



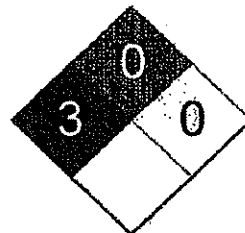
MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name Liquid Ice Machine Cleaner (4207)
CAS # Mixture
Product use Cleaning scale from ice machines
Manufacturer Nu-Calgon
 2008 Altom Court
 St. Louis, MO 63146 US
 Phone: 314-469-7000 / 800-554-5499
 Emergency Phone: 1-800-424-9300 (CHEMTREC)

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	1	3
Flammability	0	0
Reactivity	0	0
Personal Protection	X	



2. Hazards Identification

Emergency overview DANGER
 CAUSES SKIN AND EYE BURNS.
 May be fatal if swallowed or inhaled.

Potential short term health effects

Routes of exposure Eye, Skin contact, Inhalation, Ingestion.

Eyes Corrosive. Causes chemical burns. May cause blindness.

Skin Corrosive. Causes chemical burns.

Inhalation Inhalation of mist may cause respiratory tract irritation, coughing or headache. Very high exposures may cause difficulty breathing, congestion, tightness of chest and hemorrhage.

Ingestion Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.

Target organs Eyes. Respiratory system. Skin.

Chronic effects Prolonged or repeated exposure to dilutions can cause drying, defatting and dermatitis.

Signs and symptoms The product causes burns of eyes, skin and mucous membranes.

3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
Phosphoric acid	7664-38-2	60 - 100

4. First Aid Measures

First aid procedures

Eye contact Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 20 minutes. Obtain medical attention immediately.

Skin contact Immediately flush with cool water for 20 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical attention if irritation persists.

Inhalation If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

Ingestion Do not induce vomiting. Rinse mouth with water, then drink one or two glasses of water. Obtain medical attention. Never give anything by mouth if victim is unconscious, or is convulsing.

General advice

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire Fighting Measures

Flammable properties	Not flammable by WHMIS/OSHA criteria.
Extinguishing media	
Suitable extinguishing media	Treat for surrounding material.
Unsuitable extinguishing media	Not available
Protection of firefighters	
Specific hazards arising from the chemical	Not available
Protective equipment for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of phosphorus. Hydrogen gas.
Explosion data	
Sensitivity to mechanical impact	Not available
Sensitivity to static discharge	Not available

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
Methods for containment	Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use. Should not be released into the environment.

7. Handling and Storage

Handling	Use good industrial hygiene practices in handling this material. Do not get this material in your eyes, on your skin, or on your clothing.
Storage	Keep out of the reach of children. Store in a tightly closed container in a cool, dry and dark place away from incompatible materials. Keep from freezing.

8. Exposure Controls / Personal Protection

Exposure limits	
Ingredient(s)	Exposure Limits
Phosphoric acid	ACGIH-TLV TWA: 1 mg/m ³ STEL: 3 mg/m ³ OSHA-PEL TWA: 1 mg/m ³
Engineering controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Personal protective equipment	
Eye / face protection	Wear chemical goggles and face shield.
Hand protection	Impervious gloves. Confirm with reputable supplier first.
Skin and body protection	Use of an impervious apron is recommended. Use of impervious boots is recommended.
Respiratory protection	Avoid breathing mists or vapors. If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

General hygiene considerations Use good industrial hygiene practices in handling this material. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9. Physical & Chemical Properties

Appearance	Clear.
Color	Colourless
Form	liquid
Odor	Odourless
Odor threshold	Not available
Physical state	Liquid
pH	< 1 (concentrate)
Melting point	Not available
Freezing point	Not available
Boiling point	260 °C (500.00 °F)
Flash point	Not available
Evaporation rate	Not available
Flammability limits in air, lower, % by volume	Not available
Flammability limits in air, upper, % by volume	Not available
Vapor pressure	0.03 mmHg
Vapor density	Not available
Specific gravity	1.584
Octanol/water coefficient	Not available
Solubility (H ₂ O)	Complete
Auto-ignition temperature	Not available
VOC (Weight %)	0
Viscosity	Not available
Percent volatile	Not available

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with other chemicals.
Incompatible materials	Reacts vigorously with alkaline material or metals. Caustics. Bases. Reducing agents. Oxidizers.
Hazardous decomposition products	May include and are not limited to: Oxides of phosphorus. Hydrogen gas.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Component analysis - LC50

Ingredient(s)	LC50
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Phosphoric acid	Not available.
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Component analysis - Oral LD50

Ingredient(s)	LD50
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Phosphoric acid	1530 mg/kg rat
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Effects of acute exposure

Eye	Corrosive. Causes chemical burns. May cause blindness.
Skin	Corrosive. Causes chemical burns.
Inhalation	Inhalation of mist may cause respiratory tract irritation, coughing or headache. Very high exposures may cause difficulty breathing, congestion, tightness of chest and hemorrhage.
Ingestion	Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.

Sensitization	Non-hazardous by WHMIS/OSHA criteria.
Chronic effects	Non-hazardous by WHMIS/OSHA criteria.
Carcinogenicity	Non-hazardous by WHMIS/OSHA criteria.
Mutagenicity	Non-hazardous by WHMIS/OSHA criteria.
Reproductive effects	Non-hazardous by WHMIS/OSHA criteria.
Teratogenicity	Non-hazardous by WHMIS/OSHA criteria.

12. Ecological Information

Ecotoxicity Components of this product have been identified as having potential environmental concerns.

Ecotoxicity - Freshwater Fish Species Data

Phosphoric acid 7664-38-2 96 Hr LC50 *Gambusia affinis*: 3-3.5 mg/L

Ecotoxicity - Water Flea Data

Phosphoric acid 7664-38-2 12 Hr EC50 *Daphnia magna*: 4.6 mg/L

Environmental effects	Harmful to aquatic life.
Aquatic toxicity	Not available
Persistence / degradability	Not available
Bioaccumulation / accumulation	Not available
Partition coefficient	Not available
Mobility in environmental media	Not available
Chemical fate information	Not available

13. Disposal Considerations

Waste codes	Not available
Disposal instructions	Review federal, state/provincial, and local government requirements prior to disposal.
Waste from residues / unused products	Not available
Contaminated packaging	Not available

14. Transport Information

U.S. Department of Transportation (DOT)

Basic shipping requirements:

Proper shipping name	Phosphoric acid solution
Hazard class	8
UN number	1805
Packing group	III
Additional information:	
Special provisions	A7, IB3, N34, T4, TP1
Packaging exceptions	<1.3 Gallons - Limited Quantity



Transportation of Dangerous Goods (TDG - Canada)**Basic shipping requirements:**

Proper shipping name PHOSPHORIC ACID, LIQUID
Hazard class 8
UN number 1805
Packing group III
Additional information:
Packaging exceptions <5L - Limited Quantity



15. Regulatory Information

Canadian federal regulations

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

Canada - WHMIS - Ingredient Disclosure List

Phosphoric acid 7664-38-2 1 %

US Federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

Phosphoric acid 7664-38-2 5000 Lb final RQ; 2270 kg final RQ

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

CERCLA (Superfund) reportable quantity

Phosphoric acid: 5000.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

Section 302 extremely hazardous substance Yes

Section 311 hazardous chemical Yes

Clean Air Act (CAA) Not available
Clean Water Act (CWA) Hazardous substance
Safe Drinking Water Act (SDWA) Not available
Drug Enforcement Agency (DEA) Not available
Food and Drug Administration (FDA) Not available
WHMIS status Controlled
WHMIS classification Class E - Corrosive Material
WHMIS labeling



State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

- U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances**
Phosphoric acid 7664-38-2 Present
- U.S. - Louisiana - Reportable Quantity List for Pollutants**
Phosphoric acid 7664-38-2 5000 Lb final RQ; 2270 kg final RQ
- U.S. - Massachusetts - Right To Know List**
Phosphoric acid 7664-38-2 Present
- U.S. - Minnesota - Hazardous Substance List**
Phosphoric acid 7664-38-2 Present
- U.S. - New Jersey - Right to Know Hazardous Substance List**
Phosphoric acid 7664-38-2 sn 1516
- U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances**
Phosphoric acid 7664-38-2 5000 Lb RQ (air); 100 lb RQ (land/water)
- U.S. - Pennsylvania - RTK (Right to Know) List**
Phosphoric acid 7664-38-2 Environmental hazard
- U.S. - Rhode Island - Hazardous Substance List**
Phosphoric acid 7664-38-2 Toxic; Flammable

Inventory name	Country(s) or region	Inventory name	On inventory (yes/no)*
	Canada	Domestic Substances List (DSL)	Yes
	Canada	Non-Domestic Substances List (NDSL)	No
	United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

Disclaimer Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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