Parker Hannifin Corporation
Sporlan Division
206 Lange Drive
Washington, MO 63090
U.S.A.

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **Metal Safe/Nickel Safe Ice Machine Cleaner**

Product Code(s) : Metal Safe:H420-16OZ (P/N 475068); H421 (P/N 4750071)
Nickel Safe: NS-16OZ (P/N 475077-003); NS1G (P/N 475078-003)

Recommended use of the chemical and restrictions on use

: Professional Use Only: Ice machine cleaning.

Chemical family : Aqueous acid solution

Name, address, and telephone number of the supplier:

Parker Hannifin Corporation - Sporlan Division

206 Lange Drive
Washington, MO, U.S.A.
63090

Name, address, and telephone number of the manufacturer:

Refer to supplier

Supplier's Telephone # : (636)-239-1111

24 Hr. Emergency Tel # : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR). WHMIS classification:
Class E (Corrosive Material)

OSHA: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). OSHA Classification:

Corrosive to metals: Category 1
Eye damage/irritation: Category 1
Skin corrosion/irritation: Category 1

.

Label elements

The following label information is applicable only to the United States according to OSHA Regulations (29 CFR 1910.1200) (Hazcom 2012):

Signal Word

DANGER!

Hazard statement(s)

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

Precautionary statement(s)

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Keep only in original container.
Wash thoroughly after handling.
Do not breathe mists.
Wear protective gloves/clothing and eye/face protection.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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/physician.
Absorb spillage to prevent material damage.

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

Dispose of contents/container in accordance with local/regional/national/international regulations.

The following label information is applicable only to Canada according to the Canadian Controlled Products Regulations (CPR/WHMIS):

DANGER!

May be corrosive to metals. Contact with metals may release small amounts of flammable hydrogen gas. Corrosive material. May cause severe burns to all routes of exposure.

Use in a well-ventilated area. Wear protective gloves/clothing and eye/face protection. Do not ingest. Do not breathe vapours or spray mist. Keep away from bases, metals and other incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. If breathing stopped, begin artificial respiration. If breathing is difficult, administer oxygen. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTRE or doctor/physician.

Other hazards

Other hazards which do not result in classification:

Ingestion may cause severe irritation to the mouth, throat and stomach. Contact with metals may release small amounts of flammable hydrogen gas. Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin. May cause respiratory tract irritation.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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Chemical name	CAS #	Concentration
Phosphoric acid	7664-38-2	**14.0 - 40.0**
Glycolic acid	79-14-1	**10.0 - 15.0**

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

Ingestion : Do NOT induce vomiting. Have victim rinse mouth with water, then give one to two glasses of water to drink. Seek immediate medical attention/advice. Never give anything by mouth if victim is unconscious.

Inhalation : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Seek immediate medical attention/advice.

Skin contact : Take off all contaminated clothing immediately. Immediately flush skin with gently flowing, running water for at least 20 minutes. Do not rub area of contact. Seek immediate medical attention/advice. Wash contaminated clothing before reuse.

Eye contact : Immediately flush eyes with running water for at least 20 minutes. Seek immediate medical attention/advice.

Most important symptoms and effects, both acute and delayed

: May cause serious eye irritation or damage. Symptoms may include redness, pain, tearing and conjunctivitis. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death. May cause severe irritation to the nose, throat and respiratory tract. Symptoms may include coughing, choking and wheezing.

Indication of any immediate medical attention and special treatment needed

: Immediate medical attention is required. Causes burns. Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Unsuitable extinguishing media

: Do not use direct stream of water, which can result in a dust cloud and explosion hazard.

Special hazards arising from the substance or mixture / Conditions of flammability

: Not considered flammable. Burning produces obnoxious and toxic fumes.

Flammability classification (OSHA 29 CFR 1910.106)

: Non-flammable.

Explosion Data: Sensitivity to Mechanical Impact / Static Discharge:

: Not expected to be sensitive to mechanical impact or static discharge.

Hazardous combustion products

: Carbon dioxide and carbon monoxide. phosphorus oxides

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Special fire-fighting procedures

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: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. A full-body chemical resistant suit should be worn. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Dike for water control. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading.

Methods and material for containment and cleaning up

: Remove all sources of ignition. Ventilate area of release. Stop spill or leak at source if safely possible. Dike for water control. Neutralize with sodium bicarbonate or a mixture of soda ash/slaked lime. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Refer to Section 13 for disposal of contaminated material.

Special spill response procedures

: If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
US CERCLA Reportable quantity (RQ): Phosphoric acid (5000 lbs / 2270 kg)

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

: Use in a well-ventilated area. Wear chemically resistant protective equipment during handling. See Section 8 for additional personal protection advice when handling this product. Do not ingest. Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Transfer only required amounts to work area. When mixing with water, stir small amounts in slowly. During preparation or dilution, always add liquid slowly to water and with constant stirring. When diluting, always add the product to water. Never add water to the product. Keep away from extreme heat and flame. Keep away from bases, metals and other incompatibles. Keep container tightly closed when not in use. Wash thoroughly after handling.

Conditions for safe storage : Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store in corrosion-resistant containers. Corrosive to metals (type 1100 and 3003 aluminum alloys, type 1020 carbon steel, 400 series stainless steels, unalloyed cast irons and copper alloys). Attacks porcelain, earthenware and glass above 200°C / 390°F. May attack some plastics (e.g. Nylon, chlorinated polyethylene).

Incompatible materials : Strong bases; Strong oxidizing agents; strong reducing agents; Metals.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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Exposure Limits:

Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Phosphoric acid	1 mg/m³	3 mg/m³	1 mg/m³	N/Av
Glycolic acid	N/Av	N/Av	N/Av	N/Av

Exposure controls

Ventilation and engineering measures
: Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Confirmation of which type of respirator is most suitable for the intended application should be obtained from respiratory protection suppliers. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02.

Skin protection : Wear chemically protective gloves (impervious), boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear impervious gloves, such as butyl rubber. Unsuitable material: polyvinyl alcohol. Advice should be sought from glove suppliers.

Eye / face protection : Chemical splash goggles must be worn when handling this material. A full face shield may also be necessary.

Other protective equipment : Other equipment may be required depending on workplace standards. An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations
: Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove and wash contaminated clothing before re-use. Do not take contaminated clothing home.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Metal Safe: Clear colourless liquid.

Nickel Safe: Clear green liquid.

Odour : Odorless.

Odour threshold : N/Av

pH : 1 - 2

Melting/Freezing point : N/Av

Initial boiling point and boiling range
: 130°C (266°F)

Flash point : N/Ap

Flashpoint (Method) : N/Ap

Evaporation rate (BuAe = 1) : >1

Flammability (solid, gas) : Not applicable.

Lower flammable limit (% by vol.)
: N/Ap

Upper flammable limit (% by vol.)
: N/Ap

Oxidizing properties : None known.

Explosive properties : Not explosive

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Vapour pressure	:	N/Av
Vapour density	:	N/Av
Relative density / Specific gravity	:	1.3
Solubility in water	:	soluble
Other solubility(ies)	:	None known.
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution	:	N/Av
Auto-ignition temperature	:	N/Ap
Decomposition temperature	:	Not available.
Viscosity	:	N/Av
Volatiles (% by weight)	:	0%
Volatile organic Compounds (VOC's)	:	0%
Absolute pressure of container	:	N/Ap
Flame projection length	:	N/Ap
Other physical/chemical comments	:	None.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not normally reactive. Contact with metals may release small amounts of flammable hydrogen gas. Corrosive in contact with metals
Chemical stability	:	Stable under the recommended storage and handling conditions prescribed.
Possibility of hazardous reactions	:	Hazardous polymerization does not occur. Contact with metals may release small amounts of flammable hydrogen gas.
Conditions to avoid	:	Avoid heat and open flame. Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials.
Incompatible materials	:	Strong bases; Strong oxidizing agents; strong reducing agents; Metals.
Hazardous decomposition products	:	None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation	:	YES
Routes of entry skin & eye	:	YES
Routes of entry Ingestion	:	YES
Routes of exposure skin absorption	:	NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: Inhalation of high concentrations of fumes or mists may cause severe irritation and corrosive damage to the nose, throat and upper respiratory tract. Symptoms may include coughing, choking and wheezing.

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Sign and symptoms ingestion

: May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death.

Sign and symptoms skin : This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Classification: Skin corrosion/irritation: Category 1
Causes severe skin burns and eye damage. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring.

Sign and symptoms eyes : This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Classification: Eye damage/irritation: Category 1
Causes serious eye damage.

Potential Chronic Health Effects

: Chronic skin contact with low concentrations may cause dermatitis.

Mutagenicity : Not expected to be mutagenic in humans.

Carcinogenicity : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: Not expected to cause reproductive effects.

Senitization to material : Not expected to be a skin or respiratory sensitizer.

Specific target organ effects : Target Organs: Eyes, skin, respiratory system and digestive system.

The substance or mixture is not classified as specific target organ toxicant, single exposure.
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Irritancy : Corrosive.

Medical conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory disorders.

Synergistic materials : Not available.

Toxicological data : The calculated ATE values for this mixture are:

ATE oral =5006.88
ATE inhalation (mists) = 15.75 mg/L

	LC_{50}(4hr)	LD_{50}	
Chemical name	**inh, rat**	**(Oral, rat)**	**(Rabbit, dermal)**
Phosphoric acid	N/Av	4400 mg/kg (75%)	> 1260 mg/kg (85%)
Glycolic acid	2.52 mg/L	1357 mg/kg	N/Av

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. Harmful to aquatic life.

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Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Phosphoric acid	7664-38-2	75.1mg/L (Japanese ricefish)	N/Av	None.
Glycolic acid	79-14-1	168ppm (Fathead minnow)	N/Av	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Phosphoric acid	7664-38-2	376 mg/L (Water flea)	N/Av	None.
Glycolic acid	79-14-1	168mg/L (Water flea)	N/Av	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Phosphoric acid	7664-38-2	32mg/L (Green algae)	N/Av	None.
Glycolic acid	79-14-1	44mg/L (Green algae)	20mg/L (Green algae)	

Persistence and degradability
: Biodegradation is not applicable to inorganic materials.

Bioaccumulation potential : No data is available on the product itself.

Mobility in soil : No data is available on the product itself.

Other Adverse Environmental effects
: No additional information.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle waste according to recommendations in Section 7. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Methods of Disposal : Dispose in accordance with all applicable federal, state, provincial and local regulations.

RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	UN1760	Corrosive liquid, n.o.s. (Sodium hydroxide, Glycolic Acid)	8	II	

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49CFR/DOT Additional information	May be shipped as a limited quantity in receptacles not exceeding 1.0 Liters, according to 49 CFR 173.154.				
TDG	UN1760	CORROSIVE LIQUID, N.O.S. (Sodium hydroxide; Glycolic acid)	8	II	
TDG Additional information	May be shipped as Limited Quantity when transported in containers no larger than 5.0 Litres; in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.				
ICAO/IATA	UN1760	Corrosive liquid, n.o.s. (Sodium hydroxide, Glycolic Acid)	8	II	
ICAO/IATA Additional information	Refer to the appropriate Packing Instruction, prior to shipping this material.				

Special precautions for user : None known.

Environmental hazards : See ECOLOGICAL INFORMATION, Section 12.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Phosphoric acid	7664-38-2	Yes	5000 lb/ 2270 kg	N/Av	No	N/Ap
Glycolic acid	79-14-1	Yes	N/Ap	N/Av	No	N/Ap

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Phosphoric acid	7664-38-2	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes
Glycolic acid	79-14-1	No	N/Ap	No	No	No	No	No	No

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

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This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Phosphoric acid	7664-38-2	231-633-2	Present	Present	(1)-422	KE-27427	Present	HSR001545, HSR001571 (dilution)
Glycolic acid	79-14-1	201-180-5	Present	Present	(2)-1346	KE-20315	Present	HSR003541

SECTION 16. OTHER INFORMATION

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
DOT: Department of Transportation
EPA: Environmental Protection Agency
HMIS: Hazardous Materials Identification System
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
IUCLID: International Uniform ChemicaL Information Database
MA: Massachusetts
MN: Minnesota
MSHA: Mine Safety and Health Administration
N/Ap: Not Applicable
N/Av: Not Available
NFPA: National Fire Protection Association
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References : Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2015 (Chempendium, RTECs, HSDB, INCHEM).
European Chemicals Agency, Classification Legislation, 2015
Material Safety Data Sheet from manufacturer
OECD- The Global Portal to Information on Chemical Substances - eChemPortal, 2015

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Preparation Date (mm/dd/yyyy) : 05/29/2012

Reviewed Date SDS (dd/mm/yyyy) : 10/04/2015

Revision No. : 2

Revision Information : All (format change)

Other special considerations for handling : Provide adequate information, instruction and training for operators.

HMIS Rating : *- Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

Health: 3 *Flammability:* 0 *Reactivity:* 0

NFPA Rating : 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

Health: 3 *Flammability:* 0 *Instability:* 0 *Special Hazards:* None.

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Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com	

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