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Material Safety Data Sheet

SPI #02469-AB/#02469-MB Victawet® Surface Release Agent

Section 1: Identification

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Date Effective.......... January 8, 2009
                         (most recent revision)


Chemical Name/Synonyms... Sodium salt of
                         2-ethylhexyl acid phosphate



Chemical family......... Salt of alkyl acid phosphate


Emergencies
Contacting CHEMTREC:

24 Hour Emergency Use Only #'s......
Worldwide phone: 1-(703)-527-3887
Worldwide FAX:   1-(703)-741-6090
Toll-free phone: 1-(800)-424-9300 USA only


Product or Trade Name.... Victawet for Electron Microscopy

Synonym ................. Phosphoric acid, e-ethylhexyl ester,
                         sodium salt

CAS #.................... Mixture

Chemical Formula......... Mixture

Product Use.............. Surfactant/wetting agent for applications
                         in the electron microscope laboratory.
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Hazardous Material Information System USA			National Fire Protection Association USA	
	Health	2		
	Fire Hazard	1		
	Reactivity	0		
	Personal Protection			

NFPA Ratings:
Health: 2 Flammability: 1 Reactivity: 0 Other: No Data

Section 2 Composition/Information on Ingredients

Substance Description	%	CAS#
Polyphosphoric acids, (2-ethylhexyl) esters, sodium salts	22-27	68334-32-7
Phosphoric acid, bis(2-ethylhexyl) ester, sodium salt	45-50	141-65-1
Diphosphoric acid, bis(2-ethylhexyl) ester, disodium salt	0.001-1.500	75212-49-6
Water	0.1-2	7732-18-5
Phosphoric acid, momosodium salt	0.001-1.500	7558-80-7
2-ethylhaxanol, sodium salt	0.001-1.500	Not assigned

Section 3: Hazard Identification

Appearance and Odor:
Light tan colored fluffy solid material

Statement of Hazards
Warning!

Causes skin and eye burns.
May cause respiratory tract irritation.

Avoid Contact with Skin or Clothing

Avoid breathing vapor, mist, aerosol, or fumes
Keep container tightly closed
Use with adequate ventilation
Wash thoroughly

Fire and Explosion Hazards

This product is not defined as flammable or combustible. However, it may decompose under fire conditions to give off toxic materials such as phosphorus oxides and flammable organic substituents. The product is self-extinguishing once the source of ignition is removed. The material is not sensitived to static discharge or physical impact.

Primary Route of Exposure

Skin and eye contact are the primary routes of exposure to this product.

Inhalation Acute Exposure

Inhalation of fumes or vapors may be irritating to the upper respiratory system.

Skin Contact - ACUTE

Skin contact may cause severe irritation.

Eye Contact - ACUTE

Eye contact may cause irritation.

Ingestion - ACUTE

Irritation to the mouth, throat, esophagus and stomach may be caused by ingestion of this material. It may also cause digestive tract irritation, vomiting, abdominal pain and diarrhea.

Carcinogenicity:

IARC: No
NTP: No
OSHA: No
AGCIH: No

Section 4: First Aid Measures

Inhalation First Aid

If inhaled, remove victim to fresh air. If not breathing, give artificial respiratory. If breathing becomes difficult, give oxygen and get medical attention.

Skin Contact - First Aid

Immediately flush skin with plenty of water while removing contaminated clothing and shoes. Get medical attention immediately. Wash contaminated clothing before reuse. Thoroughly clean or destroy contaminated shoes.

Eye Contact - First Aid

Immediately flush eyes with large quantities of running water for a minimum of 15 minutes. If the victim is wearing contact lenses, and if easy to do, remove them. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eye and lids with water. DO NOT let the victim rub eyes(s). Do not attempt to neutralize with chemical agents. Oils or ointments should not be used at this time. Get medical attention.

Ingestion - First Aid

Get medical attention by calling a physician or a poison control center immediately. Give victim plenty of water to drink. Do not induce vomiting unless directed to do so as directed by medical personnel. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs, keep head below hips to reduce risk of aspiration. Get medical attention immediately.

Medical Conditions Aggravated

There are no data available that address medical conditions that are generally recognized as being aggravated by exposure to this product.

Note to Physician

Attending physician should treat exposed patients symptomatically. Chemical burns on the skin should be treated as thermal burns. Flush eyes with buffered or plain irrigating solutions. If any ulceration or conjunctival injury is present, have an ophthalmologist examine the patient.

Section 5: Fire Fighting Measures

Flash Point

99°C (199.40°F) Cleveland Open Cup (COC)

Auto Ignition Temperature:

No data available

Upper Explosion Limit:

No data available

Lower Explosion Limit:

No data available

Extinguishing Media

Use water fog or spray, dry chemical, foam or carbon dioxide extinguishing agents.

Fire Fighting Procedures:

As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Evacuate non-essential personnel from the fire area. Fire fighters should wear full-face, self-contained breathing apparatus and impervious protective clothing. If possible, remove containers from the fire area. High pressure water may spread product from broken containers increasing contamination or fire hazard.

Contaminated buildings, areas and equipment must not be used until they are properly decontaminated. Dike fire water for later disposal. Do not allow contaminated water to enter waterways.

Fire and Explosion Hazards

This product is not defined as flammable or combustible. However, it may decompose under fire conditions to give off toxic materials such as phosphorous oxides and flammable organic substituents. The product is self- extinguishing once the source of ignition is removed.

Other Fire and Explosion Hazards

No other explosion hazards of this product are known.

Hazardous Products/Combustion

Under fire conditions this product may support combustion and decompose to give off flammable alkene and phosphoric oxides as well as carbon oxides. The product is self-extinguishing once the source of ignition is removed. It is not sensitive to static discharge.

Section 6: Accidental Release Measures

Clean up:

Stop source of spill. Dike area to prevent spill from spreading. Soak up liquid with suitable absorbent such as clay, sawdust, or kitty litter. Sweep up absorbed material and place in a chemical waste container for disposal. CAUTION! The spill area may be slippery. Cover spill area with a slurry of powdered Alconox® or if not available, then household detergent and water. Use a still brush to work detergent into cracks and

crevices. Allow to stand for two to three minutes, then flush with water. Dike the waste water for later disposal.

Do not flush spilled material to the sewer or the environment.

Section 7: Handling and Storage

Handling:

Keep away from heat, sparks, and open flames. Wear protective equipment including chemical goggles and rubber gloves to avoid contact with eyes and skin. Avoid inhalation of vapors, mists, and fumes. Personnel handling this product should wash thoroughly after contact with this product.

Storage:

Store away from foodstuffs or animal feed. Containers should be stored in a cool, dry, well-ventilated area away from flammable or incompatible materials and sources of heat or flame. Exercise due caution to prevent damage to or leakage from the container.

To prevent acid build-up, do not store the product at temperatures above 49°C (120°F). This product is normally shipped in polyethylene-lined fiber cartons in bulk quantities and glass bottles in gram size quantities.

Maximum Storage Temperature:

49°C (120°F)

General comments:

Containers should not be opened until ready for use.

Section 8: Exposure Controls and Personal Protection

Respiratory Protection:

Use a NIOSH-approved organic vapor acid gas respirator (OVAG) with dust , mist, and fume filters to reduce potential for inhalation exposure if use conditions generate vapor, mist, or aerosol and adequate ventilation (e.g., outdoor or well ventilated area) is not available.

Where exposure potential necessitates a higher level of protection use a NIOSH-approved, positive-pressure, pressure demand, air-supplied respirator.

When using respirator cartridges or canisters, they must be changed frequently (following each use or at the end of the work shift) to assure breakthrough exposure does not occur.

Skin Protection:

Skin contact with this product should be prevented through the use of suitable protective clothing, gloves, and footwear selected with regard for the use condition exposure potential.

Eye Protection:

Eye contact with the liquid or its aerosol should be prevented through the use of chemical safety goggles or a face shield selected with regard for use condition exposure potential.

Ventilation Protection:

At elevated processing temperatures, or in the event that use conditions generate airborne vapor, aerosol or mist, the material should be handled in a well-ventilated area. Where adequate ventilation is not available, use a NIOSH-approved organic vapor/acid gas (OVAG) respirator with dust, mist, and fume filter to reduce exposure. Where exposure potential under use conditions is greater, use a NIOSH-approved, positive-pressure air-supplied respirator.

Other Protection:

During the development of safe handling procedures, consideration should be given to the need for cleaning of equipment and piping systems to render them nonhazardous before maintenance and repair activities are performed. Waste resulting from these procedures should be handled in an environmentally safe manner.

Applicable Exposure Limits:

Other than any exposure limits which may be displayed in Section 8, there are no exposure limits applicable for this product or its components.

Exposure Limits/Regulatory Information (in mg/m³)

Substance Description	Regulatory Agency	PEL	TLV	TWA	STEL	CEIL
Phosphoric acid, mono(2-ethylhexyl ester) sodium salt						
	OSHA	N/D	N/D	N/D	N/D	N/D
	ACGIH	N/D	N/D	N/D	N/D	N/D
	NIOSH	N/D	N/D	N/D	N/D	N/D
	Supplier	N/D	N/D	N/D	N/D	N/D

Exposure Limit Descriptions:

CEIL	Ceiling Exposure Limit
PEL	Permissible Exposure Limit
STEL	Short Term Exposure Limit

TLV	Threshold Limit Value
TWA	Time Weighted Average
N/D	Not Determined

Section 9: Physical and Chemical Properties

Vapor pressure (mm Hg):	No data available
Vapor density (air=1):	No data available
Evaporation rate:	No data available
Volatile %:	No data available
Boiling point:	No data available
Odor threshold (ppm):	No data available
Specific gravity:	No data available
Bulk density:	9.7 pounds/gallon @ 25°C (77°F)
Solubility in water:	< 1% @ 25°C (77°F)
Solubility in other solvents:	Not determined
Coefficient of oil/water:	No data available
Pour point:	No data available
Melting point:	No data available
pH factor:	7.2 (0.5% solution)
Cloud point:	No data available
Flash point:	93°C (199°F)
Flash method:	Cleveland Open Cup (COC)
Upper explosion limit:	No data available
Lower explosion limit:	No data available
Auto ignition temperature:	No data available
Other:	Viscosity: >100,000 cps @ 38°C(100°F)

Section 10: Stability and Reactivity

Chemical Stability:

The product is stable at ambient temperatures and atmospheric pressures. It is not self-reactive and has an almost infinite shelf life under sealed conditions. It is not sensitive to physical impact or static discharge.

Loss of residual moisture will occur at temperatures above 100°C (212°F). The residue will emit a flammable alkene if

heated to temperatures above 160°C (320°F).

Incompatibilities

This product is incompatible with strong oxidizers, strong acids, and strong alkalis. It hydrolyses slowly at ambient temperatures in acidic or alkaline aqueous solutions.

Polymerization

Hazardous polymerization is not expected to occur.

Decomposition:

Under fire conditions the product supports combustion and decomposes to give off toxic materials such as phosphorous oxides and oxides of carbon.

Conditions to avoid:

Under wet alkaline or acidic condition, prolonged storage at elevated temperatures should be avoided.

See Section 8, "Storage".

Section 11: Toxicological Information

Toxicological - Inhalation

Inhalation toxicity data are not available for this product. However, inhalation may be expected to cause irritation to the upper respiratory system.

Inhalation Chronic Exposure

There is no specific information available for this product. However, over-exposure may cause irritation of the nose, throat and upper respiratory tract.

Toxicological - Dermal

Dermal toxicity data is not available for this product. However, skin contact, especially if prolonged or repeated, may cause moderate to severe irritation.

Skin Contact - Chronic

Skin contact may cause severe irritation. Prolonged or repeated contact may cause defatting of the skin with drying and cracking.

Toxicological - Eye

The acute eye effects of this product have not been determined. However, eye contact is expected to cause severe irritation or possibly burns.

Toxicological - Ingestion

The acute oral LD50 (rats) is > 4640 mg/Kg

Ingestion- Chronic

Chronic ingestion effects of this product are not known. However, ingestion can result in severe irritation or burns of the mouth, throat, esophagus and stomach.

Carcinogenicity/Mutagenicity

The carcinogenic/mutagenic properties of this product are not known.

Reproductive Effects:

The reproductive toxicity of this product is not known.

Neurotoxicity

The neurotoxic effects of this product are not known.

Other Toxicological Effects

The primary routes of exposure to ETHYLENE OXIDE are inhalation and skin contact. This material is an irritant to mucous membranes and corrosive to skin and eyes. It is a skin sensitizer. Ethylene oxide is toxic by ingestion, moderately toxic by inhalation. Poisoning may affect the liver, kidneys, blood, respiratory system and reproductive system. It is a central nervous system depressant. Poisoning may produce vomiting, recurring periodically for hours, accompanied by nausea and headache. Delayed central nervous system symptoms may occur with dyspnea, cyanosis, drowsiness, weakness, incoordination, disorientation and unconsciousness. Ethylene oxide has been classified as a carcinogen by the Occupational Safety and Health Administration (OSHA).

Target Organs:

Over-exposure to this product may effect the skin, eyes, and respiratory system.

Section 12: Ecological Information

Ecotoxicological Information:

The ecological toxicity of this product is not known.

Distribution:

Other ecological information on this product is not known.

Chemical Fate:

Chemical fate information on this product is not known.

Section 13: Disposal Considerations

Material that can not be used or chemically reprocessed should be disposed of in accordance with all applicable regulations. Product containers and/or bottles should be thorough emptied before disposal.

NOTE: State and local regulations as well as those in other countries might be more stringent than USA federal regulations.

Container Disposal:

Containers and bottles should be drained of all residual product before disposal. Empty containers should be disposed of in accordance with all applicable laws and regulations.

Section 14: Transport Information

Shipping Description

This product is not regulated for shipping.

Required Labels:

Not regulated for shipping; no transport labels required.

Environmental Hazardous Substance

This product does not contain an environmentally hazardous substance per **49 CFR 172.101,** Appendix.

Section 15: Regulatory Information

Component phosphoric acid, mono (2-ethyl hexyl) ester, sodium salt, is subject to the following:

Environmental List:

DSL	Domestic Substance List - Canada
TSCA	Toxic Substance Control Act - listed

Other Regulatory Information:

No other regulatory information is available on this product.

WHMIS Hazard Class

D-2B, E

Hazard Rating Source

HMIS

Health 2 Reactivity: 0 Flammability: 1

California Prop. 65:

Proposition 65 requires manufacturers or distributors of consumer products into the State of California to provide a warning statement if the product contains ingredients for which the State has found to cause cancer, birth defects or other reproductive harm. If this product contains an ingredient listed by the State of California to cause cancer or reproductive toxicity, it will be listed below:

No such components exist in this product.

Section 16: Other Information

Disclaimer of Liability:

Caution! Do not use SPI Supplies products or materials in applications involving implantation within the body; direct or indirect contact with the blood pathway; contact with bone, tissue, tissue fluid, or blood; or prolonged contact with mucous membranes. Products offered by SPI Supplies are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. SPI Supplies will not provide to customers making devices for such applications any notice, certification, or information necessary for such medical device use required by US FDA (Food and Drug Administration) regulation or any other statute. SPI Supplies and Structure Probe, Inc. make no representation, promise, express warranty or implied warranty concerning the suitability of these materials for use in implantation in the human body or in contact with internal body tissues of fluids.

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