

SAFETY DATA SHEET

Product(s): ZP-440 (Zinc Phosphate)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name ZP-440 (Zinc Phosphate)
Issue Date: 10/1/2015

Company Identification Supplier

Du-Lite Corporation
171 River Road
Middletown, CT 06457

Contact Phone: (860)347-2505
 8:00 AM to 5:00 PM

FOR CHEMICAL EMERGENCY, CALL CHEM-TEL (24 HOURS): 1-800-255-3924

SECTION 2: HAZARDS IDENTIFICATION

Hazardous Materials Identification System (HMIS) Ratings:

Health: 2 - Temporary or Minor
Flammability: 0 - None
Reactivity: 0 - None
Personal Protective Equipment: Goggles, face shield, apron, respirator and proper gloves.

Inhalation: Mist or vapor inhalation can cause irritation to the nose, throat, and upper respiratory tract. Severe exposures can lead to a chemical pneumonitis.

Ingestion: Corrosive. May cause sore throat, abdominal pain, nausea, and severe burns of the mouth, throat, and stomach. Severe exposures can lead to shock, circulatory collapse, and death. Phosphates are slowly and incompletely absorbed when ingested, and seldom result in systemic effects. Such effects, however, have occurred. Symptoms may include vomiting, lethargy, diarrhea, blood chemistry effects, heart disturbances and central nervous system effects. The toxicity of phosphates is because of their ability to sequester calcium.

Skin Contact: Corrosive. May cause redness, pain, and severe skin burns.

Eye Contact: Corrosive. May cause redness, pain, blurred vision, eye burns, and permanent eye damage.

Chronic Exposure: Repeated contact may cause corneal damage. Repeated skin or eye contact can cause skin and eye effects. May sequester calcium and cause calcium phosphate deposits in the kidneys.

Aggravation of Pre-existing Conditions: Persons with pre-existing skin disorders or impaired respiratory function may be more susceptible to the effects of the substance.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Material	PEL-STEL	TLV-TWA	CAS. NO.	EC. NO.	%
Zinc chloride	2 mg/m ³	1 mg/m ³	7646-85-7	231-592-0	1-35
Zinc phosphate	No Data	No Data	7779-90-0	231-944-3	1-30
Phosphoric acid	3 mg/m ³	1 mg/m ³	7664-38-2	231-633-2	30-50
Other non-hazardous ingredients	No Data	No Data	Not Available	Not Available	15-70

Risk Phrases: 22 Harmful if swallowed.
 34 Causes burns.
 50/53 Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

Safety Phrases: 2 Keep out of the reach of children.
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
 60 This material and container must be disposed of as hazardous waste.
 61 Avoid releases to the environment. Refer to special instructions/safety data sheets.

SECTION 4: FIRST AID MEASURES

Eyes: Immediately flush eyes with large amounts of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface.

Skin: Immediately wash contaminated areas with water. Remove contaminated clothing and footwear. Wash clothing and decontaminate footwear before reuse.

Inhalation: Remove person from contaminated area to fresh air.

Ingestion: Never give anything by mouth to an unconscious or convulsing person. If person is conscious, give large quantities of water or milk. Seek medical attention immediately.

SECTION 5: FIRE FIGHTING MEASURES**NFPA* Hazard Ratings:**

Health: 2 = Moderately toxic material. Will have one or both of the following characteristics: Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical treatment is given.

Flammability: 0 = Materials that will not burn.

Reactivity: 0 = Materials which in themselves are normally stable, even under fire exposure conditions, and which are not reactive with water.

Special Hazard: None

***National Fire Protection Association 704**

First Responders: Wear protective gloves, boots, goggles, and respirator. In case of fire, wear positive pressure breathing apparatus. Approach incident with caution.

Flash Point: None

Flammable or Explosive Limits: Lower: Nonflammable Upper: Nonflammable

Extinguishing Media: Use large quantities of water. Dike to contain.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Steps To Be Taken If Material Is Released Or Spilled: Avoid runoff into storm sewers and ditches that lead to waterways. If releases to environment are in CERCLA reportable quantities, report to the required agencies. Clean up spills immediately. Contain spill by collecting the liquid in a pit or holding behind a dam (sand or soil). Absorb with inert media and dispose of properly. Flush area with large amounts of water. Do not flush to sewer. Disposal of all materials shall be in full and strict compliance with all federal, state, and local regulations pertaining to phosphates and corrosive liquids.

Personnel Precautions: Personnel should wear protective clothing suitable for the task.

SECTION 7: HANDLING AND STORAGE

Work/Hygiene Practices: Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly with soap and water after handling phosphate solution, and before eating or smoking. Wear proper protective equipment. Remove clothing, if it becomes contaminated.

Ventilation Requirements: Provide sufficient mechanical and/or local exhaust.

Conditions For Safe Storage: Do not store in metal containers. Store in a tightly closed container. Protect containers from physical damage. Store in a cool, dry area in closed containers. Segregate from strong caustics and most metals. Reacts with most metals to form flammable hydrogen gas. Do not mix with oxidizers or solutions containing bleach or ammonia.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: In cases where overexposure to mist may occur, use any air purifying, and full face piece respirator with an N-100, R100 or P100 filter. Engineering or administrative controls should be implemented to control mist.

Eye: Face shield, goggles, or safety glasses with side shields should be worn. Provide eyewash in work area.

Gloves: Rubber or plastic gloves should be worn.

Other Protective Equipment: Normal work clothing covering arms and legs, and rubber, or plastic apron should be worn. Caution: If clothing becomes contaminated, wash off immediately.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor:	Colorless solution, odorless	Percent Volatile By Volume:	55% (as water)
Boiling Point, 760 mm Hg:	> 100°C	Evaporation Rate:	Same as water
Freezing Point, 760 mm Hg:	< -18°C	Specific Gravity:	1.53 ± 0.03
Vapor Pressure (mm Hg):	Not available	pH:	< 1.0
Solubility In Water % By Solution: Miscible in all proportions			

SECTION 10: STABILITY AND REACTIVITY

Stability: Under normal conditions, the material is stable.

Conditions To Avoid: Do not expose to extreme temperatures.

Incompatible Materials: Strong caustics, most metals, oxidizers, solutions containing bleach and/or ammonia. Soluble calcium salt solutions and hydrofluoric or hydrofluosilicic acid could cause precipitations.

Hazardous Decomposition: When involved in a fire, the material may form toxic fumes of phosphorous, and zinc oxides, hydrogen chloride and or chlorine.

Conditions Contributing To Hazardous Polymerization: Material is not known to polymerize.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: Irritating to body tissue with which it comes into contact.
 CAS# 7646-85-7: Oral, rat: LD50 = 350 mg/kg
 CAS# 7779-90-0: Intraperitoneal, mouse: LD50 = 552 mg/Kg
 CAS# 7664-38-2: Oral, rat: LD50 = 1530 mg/Kg

Chronic Toxicity: No known cases of chronic poisoning due to phosphate solutions have been reported.

Carcinogenicity: ACGIH, OSHA, NTP, IARC or CA Prop 65 has classified none of the components as a carcinogen.

Medical Conditions Generally Aggravated by Exposure: Phosphate solution will cause further irritation of tissue, open wounds, burns or mucous membranes.

SECTION 12: ECOLOGICAL INFORMATION

Environmental Fate:
 CAS# 7646-85-7: No information found.
 CAS# 7664-38-2: When released into the soil, this material may leach into groundwater. When released to water, natural water hardness minerals may readily reduce acidity. The phosphate, however, may persist indefinitely. During transport through the soil, phosphoric acid will dissolve some of the soil material, in particular, carbonate-based materials. The acid will be neutralized to some degree. However, significant amounts of acid will remain for transport down toward the groundwater table.

Environmental Toxicity:
 CAS# 7646-85-7: Toxic to aquatic organisms.
 CAS# 7664-38-2: Fish: Mosquito Fish: LC50 = 138 mg/L, 96 Hr
 This material is expected to be toxic to aquatic life in high concentrations.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Disposal of all materials shall be in full and strict compliance with all federal, state, and local regulations pertaining to phosphates. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. U.S. EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. When discarded, this material is a hazardous waste (D002, Compound/characteristic: Corrosivity) as that term is defined by the Resource, Conservation and Recovery Act (RCRA), 40 CFR 261.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

SECTION 14: TRANSPORT INFORMATION

USA (Land, D.O.T.) European Labeling in accordance with EC directive (Air, I.C.A.O.)	Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric acid) Hazard Class or Division: 8 ID Number: UN1760 Packing Group: III Product packaging containing >4000 lbs (300 gallons)
For USA (Land, D.O.T.) only	Proper Shipping Name: RQ, Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric acid, zinc chloride) Hazard Class or Division: 8 ID Number: UN1760 Packing Group: III
European Labeling in accordance with Road/Rail Transport (ADR/RID)	ID Number: UN1760 ADR/RID Class: 8 Packing Group: III Description of Goods: Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric acid) Hazard Identification No. 80
European Labeling in accordance with EC directive (Water, I.M.O.)	Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric acid) Class/Division: 8 ID Number: UN1760 Packing Group: III Marine Pollutant: No EmS: F-A, S-B

SECTION 15: REGULATORY INFORMATION

European and International Regulations:

Markings according to EU guidelines:

The product has been classified and marked in accordance with EU directives/ordinances on hazardous materials.

UN Number: UN1760

Chemical Ingredients Name

	<u>CAS NO.</u>	<u>EINECS</u>
Zinc chloride	7646-85-7	231-592-0
Zinc phosphate	7799-90-0	231-944-3
Phosphoric acid	7664-38-2	231-633-2

Code Letter And Hazard Designation Of The Product:

Hazard Symbols:



C: Corrosive
R: 22,34



N: Dangerous for the environment
R: 50/53

Risk Phrases:	22 Harmful if swallowed.
	34 Causes burns.
	50/53 Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.
Safety Phrases:	2 Keep out of the reach of children.
	26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
	45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
	60 This material and container must be disposed of as hazardous waste.
	61 Avoid releases to the environment. Refer to special instructions/safety data sheets.

CONTINUED SECTION 15: REGULATORY INFORMATION

US Federal Regulations:

Chemical Inventory Status – Part 1:

<u>Ingredient</u>	<u>CAS. NO.</u>	<u>TSCA</u>	<u>EC</u>	<u>Japan</u>	<u>Australia</u>
Zinc chloride	7646-85-7	Yes	Yes		
Zinc phosphate	7799-90-0	Yes	Yes		
Phosphoric acid	7664-38-2	Yes	Yes		

Chemical Inventory Status – Part 2 -- Canada:

<u>Ingredient</u>	<u>CAS. NO.</u>	<u>Korea</u>	<u>DSL</u>	<u>NDSL</u>	<u>PHIL</u>
Zinc chloride	7646-85-7	Yes	No		
Zinc phosphate	7799-90-0	Yes	No		
Phosphoric acid	7664-38-2	Yes	No		

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation (CPR, Canada) and the MSDS contains all of the information required by the CPR.

Federal, State & International Regulations – Part 1:

<u>Ingredient</u>	<u>CAS. NO.</u>	<u>SARA 302</u>		<u>SARA 313</u>	
		<u>RQ</u>	<u>TPQ</u>	<u>List</u>	<u>Chemical Catg.</u>
Zinc chloride	7646-85-7	No	No	Yes	Yes (Zinc compounds)
Zinc phosphate	7799-90-0	No	No	No	Yes (Zinc compounds)
Phosphoric acid	7664-38-2	No	No	No	N

Federal, State & International Regulations – Part 2:

<u>Ingredient</u>	<u>CAS. NO.</u>	<u>CERCLA</u>	<u>RCRA</u>	<u>TSCA 8(d)</u>
Zinc chloride	7646-85-7	Yes (RQ = 1000 lbs)	No	No
Zinc phosphate	7799-90-0	No	No	No
Phosphoric acid	7664-38-2	Yes (RQ = 5000 lbs)	D002	No

<u>Ingredient</u>	<u>CAS. NO.</u>	<u>CWC</u>	<u>TSCA 12(b)</u>	<u>CDTA</u>	<u>SARA 311/312</u>
Zinc chloride	7646-85-7	No	No		10,000 lbs
Zinc phosphate	7799-90-0	No	No		10,000 lbs
Phosphoric acid	7664-38-2	No	No		10,000 lbs

<u>Ingredient</u>	<u>CAS. NO.</u>	<u>Acute</u>	<u>Chronic</u>	<u>Fire</u>	<u>Pressure</u>	<u>Reactivity</u>	<u>Mixture/Liquid</u>
Zinc chloride	7646-85-7	Yes	Yes	No	No	No	Mixture
Zinc phosphate	7799-90-0	Yes	Yes	No	No	No	Mixture
Phosphoric acid	7664-38-2	Yes	Yes	No	No	No	Mixture

<u>Ingredient</u>	<u>CAS. NO.</u>	<u>Australian Hazchem Code</u>	<u>Poison Schedule</u>	<u>WHMIS</u>	<u>IDL*</u>
Zinc chloride	7646-85-7			E	Yes
Zinc phosphate	7799-90-0				No
Phosphoric acid	7664-38-2	2R	S5	E	Yes

* Canadian Ingredient Disclosure List

State

CAS# 7646-85-7 is found on the following state right to know lists: California, New Jersey, Pennsylvania, and Massachusetts.

CAS# 7799-90-0 is not found on the following state right to know lists: California, New Jersey, Pennsylvania, Wisconsin, and Massachusetts.

CAS# 7664-38-2 is found on the following state right to know lists: California, New Jersey, Pennsylvania, and Massachusetts.

SECTION 16: OTHER INFORMATION

NIOSH	National Institute for Occupational Safety and Health
MSHA	Mine Safety and Health Administration
OSHA	Occupational Safety and Health Administration
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
PEL	Permissible Exposure Limit
DSL/NDSL	The Domestic Substances and the Non-Domestic Substances List (Canada)
TLV-TWA	Threshold Limit Value-Time Weighted Average
CAS	Chemical Abstract Service
EINECS	Inventory of Existing Chemical Substances (European) (EC. No.)

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