



SAFETY DATA SHEET

1. Product and Company Identification

| | |
|--------------------------------------|--|
| Product identifier | Liquid Ice Machine Cleaner (4207-08, 4207-47, 4834-C7, 4834-08) |
| Other means of identification | Not available |
| Recommended use | Cleaning scale from ice machines |
| Recommended restrictions | None known. |
| Manufacturer information | Nu-Calgon 2611 Schuetz Road St. Louis, MO 63043 US Phone: 314-469-7000 / 800-554-5499 Emergency Phone: 1-800-424-9300 (CHEMTREC) |
| Supplier | See above. |

2. Hazards Identification

| | | |
|-----------------------------------|-----------------------------------|------------|
| Physical hazards | Corrosive to metals | Category 1 |
| Health hazards | Skin corrosion/irritation | Category 1 |
| | Serious eye damage/eye irritation | Category 1 |
| Environmental hazards | Not classified. | |
| WHMIS 2015 defined hazards | Not classified | |
| Label elements | | |



Signal word Danger

Hazard statement Causes severe skin burns and eye damage. May be corrosive to metals.

Precautionary statement

Prevention

Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves, protective clothing, eye protection and face protection. Keep only in original packaging.

Response

Absorb spillage to prevent material-damage. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. Specific treatment (see information on this label). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

Store locked up. Store in a corrosion resistant container with a resistant inner liner.

Disposal

Dispose of container in accordance with local, regional, national and international regulations.

WHMIS 2015: Health Hazard(s) not otherwise classified (HHNOC) None known

WHMIS 2015: Physical Hazard(s) not otherwise classified (PHNOC) None known

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Not applicable.

3. Composition/Information on Ingredients

Mixture

| Chemical name | Common name and synonyms | CAS number | % |
|----------------------|---------------------------------|-------------------|----------|
| Phosphoric acid | | 7664-38-2 | 65-85* |

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments

*CANADA GHS: The exact percentage (concentration) of composition has been withheld as a trade secret.
US GHS: The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

4. First Aid Measures

| | |
|---|---|
| Inhalation | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. |
| Skin contact | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor. Specific treatment (see information on this label). |
| Eye contact | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor. |
| Ingestion | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician. |
| Most important symptoms/effects, acute and delayed | Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed. |
| General information | Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. |

5. Fire Fighting Measures

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|--|---|
| Suitable extinguishing media | Treat for surrounding material. |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire-fighting equipment/instructions | Move containers from fire area if you can do so without risk. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | No unusual fire or explosion hazards noted. |
| Hazardous combustion products | May include and are not limited to: Oxides of phosphorus. Hydrogen gas. |

6. Accidental Release Measures

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| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep out of low areas. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Stop the flow of material, if this is without risk. Should not be released into the environment. Large Spills: Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. |
| Environmental precautions | Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. |

7. Handling and Storage

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|---|--|
| Precautions for safe handling | Avoid contact with eyes, skin and clothing. Do not breathe mist or vapor. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Use care in handling/storage. |
| Conditions for safe storage, including any incompatibilities | Store locked up. Keep container tightly closed. Store away from incompatible materials (see Section 10 of the SDS). |

8. Exposure Controls/Personal Protection

Occupational exposure limits

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

| Components | Type | Value |
|---------------------------------|------|---------|
| Phosphoric acid (CAS 7664-38-2) | STEL | 3 mg/m3 |
| | TWA | 1 mg/m3 |

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

| Components | Type | Value |
|---------------------------------|------|---------|
| Phosphoric acid (CAS 7664-38-2) | STEL | 3 mg/m3 |
| | TWA | 1 mg/m3 |

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

| Components | Type | Value |
|---------------------------------|------|---------|
| Phosphoric acid (CAS 7664-38-2) | STEL | 3 mg/m3 |
| | TWA | 1 mg/m3 |

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

| Components | Type | Value |
|---------------------------------|------|---------|
| Phosphoric acid (CAS 7664-38-2) | STEL | 3 mg/m3 |
| | TWA | 1 mg/m3 |

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

| Components | Type | Value |
|---------------------------------|------|---------|
| Phosphoric acid (CAS 7664-38-2) | STEL | 3 mg/m3 |
| | TWA | 1 mg/m3 |

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value |
|---------------------------------|------|---------|
| Phosphoric acid (CAS 7664-38-2) | PEL | 1 mg/m3 |

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|---------------------------------|------|---------|
| Phosphoric acid (CAS 7664-38-2) | STEL | 3 mg/m3 |
| | TWA | 1 mg/m3 |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|---------------------------------|------|---------|
| Phosphoric acid (CAS 7664-38-2) | STEL | 3 mg/m3 |
| | TWA | 1 mg/m3 |

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection

Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2).

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|---------------------------------------|---|
| Thermal hazards | Not available. |
| General hygiene considerations | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

9. Physical and Chemical Properties

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|---|-------------------|
| Appearance | Clear |
| Physical state | Liquid. |
| Form | Liquid |
| Color | Colorless |
| Odor | Odorless |
| Odor threshold | Not available. |
| pH | < 1 (concentrate) |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | 500 °F (260 °C) |
| Pour point | Not available. |
| Specific gravity | Not available. |
| Partition coefficient (n-octanol/water) | Not available |
| Flash point | Not available |
| Evaporation rate | Not available |
| Flammability (solid, gas) | Not applicable. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available |
| Flammability limit - upper (%) | Not available |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 0.03 mmHg |
| Vapor density | Not available |
| Relative density | 1.584 |
| Solubility(ies) | Complete |
| Auto-ignition temperature | Not available |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |

10. Stability and Reactivity

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|---|---|
| Reactivity | Reacts vigorously with alkaline material or metals. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Chemical stability | Material is stable under normal conditions. |
| Conditions to avoid | Reacts violently with strong alkaline substances. This product may react with reducing agents. Do not mix with other chemicals. |
| Incompatible materials | This product may react with reducing agents. Do not mix with other chemicals. |
| Hazardous decomposition products | May include and are not limited to: Oxides of phosphorus. Hydrogen gas. |

11. Toxicological Information

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|---|---|
| Routes of exposure | Inhalation. Ingestion. Skin contact. Eye contact. |
| Information on likely routes of exposure | |
| Ingestion | Causes digestive tract burns. |
| Inhalation | May cause irritation to the respiratory system. |
| Skin contact | Causes severe skin burns. |
| Eye contact | Causes serious eye damage. |

Symptoms related to the physical, chemical and toxicological characteristics

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity

| Components | Species | Test Results |
|---------------------------------|--------------------------------|---|
| Phosphoric acid (CAS 7664-38-2) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit | > 2000 mg/kg, ECHA 2740 mg/kg, RTECS |
| <i>Inhalation</i> | | |
| LC50 | Guinea pig, Mouse, Rabbit, Rat | 5337 mg/m3, 1 Hours, ECHA 3846 mg/m3, 1 Hours, ECHA 1689 mg/m3, 1 Hours, ECHA 1217 mg/m3, 1 Hours, ECHA 856 mg/m3, 1 Hours, ECHA 271 mg/m3, 1 Hours, ECHA 193 mg/m3, 1 Hours, ECHA 61 mg/m3, 1 Hours, ECHA |
| <i>Oral</i> | | |
| LD50 | Rat | 1530 mg/kg, RTECS 1.7 ml/100g, ECHA |

Skin corrosion/irritation Causes severe skin burns and eye damage.

Exposure minutes Not available.

Erythema value Not available.

Oedema value Not available.

Serious eye damage/eye irritation Causes serious eye damage.

Corneal opacity value Not available.

Iris lesion value Not available.

Conjunctival reddening value Not available.

Conjunctival oedema value Not available.

Recover days Not available.

Respiratory or skin sensitization

Canada - Alberta OELs: Irritant

Phosphoric acid (CAS 7664-38-2) Irritant

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, NTP, or OSHA.

US, OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Teratogenicity Not available.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not available.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological Information

Ecotoxicity Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Ecotoxicological data

| Components | | Species | Test Results |
|---------------------------------|------|--|---------------------|
| Phosphoric acid (CAS 7664-38-2) | | | |
| Aquatic | | | |
| <i>Acute</i> | | | |
| Crustacea | LC50 | Water flea (<i>Daphnia magna</i>) | 4.6 mg/L, 12 hr |
| Fish | LC50 | Mosquitofish (<i>Gambusia affinis affinis</i>) | 3 - 3.5 mg/L, 96 hr |

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Mobility in general Not available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal Considerations

Disposal instructions This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

Transport of Dangerous Goods (TDG) Proof of Classification Classification Method: Classified as per Part 2, Sections 2.1 – 2.8 of the Transportation of Dangerous Goods Regulations. If applicable, the technical name and the classification of the product will appear below.

U.S. Department of Transportation (DOT)

Basic shipping requirements:

UN number UN1805
Proper shipping name Phosphoric acid solution
Hazard class Limited Quantity - US
Packing group III
Special provisions A7, IB3, N34, T4, TP1

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

UN number UN1805
Proper shipping name PHOSPHORIC ACID SOLUTION
Hazard class Limited Quantity - Canada
Packing group III

IATA/ICAO (Air)

Basic shipping requirements:

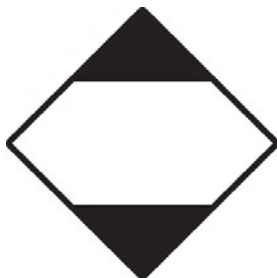
UN number UN1805
Proper shipping name Phosphoric acid, solution
Hazard class Limited Quantity - IATA
Packing group III

IMDG (Marine Transport)

Basic shipping requirements:

UN number UN1805
Proper shipping name PHOSPHORIC ACID SOLUTION
Hazard class Limited Quantity - US
Packing group III

DOT; IMDG; TDG



IATA



15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

WHMIS 2015 Exemptions

Not applicable

US federal regulations

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

All chemicals used are on the TSCA inventory.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Phosphoric acid (CAS 7664-38-2) Listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

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

SARA 302 Extremely hazardous substance

No

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)

Hazardous substance

US state regulations

US - California Hazardous Substances (Director's): Listed substance

Phosphoric acid (CAS 7664-38-2) Listed.

US - Illinois Chemical Safety Act: Listed substance

Phosphoric acid (CAS 7664-38-2)

US - Louisiana Spill Reporting: Listed substance

Phosphoric acid (CAS 7664-38-2) Listed.

US - Minnesota Haz Subs: Listed substance

Phosphoric acid (CAS 7664-38-2) Listed.

US - New Jersey RTK - Substances: Listed substance

Phosphoric acid (CAS 7664-38-2)

US - Texas Effects Screening Levels: Listed substance

Phosphoric acid (CAS 7664-38-2) Listed.

US. Massachusetts RTK - Substance List

Phosphoric acid (CAS 7664-38-2)

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania Worker and Community Right-to-Know Law

Phosphoric acid (CAS 7664-38-2)

US. Rhode Island RTK

Phosphoric acid (CAS 7664-38-2)

US. California Proposition 65

Not Listed.

Inventory status

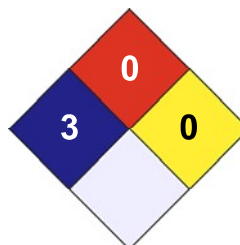
| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | 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 | |
|----------|---|
| 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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02

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Prepared by

Nu-Calgon Technical Service Phone: (314) 469-7000

Other information

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