

1. Product and Company Identification

Product identifier	Nickel-Safe Ice Machine Cleaner (4287-08, 4287-34, 4841-AB, 4841-08)
Other means of identification	Not available
Recommended use	Cleaning scale from ice machines
Recommended restrictions	None known.
Manufacturer information	Nu-Calgon 2008 Altom Court St. Louis, MO 63146 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 2
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Not classified.	
WHMIS 2015 defined hazards	Not classified	
Label elements		



Signal word	Danger
Hazard statement	May be corrosive to metals. Causes skin irritation. Causes serious eye damage.
Precautionary statement	
Prevention	Wear eye/face protection. Wear protective gloves. Wash thoroughly after handling. Keep only in original packaging.
Response	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/doctor. IF ON SKIN: Wash with plenty of water. Specific treatment (see information on this label). If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Absorb spillage to prevent material-damage.
Storage	Store in a corrosion resistant container with a resistant inner liner.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
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	15-40
Citric Acid		77-92-9	1-5

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

4. First Aid Measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Specific treatment (see information on this label). Take off contaminated clothing and wash it before reuse.
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/doctor.
Ingestion	If swallowed, 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.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain.
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

Suitable extinguishing media	Dry chemical powder. Foam. Carbon dioxide (CO ₂).
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.
Hazardous combustion products	Not available

6. Accidental Release Measures

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 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 spillage to prevent material damage. 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

Precautions for safe handling	Do not get this material in contact with eyes. Avoid contact with skin. Avoid prolonged exposure. Avoid contact with clothing. 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 in corrosive resistant container with a resistant inner liner. Keep only in the original container. Keep container tightly closed. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure Controls/Personal Protection

Occupational exposure limits

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 Chemical goggles are recommended.

Skin protection

Hand protection Rubber gloves. Confirm with a reputable supplier first.

Other Wear appropriate chemical resistant clothing.

Respiratory protection Not normally required if good ventilation is maintained.

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

Appearance	Liquid
Physical state	Liquid.
Form	Liquid.
Color	Green
Odor	Mild chemical
Odor threshold	Not available.
pH	< 1
Melting point/freezing point	-0.4 °F (-18 °C)
Initial boiling point and boiling range	> 199.4 °F (> 93 °C)
Pour point	Not available.
Specific gravity	1.19
Partition coefficient (n-octanol/water)	Not available
Flash point	None
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	Not available.
Vapor density	Not available
Relative density	Not available.
Solubility(ies)	Complete
Auto-ignition temperature	Not available
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and Reactivity

Reactivity	Corrosive to 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. Incompatible with bases.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon. Oxides of phosphorus.

11. Toxicological Information

Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.	
Information on likely routes of exposure		
Ingestion	May cause stomach distress, nausea or vomiting.	
Inhalation	Prolonged inhalation may be harmful.	
Skin contact	Causes skin irritation.	
Eye contact	Causes serious eye damage.	
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation.	
Information on toxicological effects		
Acute toxicity		
Components	Species	Test Results
Citric Acid (CAS 77-92-9)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Mouse	5040 mg/kg
	Rat	3000 mg/kg
Phosphoric acid (CAS 7664-38-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	2740 mg/kg
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Rat	1530 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
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	
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, ACGIH, 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
Citric Acid (CAS 77-92-9)			
<i>Acute</i>			
Crustacea	EC50	Daphnia magna	120 mg/L, 72 hr
Aquatic			
<i>Acute</i>			
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	1516 mg/L, 96 hr
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	Not available.
Mobility in soil	Not available.
Mobility in general	Not available.
Other adverse effects	Not available.

13. Disposal Considerations

Disposal instructions	Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.
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.

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 In accordance with Part 2.2.1 (SOR/2014-152) of the Transportation of Dangerous Goods Regulations, we certify that the classification of this product is correct as of the SDS date of issue.

U.S. Department of Transportation (DOT)**Basic shipping requirements:**

UN number	UN3264
Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s.
Technical name	Phosphoric acid
Hazard class	Limited Quantity - US
Packing group	III
Special provisions	IB3, T7, TP1, TP28
Packaging exceptions	154

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

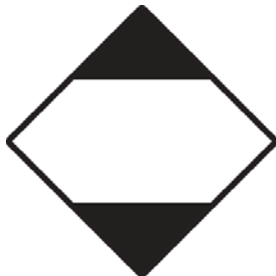
UN number	UN3264
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical name	Phosphoric acid
Hazard class	Limited Quantity - Canada
Packing group	III
Special provisions	16

IATA/ICAO (Air)**Basic shipping requirements:**

UN number	UN3264
Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s.
Technical name	Phosphoric acid
Hazard class	Limited Quantity - IATA
Packing group	III

IMDG (Marine Transport)**Basic shipping requirements:**

UN number	UN3264
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical name	Phosphoric acid
Hazard class	Limited Quantity - IMDG
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.

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.

Safe Drinking Water Act (SDWA)

Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Phosphoric acid (CAS 7664-38-2) High priority

Food and Drug Administration (FDA)

Not regulated.

US state regulations

See below

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

Citric Acid (CAS 77-92-9) Listed.

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 RTK - Hazardous Substances

Phosphoric acid (CAS 7664-38-2)

US. Rhode Island RTK

Phosphoric acid (CAS 7664-38-2)

US. California Proposition 65

This product is not subject to warning labeling under the California Proposition 65 regulation.

Inventory status

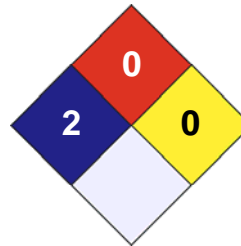
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*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	/ 2
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. The above SDS reflects the latest information on file with respect to hazards, properties and handling of this product. No warranty however, expressed or implied, is made with regard to the use of this information.

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01

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Prepared by

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