10. STABILITY AND REACTIVITY

Hazardous Polymerization
Product can undergo hazardous polymerization. Avoid contact with strong mineral acids and strong organic acids.

Hazardous Decomposition
May form: hydrogen, silicates.

Chemical Stability
Stable.

Incompatibility
Avoid contact with: reactive metals such as aluminum and magnesium, strong mineral acids, strong organic acids, zinc.

11. TOXICOLOGICAL INFORMATION

No data

12. ECOLOGICAL INFORMATION

No data

13. DISPOSAL CONSIDERATION

Waste Management Information
Collect and add to large container of water. stir in slight excess of soda ash. Let stand 24 hours. Decant into another container, neutralize with 6M-hydrochloric acid. Flush down drain with large excess of water in accordance with applicable regulations. Deposit sludge in a landfill in accordance with local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution Company, IC&S Environmental Services Group at 800-637-7922.

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14. TRANSPORT INFORMATION

DOT Information - 49 CFR 172.101
DOT Description:
NON-REGULATED BY D.O.T.

Container/Mode:
55 GAL DRUM/TRUCK PACKAGE

NOS Component:
Not applicable

RQ (Reportable Quantity) - 49 CFR 172.101
Not applicable

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15. REGULATORY INFORMATION

US Federal Regulations
TSCA (Toxic Substances Control Act) Status
TSCA (UNITED STATES) The intentional ingredients of this product are listed.

CERCLA RQ - 40 CFR 302.4(a)
None listed

SARA 302 Components - 40 CFR 355 Appendix A
None

Section 311/312 Hazard Class - 40 CFR 370.2
Immediate(X) Delayed( ) Fire( ) Reactive( ) Sudden Release of Pressure( )

SARA 313 Components - 40

International Regulations

Inventory Status

AICS (AUSTRALIA) The intentional ingredients of this product are listed.

DSL (CANADA) The intentional ingredients of this product are listed.

ECL (SOUTH KOREA) The intentional ingredients of this product are listed.

EINECS (EUROPE) The intentional ingredients of this product are listed.

ENCS (JAPAN) The intentional ingredients of this product are listed.

State and Local Regulations

California Proposition 65

None

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
AMEROID RSR

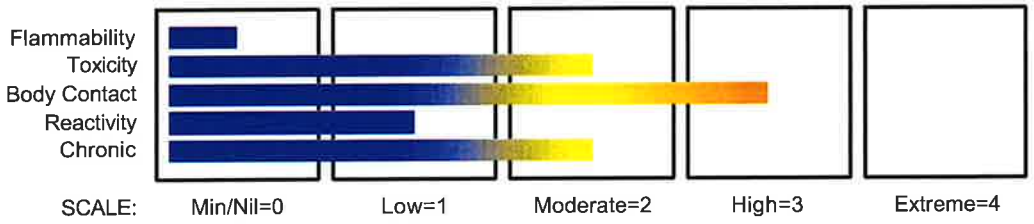
PROPER SHIPPING NAME
PHOSPHORIC ACID, SOLUTION

PRODUCT USE
■ Used according to manufacturer's directions.

SUPPLIER
Company: Drew Marine
Address:
100 South Jefferson Road
Whippany, NJ 07891
United States of America
Telephone: 973 526- 5700.
Emergency Tel:**CHEMWATCH: from within the US and Canada: 877- 715- 9305 From outside the US and Canada: 800 2436 2255 (1- 800- CHEMCALL) or call 613 9573 3112**

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS



GHS Classification

Acute Aquatic Hazard Category 2
Acute Toxicity (Oral) Category 4
Chronic Aquatic Hazard Category 2
Metal Corrosion Category 1
Serious Eye Damage Category 1
Skin Corrosion/Irritation Category 1C

EMERGENCY OVERVIEW

HAZARD
DANGER

Determined by Chemwatch using GHS criteria:

H411	Toxic to aquatic life with long lasting effects
H302	Harmful if swallowed
H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H401	Toxic to aquatic life
H318	Causes serious eye damage

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combustible substances.
In such an event consider:
• foam.
• dry chemical powder.
• carbon dioxide.

FIRE FIGHTING
• Alert Emergency Responders and tell them location and nature of hazard.
• Wear full body protective clothing with breathing apparatus.
When any large container (including road and rail tankers) is involved in a fire,
consider evacuation by 800 metres in all directions.

FIRE/EXPLOSION HAZARD
• Non combustible.
• Not considered to be a significant fire risk., carbon dioxide (CO_2), phosphorus oxides (POx), other pyrolysis products typical of burning organic material.

FIRE INCOMPATIBILITY
■ None known.

Personal Protective Equipment
Breathing apparatus.
Chemical splash suit.

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS
■ Environmental hazard - contain spillage.
• Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.
• Check regularly for spills and leaks.
• Clean up all spills immediately.
• Avoid breathing vapors and contact with skin and eyes.

MAJOR SPILLS
■ Environmental hazard - contain spillage.
• Clear area of personnel and move upwind.
• Alert Emergency Responders and tell them location and nature of hazard.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING
• DO NOT allow clothing wet with material to stay in contact with skin.
• Avoid all personal contact, including inhalation.
• Wear protective clothing when risk of exposure occurs.

SUITABLE CONTAINER
■ DO NOT use aluminum or galvanized containers.
Check regularly for spills and leaks.
• Lined metal can, Lined metal pail/drum
• Plastic pail.
For low viscosity materials
• Drums and jerricans must be of the non-removable head type.
• Where a can is to be used as an inner package, the can must have a screwed enclosure.

STORAGE INCOMPATIBILITY
■ Phosphoric acid:
• is a medium-strong acid which produces violent reaction with bases
• may produce violent react when water is added to the concentrated form
• reacts violently with solutions containing ammonia or bleach, azo compounds, epoxides and other polymerisable compounds
• reacts, possibly violently with amines, aldehydes, alkanolamines, alcohols, alkylene oxides, amides, ammonia, ammonia hydroxide, calcium oxide, cyanides, epichlorohydrin, esters, halogenated organics, isocyanates, ketones, oleum, organic anhydrides, sodium tetraborate, sulfides, sulfuric acid, strong oxidisers, vinyl acetate
• forms explosive mixtures with nitromethane
• at elevated temperatures attacks many metals producing hydrogen gas
• at room temperature does not attack stainless steel, copper or its alloys
• attacks glass, ceramics, and some plastics, rubber and coatings.
• Inorganic acids are generally soluble in water with the release of hydrogen ions. The resulting solutions have pH's of less than 7.0.
• Inorganic acids neutralize chemical bases (for example: amines and inorganic hydroxides) to form salts.
• Reacts vigorously with alkalis.
Reacts with mild steel, galvanized steel / zinc producing hydrogen gas which may form an explosive mixture with air.
• Phosphates are incompatible with oxidizing and reducing agents.

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Source	Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³	Notes
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	phosphoric acid (Phosphoric acid)		1		3	
Canada - Prince Edward Island Occupational Exposure Limits	phosphoric acid (Phosphoric acid)		1		3	TLV Basis: upper respirator y tract, eye & skin irritation
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	phosphoric acid (Phosphoric acid)		1			
Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	phosphoric acid (Phosphoric acid)		1		3	
US - Oregon Permissible Exposure Limits (Z- 1)	phosphoric acid (Phosphoric acid)		1			
Canada - Northwest Territories Occupational Exposure Limits (English)	phosphoric acid (Phosphoric acid)		1		3	
Canada - Nova Scotia Occupational Exposure Limits	phosphoric acid (Phosphoric acid)		1		3	TLV Basis: upper respirator y tract, eye & skin irritation

The following materials had no OELs on our records
• alcohols C12- 15 ethoxylated: CAS:68131- 39- 5

PERSONAL PROTECTION




RESPIRATOR
Type AB-P Filter of sufficient capacity

EYE
• Chemical goggles.
• Full face shield.

HANDS/FEET
■ Wear chemical protective gloves, eg. PVC.
• When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.
Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:
• frequency and duration of contact,
• chemical resistance of glove material,
• glove thickness and
• dexterity
Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739).
• When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended.
• When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.
• Contaminated gloves should be replaced.
Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

OTHER
• Overalls.
• PVC Apron.

ENGINEERING CONTROLS
■ General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in special circumstances.
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This material and its container must be disposed of as hazardous waste.
Avoid release to the environment.
Refer to special instructions/ safety data sheets.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
phosphoric acid	HIGH		LOW	HIGH

Section 13 - DISPOSAL CONSIDERATIONS

■ Puncture containers to prevent re-use and bury at an authorized landfill.
Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.
A Hierarchy of Controls seems to be common - the user should investigate:
• Reduction
• Reuse
• Recycling
• Disposal (if all else fails)
This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.
DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.
• Recycle wherever possible.
• Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.

Section 14 - TRANSPORTATION INFORMATION

DOT:

Symbols:	None	Hazard class or Division:	8
Identification Numbers:	UN1805	PG:	III
Label Codes:	8	Special provisions:	A7, IB3, N34, T4, TP1
Packaging: Exceptions:	154	Packaging: Non- bulk:	203
Packaging: Exceptions:	154	Quantity limitations: Passenger aircraft/rail:	5 L
Quantity Limitations: Cargo aircraft only:	60 L	Vessel stowage: Location:	A
Vessel stowage: Other:	None		

Hazardous materials descriptions and proper shipping names:
Phosphoric acid solution

Air Transport IATA:

ICAO/IATA Class:	8	ICAO/IATA Subrisk:	None
UN/ID Number:	1805	Packing Group:	III
Special provisions: Cargo Only	A3		
Packing Instructions: Passenger and Cargo	821	Maximum Qty/Pack: Passenger and Cargo	60 L
Packing Instructions: Passenger and Cargo Limited Quantity	819	Maximum Qty/Pack: Passenger and Cargo Limited Quantity	5 L
Packing Instructions:	Y819	Maximum Qty/Pack:	1 L

Shipping Name: PHOSPHORIC ACID, SOLUTION

Maritime Transport IMDG:

IMDG Class:	8	IMDG Subrisk:	None
UN Number:	1805	Packing Group:	III
EMS Number:	F-A , S-B	Special provisions:	223
Limited Quantities:	5 L	Marine Pollutant:	Yes

Shipping Name: PHOSPHORIC ACID SOLUTION

continued...

2607

CIL
MATERIAL SAFETY DATA SHEET

Ashland

Date Prepared: 01/09/98
Date Printed: 05/11/00
MSDS No: 999.0001162-006.003

CIL CORROSION INHIBITOR

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity
Product Name: CIL
General or Generic ID: MIXTURE - SODIUM SILICATE

Company
Ashland
Ashland Distribution Co. &
Ashland Specialty Chemical Co.
P. O. Box 2219
Columbus, OH 43216
614-790-3333

Emergency Telephone Number:
1-800-ASHLAND (1-800-274-5263)
24 hours everyday

Regulatory Information Number:
1-800-325-3751

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)
SODIUM SILICATE	1344-09-8	25.0- 40.0

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3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye
Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

Skin
Can cause skin irritation. Symptoms may include redness and burning of skin, and other skin damage.

Continued on next page

Skin

Remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention. Launder clothing before reuse.

Swallowing

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation

If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

Note to Physicians

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: skin, lung (for example, asthma-like conditions).

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5. FIRE FIGHTING MEASURES

Flash Point

Not applicable

Explosive Limit

Not applicable

Autoignition Temperature

No data

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection
Chemical splash goggles and face shield (8" min.) in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. (Consult your industrial hygienist.)

Skin Protection
Wear resistant gloves such as: neoprene, To prevent skin contact, wear impervious clothing and boots., Other protective equipment: eyewash station, emergency shower..

Respiratory Protections
If overexposure has been determined or documented, a NIOSH/MSHA jointly approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators under specified conditions. (See your safety equipment supplier.) Engineering or administrative controls should be implemented to reduce exposure.

Engineering Controls
Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below level of overexposure (from known, suspected or apparent adverse effects).

Exposure Guidelines
Component

SODIUM SILICATE (1344-09-8)
No exposure limits established

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9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point
(for product) 214.0 - 216.0 F (101.1 - 102.2 C) @ 760 mmHg

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10. STABILITY AND REACTIVITY

Hazardous Polymerization
Product can undergo hazardous polymerization. Avoid contact with strong mineral acids and strong organic acids.

Hazardous Decomposition
May form: hydrogen, silicates.

Chemical Stability
Stable.

Incompatibility
Avoid contact with: reactive metals such as aluminum and magnesium, strong mineral acids, strong organic acids, zinc.

11. TOXICOLOGICAL INFORMATION

No data

12. ECOLOGICAL INFORMATION

No data

13. DISPOSAL CONSIDERATION

Waste Management Information
Collect and add to large container of water. stir in slight excess of soda ash. Let stand 24 hours. Decant into another container, neutralize with 6M-hydrochloric acid. Flush down drain with large excess of water in accordance with applicable regulations. Deposit sludge in a landfill in accordance with local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution Company, IC&S Environmental Services Group at 800-637-7922.

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International Regulations

Inventory Status

AICS (AUSTRALIA) The intentional ingredients of this product are listed.

DSL (CANADA) The intentional ingredients of this product are listed.

ECL (SOUTH KOREA) The intentional ingredients of this product are listed.

EINECS (EUROPE) The intentional ingredients of this product are listed.

ENCS (JAPAN) The intentional ingredients of this product are listed.

State and Local Regulations

California Proposition 65

None

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

sales@mariteam.dk
+45 3918 6644

HDE-777

HDE-777 heavy duty degreaser is a low-foaming solvent emulsifier cleaner used for cleaning marine equipment that is seriously contaminated with fuel or lubricating oils.

Oily deposits in steam boilers are a result of oil contamination of the feedwater. Most often, the source of the oil is some part of the condensate and return system. Fuel oil and cargo oils may contaminate the condensate via leaks in the oil heaters or tank heating coils. Lubricating oils may be picked up from steam-driven machinery.

FEATURES

- Concentrated liquid
- Effective dispersant
- Solvent-emulsion
- Low foaming
- Non-corrosive
- Contains no chlorinated hydrocarbons

BENEFITS

- Can be used dilute
- Cost effective
- Easy to apply
- Prevents redeposition of soil
- Penetrates and emulsifies oily deposits
- Suited to recirculating cleaning methods
- Can be used in most marine equipment
- Does not require neutra
- Does not promote flash
- Will not generate acid c
- Enhanced alternative to

PACKAGING

HDE-777 heavy duty emulsifier is available in 200-liter (PCN 0056425) containers.