



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)

2. Hazards Identification

Emergency overview DANGER
CAUSES EYE BURNS. CAUSES SKIN BURNS.

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.

OSHA Regulatory Status This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

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. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.

General advice Wear impervious gloves and chemical splash goggles. Use of an impervious apron is recommended. 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.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
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	Should not be released into the environment. 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 to original containers for re-use.

7. Handling and Storage

Handling	Do not get in eyes, on skin or on clothing. Avoid breathing vapors or mists of this product. Use good industrial hygiene practices in handling this material. Keep container tightly closed. Use only with adequate ventilation. Wash thoroughly after handling.
Storage	Store in a tightly closed container in a cool, dry and dark place away from incompatible materials. Keep from freezing. Keep out of the reach of children.

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. Wear chemical goggles.

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. Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

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 and 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	500.00 °F (260 °C)
Pour point	Not available
Evaporation rate	Not available
Flash point	Not available
Auto-ignition temperature	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 (H2O)	Complete
VOC (Weight %)	0
Viscosity	Not available
Percent volatile	Not available

10. Stability and Reactivity

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

11. Toxicological Information

Component analysis - LC50

Ingredient(s)	LC50
Phosphoric acid	Not available

Component analysis - Oral LD50

Ingredient(s)	LD50
Phosphoric acid	1530 mg/kg rat

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.
Name of Toxicologically Synergistic Products	Not available

12. Ecological Information

Ecotoxicity	Components of this product have been identified as having potential environmental concerns.	
Ecotoxicity - Freshwater Fish - Acute Toxicity Data		
Phosphoric acid	7664-38-2	96 Hr LC50 Gambusia affinis: 3 - 3.5 mg/L
Ecotoxicity - Water Flea - Acute Toxicity Data		
Phosphoric acid	7664-38-2	12 Hr EC50 Daphnia magna: 4.6 mg/L
Persistence / degradability	Not available	
Bioaccumulation / accumulation	Not available	
Mobility in environmental media	Not available	
Environmental effects	Harmful to aquatic life.	
Aquatic toxicity	Not available	
Partition coefficient	Not available	
Chemical fate information	Not available	
Other adverse effects	Not available	

13. Disposal Considerations

Disposal instructions	Review federal, state/provincial, and local government requirements prior to disposal. Dispose in accordance with all applicable regulations.
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 %

WHMIS status Controlled
WHMIS classification Class E - Corrosive Material
WHMIS labeling



Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

US Federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

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

U.S. - CWA (Clean Water Act) - Hazardous Substances

Phosphoric acid 7664-38-2 Present

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

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

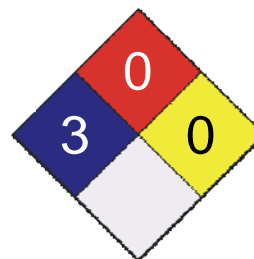
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

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

16. Other Information

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

Health	/ 3
Flammability	0
Physical Hazard	0
Personal Protection	X



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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Prepared by

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Other information

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.