SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

This SDS is used for the following Arcot products:

Arcot #8679 SeaClean Rust Remover (and other versions of 8679)
Arcot #9679 PHOS-BOSS Acid-Based Rust Remover (and other versions of 9679)

Manufacturer: Arcot Manufacturing Corporation, 2950 Mowery Road, Houston, Texas, U.S.A. 77045
Emergency Response Telephone: 1-800-633-8253 (Account #9390)
Arcot Customer Service Telephone: 713-413-9700
Website: www.ArcotManufacturing.com

Recommended Use: For industrial and commercial use only.
Restrictions On Use: Do not use on wood, stone (including marble), grout, concrete, painted, sensitive or untested surfaces. Follow label instructions and do not use in a manner inconsistent with the listed use. Do not mix with other chemicals.

2. HAZARDS IDENTIFICATION

GHS Hazard Classification (in accordance with 29 CFR 1910, OSHA HCS):
Health Hazards:

Acute toxicity, oral	Category 4
Acute toxicity, inhalation	Category 2
Skin corrosion/irritation	Category 1
Eye damage/ irritation	Category 1
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation

Physical Hazards:

Corrosive to metals	Category 1

Label elements

Signal Word: **DANGER**

Hazard Statements:

H290: May be corrosive to metals.
H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H318: Causes serious eye damage.
H330: Fatal if inhaled.
H335: May cause respiratory irritation.

Precautionary statements:

Prevention:

P233: Keep container tightly closed.
P234: Keep only in original container.
P260: Do not breathe fume, gas, mist, vapors or spray.
P262: Do not get in eyes, on skin, or on clothing.
P264: Wash skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P280: Wear protective gloves, protective clothing and eye protection or face protection.
P284: In case of inadequate ventilation, wear respiratory protection.

Response:

P305 + P351 + P338 + P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor or an ophthalmologist.

P301 + P330 + P331 + P310: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a doctor.

P303 + P361 + P353 + P363: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse.

P304 + P340 + P310: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.

P314: Get medical attention if you feel unwell.
P320: Specific treatment is urgent.
P390: Absorb spillage to prevent material damage.

Storage:

P401: Store at temperatures between 50°F and 85°F.
P403: Store in a well-ventilated place.
P405: Store locked up.
P406: Store in a corrosive resistant container or one with a corrosive resistant inner liner.
P420: Store away from other materials.

Disposal:

P501: Dispose of contents and container to an approved waste disposal plant in accordance with applicable local, state, federal and international regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS #	Concentration
Water	7732-18-5	Proprietary
Hydrochloric Acid	7647-01-0	Proprietary
Phosphoric Acid	7664-38-2	Proprietary
Other ingredients are nonhazardous and/or considered trade secrets. However, all hazardous aspects of the ingredients and of this mixture are considered and included. The exact percentage of composition has been withheld as a trade secret. This SDS is used for a group of substantially similar mixtures.		

4. FIRST-AID MEASURES

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion: Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

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. Irritation of nose and throat. May cause respiratory irritation. Coughing.

Indication of immediate medical attention and special treatment needed: If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water fog. Foam. Dry chemical powder. 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.

Firefighting 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 advice: Do not mix with other chemicals. Avoid product contact with strong oxidizing agents, strong reducing agents, bases and certain metals. Avoid contact especially with chlorine bleach to prevent toxic chlorine gas formation and with strong alkalis to prevent violent reaction.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe vapors or spray mist. 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: This product is miscible in water. It is highly acidic and should not be released into the environment.

Large Spills: Stop the flow of material, if this is without risk. 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. Remaining material may be diluted with water and neutralized with dilute or weak base such as soda ash, sodium bicarbonate or lime, then absorbed and collected. 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.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

7. HANDLING AND STORAGE

Precautions for safe handling: See Sections 2 and 8. Read the SDS and label carefully and completely before handling this product. Do not get in eyes, on skin or on clothing. Do not taste or swallow. Do not breathe mist or vapor. Use only with adequate ventilation. Wear appropriate personal protective equipment. Avoid prolonged exposure. Transfer and storage systems should be compatible and corrosion resistant. Observe good hygiene practices. Do not eat, drink or smoke where the product is being used. Wash thoroughly after handling. This product reacts violently with bases liberating heat and causing spattering.

Conditions for safe storage, including any incompatibilities: Keep containers tightly closed, properly labeled and upright to prevent leakage. Store in corrosive resistant containers. Store locked up. Store in a cool, dry, shaded and well-ventilated place away from sunlight and extreme temperatures. Store at temperatures between 55°F and 85°F. Containers which are opened must be carefully resealed. Do not mix with other chemicals. Store away from alkalis and other incompatible materials (see section 10).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

Component Information:

U.S. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)		
Components	**Type**	**Value**
Hydrochloric Acid (CAS 7647-01-0)	Ceiling	7 mg/m^3 or 5 ppm
U.S. ACGIH Threshold Limit Values		
Components	**Type**	**Value**

Hydrochloric Acid (CAS 7647-01-0)	Ceiling	2 ppm
U.S. NIOSH: Pocket Guide to Chemical Hazards		
Components	**Type**	**Value**
Hydrochloric Acid (CAS 7647-01-0)	Ceiling	7 mg/m^3 or 5 ppm

Phosphoric Acid (CAS# 7664-38-2)	OSHA PEL	ACGIH TLV	NIOSH
STEL	Not established	3 mg/m^3	3 mg/m^3
TWA	1 mg/m^3	1 mg/m^3	1 mg/m^3

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. Eye wash facilities and emergency shower must be available when handling this product. It is recommended that users of this product perform a risk assessment to determine the appropriate PPE.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Wear safety glasses with side shields (or goggles) and a face shield. Do not get in eyes. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin protection:

Hand protection: Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other: Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection: Chemical respirator with organic vapor cartridge and full face piece.

Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations: Keep away from food and drink. 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	Clear
Physical state	Liquid
Form	Liquid
Color	Red, purple or other colors
Odor	Strong, pungent
Odor threshold	Not available
pH	< 1
Melting point/freezing point	Not available

Initial boiling point	Approximately 183.2 °F (84 °C)
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	Not available
Vapor density	Not available
Solubility	Soluble in water
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Density	Approximately 8.4 Lb. per gallon for 8679 and 8.9 Lb. per gallon for 9679
Specific gravity	Approximately 1 for 8689 and 1.06 for 9679

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressures in original containers. Mixing with alkalis or incompatible materials may cause splattering and release of large amounts of heat. Contact with chlorine bleach may release toxic chlorine gas.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: Hazardous polymerization does not occur.

Conditions to avoid: Do not mix with other chemicals. Contact with incompatible materials.

Incompatible materials: Bases. Oxidizing agents. Reducing agents. Metals. Amines. Alkalies. Organic compounds.

Hazardous decomposition products: Hydrogen chloride gas. Oxides of phosphorus. In the event of fire, see section 5.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Inhalation	Fatal if inhaled.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed.

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. Irritation of nose and throat. May cause respiratory irritation. Coughing.

Information on toxicological effects:
Acute toxicity: At high concentrations, vapors are anesthetic and may cause headache, fatigue, dizziness and central nervous system effects. Fatal if inhaled. Harmful if swallowed. May cause respiratory irritation.

Component	Species	Test Results
Hydrochloric Acid (CAS 7647-01-0)		
Acute		
Dermal LD 50	Mouse	1449 mg/kg
Inhalation LC50	Mouse Rat	1108 ppm, 1 Hours 3124 ppm, 1 Hours
Oral LD50	Rabbit	900 mg/kg

Phosphoric Acid (CAS# 7664-38-2)	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 1530 mg/kg • Comments: Data for phosphoric acid; Skin-Rabbit LD50 • 2740 mg/kg; **Irritation:** Eye-Rabbit • 119 mg/kg • Severe irritation, irreversible, burns (corrosive) • Comments: Data for phosphoric acid; Skin-Rabbit • 595 mg/kg 24 Hour(s) • Severe irritation, irreversible, burns (corrosive)

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

Eye damage/eye irritation: Causes serious eye damage.

Respiratory or skin sensitization:

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell 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 classified as a carcinogen by NTP, IARC, ACGIH or OSHA. No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, ACGIH, NTP or OSHA.

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

Specific target organ toxicity - single exposure: May cause respiratory irritation.

Specific target organ toxicity - repeated exposure: Not classified.

Aspiration hazard: Not an aspiration hazard.

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. The product is not classified as environmentally hazardous; however, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Hydrochloric Acid (CAS 7647-01-0)			
Aquatic			
Fish	LC50	Western mosquitofish (Gambusia affinis)	282 mg/l, 96 hours

Phosphoric Acid (CAS 7664-38-2)			
Aquatic			
Fish	LC50	Mosquitofish	138 mg/L, 96 hours

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

Bioaccumulative potential: No data available.

Mobility in soil: No data 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. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. DISPOSAL CONSIDERATIONS

See section 8.

Disposal Instructions: Collect and reclaim or dispose in sealed, corrosive resistant containers such as HDPE containers through a licensed disposal company. Unused product and its container must be disposed of as hazardous waste with an RCRA Hazardous Waste Code "C" Corrosive. Product is highly acidic. It may be neutralized using a weak base. Do not allow this material to drain into sewers or water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents and container in accordance with local, regional, national and international regulations.

Contaminated packaging: If emptied containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION

DOT UN1760, Corrosive liquids, n.o.s. (contains Phosphoric acid solution & Hydrochloric acid), 8, PGII.

Product is packaged strictly for ground transportation. Do not transport by air.

Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.

Reportable Quantity for Hydrochloric Acid = 5000 lbs.
Reportable Quantity for Phosphoric Acid = 5000 lbs.

15. REGULATORY INFORMATION

U.S. federal regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Phosphoric Acid.
CERCLA Hazardous Substance List (40 CFR 302.4): Hydrochloric Acid (CAS 7647-01-0) Listed.
Phosphoric Acid (CAS 7664-38-2) Listed.
SARA 304 Emergency release notification: Hydrochloric Acid (CAS 7647-01-0) 5000 LBS
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:

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
Hydrochloric Acid	7647-01-0	5000	500 lbs		

SARA 311/312 Hazardous chemical: Yes

SARA 313 (TRI reporting):

Chemical name	CAS number	% by wt.
Hydrochloric Acid	7647-01-0	< 30%

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Hydrochloric Acid (CAS 7647-01-0)
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Hydrochloric Acid (CAS 7647-01-0)
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)
Hydrochloric Acid (CAS 7647-01-0)
DEA Essential Chemical Code Number: Hydrochloric Acid (CAS 7647-01-0) 6545
Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))
Hydrochloric Acid (CAS 7647-01-0) < 30 %WV
DEA Exempt Chemical Mixtures Code Number: Hydrochloric Acid (CAS 7647-01-0) 6545

U.S. state regulations
U.S. - California Candidate Chemicals: Listed: Hydrochloric Acid (CAS 7647-01-0)
U.S. California Controlled Substances - CA Department of Justice
(California Health and Safety Code Section 11100): Not listed.

U.S. Massachusetts RTK - Substance List: Hydrochloric Acid (CAS 7647-01-0)
U.S. New Jersey Worker and Community Right-to-Know Act: Hydrochloric Acid (CAS 7647-01-0)
U.S. Pennsylvania Worker and Community Right-to-Know Law: Hydrochloric Acid (CAS 7647-01-0)
U.S. Rhode Island RTK: Hydrochloric Acid (CAS 7647-01-0)
U.S. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

16. OTHER INFORMATION

HMIS & NFPA Ratings: Health = 3 Fire = 0 Reactivity = 0

HMIS & NFPA ratings involve data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this SDS must be considered.

Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists
CAS = Chemical Abstract Service
GHS = Globally Harmonized System
HCS = Hazard Communication Standard
N.A. = Not Available or Not Applicable
NIOSH = National Institute for Occupational Safety & Health
PEL = Permissible Exposure Limit
RTECS = Registry of Toxic Effects of Chemical Substances
STEL = Short Term Exposure Limit
TLV = Threshold Limit Values
TWA = Time Weighted Average limit or ceilings (C) (exposure limit)

DISCLAIMER: The information contained herein is based upon data obtained from sources believed to be reliable and reflects our best professional judgment. Since it is impossible to anticipate all of the conditions under which our products may be used, we do not guarantee that the recommendations will be adequate for all individuals and situations. Each user of this product should determine the suitability of the product for his or her particular purpose and should comply with all federal, state and local regulations. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. We shall not be held liable for any damage resulting from handling or from contact with the above product or from improper use of our products. We do not provide any warranties, expressed or implied, and do not assume any responsibility for the accuracy or completeness of the data contained herein. This information is offered for your information, consideration, and investigation. You should satisfy yourself that you have all current data relevant to your particular use. We update SDS and labels on a regular basis. Please do not hesitate to contact us for current information.

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