area with soda ash or lime. Absorb spill with vermiculite or other inert material. Flush spill area with water.

Waste Disposal Method Dispose of material in accordance with all Federal, state, and local regulations.

Precautions to be Taken in Handling and Storing Do not get in eyes or on skin or clothing. Do not taste or swallow. Avoid breathing vapors. Use only with adequate ventilation. Wash thoroughly after handling. Keep container tightly closed.

Other Precautions Containers, even when empty, will retain residue. Always obey hazard warnings and handle empty containers as if they were full.

Section VII Control Measures

Respiratory Protection (Specify Type) NIOSH/MSHA-approved respirator with organic vapor cartridge.

Ventilation	Local Exhaust	Yes	Special	Safety shower nearby.
	Mechanical (General)	Recommended	Other	Eye wash station nearby.

Protective Gloves Chemical resistant rubber gloves. **Eye Protection** Chemical Safety Goggles.

Other Protective Clothing or Equipment Boots; protective clothing; full-face respirator, if needed.

Work /Hygienic Practices Do NOT wear contact lenses. Wear appropriate personal protective equipment. Wash thoroughly after handling. Avoid breathing vapors. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Avoid prolonged or repeated exposure. CORROSIVE! Flammable!

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