

MATERIAL SAFETY DATA SHEET

MSDS 0231

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	Nickel-Safe Ice Machine Cleaner	HMIS CODES	
		Health	3
		Flammability	0
		Reactivity	0
PRODUCT CODES	88312, 88314	PPI	D
CHEMICAL FAMILY:	Inorganic Acids		
USE	Ice Machine Cleaner		
MANUFACTURER'S NAME	The RectorSeal Corporation	EMERGENCY TELEPHONE NO.	
	2601 Spenwick Drive	Chemtrec 24 Hours	
	Houston, Texas 77055 USA	(800) 424-9300	
DATE OF PREPARATION	September 4, 2002	TECHNICAL SERVICE TELEPHONE NO.	
		(800) 231-3345	

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS
30	7664-38-2	Phosphoric Acid	
		ACGIH TLV	1 mg/m3
		OSHA PEL	1 mg/m3
3	5949-29-1	Citric Acid	
		ACGIH TLV	N/D
		OSHA PEL	N/D

Section 3 -- HAZARDS IDENTIFICATION

SUMMARY OF ACUTE HAZARDS

Exposure to human tissue will result in irritation and subsequent chemical burns. Vapors irritating to eyes and respiratory tract.

INHALATION

Respiratory and mucous membrane irritation, coughing, difficulty breathing.

EYE CONTACT

Corrosive, causes severe irritation and eye burns.

SKIN CONTACT

Corrosive, causes irritation and skin burns.

INGESTION

Burns on mouth and lips, sour acrid taste, severe gastrointestinal irritation, nausea, vomiting, bloody diarrhea, difficult swallowing, severe abdominal pains, thirst, acidemia, difficult breathing, convulsions, collapse, shock, possible death.

SUMMARY OF CHRONIC HAZARDS

Bronchitis, pulmonary, chemical burns and chemical pneumonitis.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Skin disorders, eye problems, impaired liver and kidney, or respiratory function.

Section 4 -- FIRST AID MEASURES

If INHALED: If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

If on SKIN: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

If in EYES: Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician immediately.

If SWALLOWED: If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Section 5 -- FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL
None	N/A	N/A

EXTINGUISHING MEDIA

Use agents appropriate for surrounding fires.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus (SCBA) and other protective clothing. Hazardous decomposition products possible (see Section 10). Evacuate immediate area.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Material can generate explosive hydrogen gas on contact with certain metals.

Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Evacuate area and keep upwind until gas has dispersed. Dike spill. Dilute with water fog (direct application of alkali may cause violent splattering). Neutralize with sodium bicarbonate. Persons not wearing protective equipment and clothing should be restricted from areas of spills or leaks until clean up has been completed.

Section 7 -- HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep container closed and upright when not in use. Do not store near heat, sparks, or open flames. This product will attack glass, concrete and certain metals. Store only in plastic containers. DO NOT USE METAL CANS.

OTHER PRECAUTIONS: Refrain from splashing product when pouring. Avoid all contact with skin or clothing. Empty containers may contain residues and vapors. KEEP OUT OF REACH OF CHILDREN.

Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION (SPECIFY TYPE): In confined poorly ventilated areas, use NIOSH/MSHA approved air purifying or supplied air purifying or supplied air respirators.

VENTILATION - LOCAL EXHAUST: Acceptable

SPECIAL: N/A

MECHANICAL (GENERAL): Acceptable

OTHER: N/A

PROTECTIVE GLOVES: Wear acid resistant gloves (neoprene, PVC, butyl rubber).

EYE PROTECTION: Full-face shield and chemical splash goggles (ANSI Z-87.1 or equivalent).

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Acid resistant vinyl or polyethylene coated coveralls.

WORK/HYGIENIC PRACTICES: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

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Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES
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BOILING POINT: >212 @ 760mm Hg
SPECIFIC GRAVITY (H2O = 1): 1.27
VAPOR PRESSURE (mm Hg): 3.4 @ 68 F (20 C)
MELTING POINT: N/A
VAPOR DENSITY (AIR = 1): 1
EVAPORATION RATE (ETHYL ACETATE = 1): <1
APPEARANCE/ODOR: Clear Green Liquid / Irritating Odor
SOLUBILITY IN WATER: Soluble
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Section 10 -- STABILITY AND REACTIVITY
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STABILITY: Stable

CONDITIONS TO AVOID: Incompatibles

INCOMPATIBILITY (MATERIALS TO AVOID): Liberates explosive hydrogen gas when reacting with chlorides and stainless steel. Can react violently with sodium tetrahydroborate. Exothermic reactions with aldehydes, amines, amides, alcohols

and glycols, azo-compounds, carbamates, esters, caustics, phenols and cresols,

ketones, organophosphates, epoxides, explosives, combustible materials, unsaturated halides, and organic peroxides. Phosphoric acid forms flammable gases with sulfides, mercaptans, cyanides and aldehydes. It also forms toxic fumes with cyanides, sulfide, fluorides, organic peroxides, and halogenated organics. Mixtures with nitromethane are explosive.

HAZARDOUS DECOMPOSITION PRODUCTS: Phosphorus oxides may form when heated to decomposition.

HAZARDOUS POLYMERIZATION: Will not occur.
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Section 11 -- TOXICOLOGY INFORMATION
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CHRONIC HEALTH HAZARDS

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.
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TOXICOLOGY DATA

Ingredient Name
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Phosphoric Acid

Oral-Rat LD50:1530 mg/kg

Inhalation-Rat LC50:N/D

Citric Acid

Oral-Rat LD50:N/D

Inhalation-Rat LC50:N/D
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Section 12 -- Ecological Information
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ECOLOGICAL DATA

Ingredient Name

Phosphoric Acid

Food Chain Concentration Potential	None
WATERFOWL TOXICITY	N/A
BOD	None
AQUATIC TOXICITY	138 ppm/24 hr/mosquito

fish/TLm

Citric Acid

Food Chain Concentration Potential	None
WATERFOWL TOXICITY	N/A
BOD	40%
AQUATIC TOXICITY	894 ppm/4 hr/goldfish/killed/fresh

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Section 13 -- DISPOSAL CONSIDERATIONS

Waste Classification: Corrosive(D002)

Disposal Method: Neutralization

RCRA classified hazardous waste. Dispose of absorbed materials and liquid waste in accordance with all local, state and federal regulations.

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Section 14 -- TRANSPORTATION INFORMATION

DOT: Corrosive Liquid, n.o.s., (Phosphoric & Citric Acid), Class 8, UN 1760, PG II, ERG#154

OCEAN (IMDG): Corrosive Liquid, n.o.s., (Phosphoric & Citric Acid), Class 8, UN 1760, PG II, IMDG#8147, EMS#8-15

AIR (IATA): Corrosive Liquid, n.o.s., (Phosphoric & Citric Acid), Class 8, UN 1760, PG II, ERG#154

WHMIS (CANADA): Class E

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Section 15 -- REGULATORY INFORMATION

REGULATORY DATA

Ingredient Name

Phosphoric Acid

SARA 313	Yes
TSCA Inventory	Yes
CERCLA RQ	5,000 lb.
RCRA Code	N/A

Citric Acid

SARA 313	No
TSCA Inventory	Yes
CERCLA RQ	N/A
RCRA Code	N/A

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Section 16 -- OTHER INFORMATION

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). The information herein is given in good faith, but no warranty, expressed or implied is made. Consult RectorSeal for further

information: (713) 263-8001