MATERIAL SAFETY DATA SHEET

MSDS 0231

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
Nickel-Safe Ice Machine Cleaner

PRODUCT CODES
88312, 88314

CHEMICAL FAMILY
Inorganic Acids

USE
Ice Machine Cleaner

HMIS CODES

Health	3
Flammability	0
Reactivity	0
PPI	D

MANUFACTURER'S NAME
The RectorSeal Corporation
2601 Spenwick Drive
Houston, Texas 77055 USA

EMERGENCY TELEPHONE NO.
Chemtrec 24 Hours
(800)424-9300 USA
(703)527-3887 International

DATE OF VALIDATION
July 25, 2012

TECHNICAL SERVICE TELEPHONE NO.
(800)231-3345 or (713)263-8001

DATE OF PREPARATION
July 25, 2012

Section 2 -- HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
OSHA Hazards
Corrosive
TARGET ORGANS
Liver, Blood, Bone marrow
GHS CLASSIFICATION
PHYSICAL HAZARDS
N/A
HEALTH HAZARDS
Acute toxicity, Oral (Category 5)
Acute toxicity, Inhalation (Category 2)
Skin corrosion (Category 1B)
Serious eye damage (Category 1)

GHS Label elements, including precautionary statements
Pictogram: Corrosive
Signal Word: Danger
Hazard Statements
H303 - May be harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
Precautionary Statements
P260 - Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284 - Wear respiratory protection.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor/ physician.

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 pneumonitus.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

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

Section 3 -- COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT: Phosphoric Acid
PERCENTAGE BY WEIGHT: 30
CAS NUMBER: 7664-38-2
EC# : 231-633-2

INGREDIENT: Citric Acid
PERCENTAGE BY WEIGHT: 3
CAS NUMBER: 5949-29-1
EC# : 201-069-1

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

EXTINGUSING 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

INGREDIENT	UNITS
Phosphoric Acid	
ACGIH TLV	1 mg/m3
OSHA PEL	1 mg/m3
Citric Acid	
ACGIH TLV	N/D
OSHA PEL	N/D

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.

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT:	>212 @ 760mm Hg
SPECIFIC GRAVITY (H20 = 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
FLASH POINT:	None
LOWER EXPLOSION LIMIT:	N/D

UPPER EXPLOSION LIMIT: N/D
VOLATILE ORGANIC COMPOUNDS(VOC)Content
(Theoretical Percentage By Weight): 0% or (0 g/L)

Section 10 -- STABILITY AND REACTIVITY

STABILITY: Stable
CONDITIONS TO AVOID: Incompatables
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.

Section 11 -- TOXICOLOGY INFORMATION

CHRONIC HEALTH HAZARDS
No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

TOXICOLOGY DATA
Ingredient Name

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

Section 12 -- Ecological Information

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

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.

Section 14 -- TRANSPORTATION INFORMATION

DOT: UN1760, Corrosive Liquid, n.o.s., (Phosphoric & Citric Acid), Class 8, PG III, ERG#154
Gallons and less: Consumer Commodity, ORM-D
OCEAN (IMDG): UN1760, Corrosive Liquid, n.o.s., (Phosphoric & Citric Acid), Class 8, PG III, EMS-No: F-A, S-B
Gallons and less: UN1760, Corrosive Liquid, n.o.s., (Phosphoric & Citric Acid), Class 8, PG III, Limited Quantity or (LTD-QTY)
AIR (IATA): UN1760, Corrosive Liquid, n.o.s., (Phosphoric & Citric Acid), Class 8, PG III, ERG#154

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

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