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1-877-I-BUY-ZEP (428-9937)
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Material Safety Data Sheet

and Safe Handling and Disposal Information

Section 1. Chemical Product and Company Identification

Product name ZEP FS LIME REMOVER
Product use Lime Scale Remover
Product code 2445
Date of issue 01/03/05 **Supersedes** 12/11/97

Emergency Telephone Numbers

For MSDS Information:
Compliance Services 1-877-I-BUY-ZEP (428-9937)

For Medical Emergency
INFOTRAC: (877) 541-2016 Toll Free - All Calls Recorded

For Transportation Emergency
CHEMTREC: (800) 424-9300 - All Calls Recorded
In the District of Columbia (202) 483-7616

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Prepared By
Compliance Services Group
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Atlanta, GA 30318

Section 2. Composition, Information on Ingredients

Name of hazardous ingredients	CAS #	% by Weight	Exposure Limits
PHOSPHORIC ACID	7664-38-2	30 - 40	ACGIH / OSHA (United States). TWA: 1 mg/m ³ 8 hour(s). ACGIH TLV (United States). STEL: 3 mg/m ³ 15 minute(s).

Section 3. Hazards Identification

Acute Effects

Routes of Entry Dermal contact. Eye contact.

Skin Hazardous by the following route of exposure: of skin contact (corrosive). Skin contact may produce burns. Skin inflammation is characterized by itching, scaling, reddening or, occasionally, blistering.

Eyes Hazardous by the following route of exposure: of eye contact (corrosive). Direct contact with the eyes can cause irreversible damage, including blindness. Liquid, spray or mist may produce tissue damage, particularly to mucous membranes of eyes, mouth and respiratory tract.

Inhalation Hazardous by the following route of exposure: of inhalation (lung irritant). Inhalation of the spray or mist may produce severe irritation of respiratory tract, characterized by coughing, choking or shortness of breath. Over-exposure by inhalation may cause respiratory irritation.

Ingestion Harmful if swallowed. May cause burns to mouth, throat and stomach.

NOTE: MSDS data pertains to the product as delivered in the original shipping container(s). Risk of adverse health effects are lessened by following all prescribed safety precautions, including use of proper personal protective equipment.

HMIS

Health	3
Fire Hazard	0
Reactivity	0
Personal Protection	D

Carcinogenic Effects

Ingredients: Not listed as carcinogen by OSHA, NTP or IARC.

Chronic Effects

Repeated or prolonged contact with spray or mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation, leading to frequent attacks of bronchial infection.

See Toxicological Information (section 11)

Section 4. First Aid Measures

Eye Contact

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin Contact

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops.

Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If affected person is conscious, give plenty of water to drink. Get medical attention immediately.

Section 5. Fire Fighting Measures

Flash Point	Not applicable	FLAMMABLE LIMITS	Not applicable
Flammability	Non-combustible.		
Fire hazard			
Fire-fighting procedures	Use an extinguishing agent suitable for the surrounding fire.		


**Section 6. Accidental Release Measures**

Spill Clean up	Put on appropriate personal protective equipment (see section 8). Absorb with an inert material and place in an appropriate waste disposal container. To clean the floor and all objects contaminated by this material, use [***]. detergent. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
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Section 7. Handling and Storage

Handling	Avoid contact with eyes, skin and clothing. Avoid breathing vapors, spray or mists. Keep container closed. Use only with adequate ventilation. Wash contaminated clothing before reusing. Do not reuse product container. Wash thoroughly after handling.
Storage	Keep container tightly closed and dry. Keep container in a cool, well-ventilated area. Store between 40°F - 120°F. Keep out of the reach of children.

Section 8. Exposure Controls, Personal Protection**Personal Protection**

Eyes	Chemical splash goggles or face shield.	Protective Clothing (Pictograms) 
Body	Wear appropriate protective clothing to prevent skin contact. Recommended: Rubber gloves. Neoprene gloves. Nitrile gloves. Chemical-resistant apron. Chemical resistant boots.	
Respiratory	Use with adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.	

Section 9. Physical and Chemical Properties

Physical State	Liquid.	Color	Clear. Colorless.
pH	1.0-1.5	Odor	Mild. Acidic.
Boiling Point	107.22°C (225°F)	Vapor Pressure	Not determined.
Specific Gravity	1.24 (Water = 1)	Vapor Density	Not determined.
Solubility	Easily soluble in the following materials: cold water, hot water.	Evaporation Rate	1 compared with Water
		VOC (Consumer)	0 (g/l).

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.	
Incompatibility	Reactive with oxidizing agents, alkalis.	
Hazardous Polymerization	Will not occur.	
Hazardous Decomposition Products	Carbon dioxide., Carbon monoxide. and other organic materials.. Emits toxic fumes when heated to decomposition.	

Section 11. Toxicological Information**United States****Acute toxicity****Section 12. Ecological Information**

Ecotoxicity	Not available.
Biodegradable/OECD	Not available.

Section 13. Disposal Considerations

Waste Information	Waste must be disposed of in accordance with federal, state and local environmental control regulations.	Waste Stream	Code: D002 Classification: - (Hazardous waste.) Origin: - (RCRA waste.)
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Consult your local or regional authorities.

Section 14. Transport Information

Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric Acid)		
DOT Classification	DOT Class 8: Corrosive liquid.	UN number	3264

NOTE: DOT classification applies to most package sizes. For specific container size classifications or for size exceptions, refer to the Bill of Lading with your shipment.

TDG Classification	TDG Class 8: Corrosive liquid.
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Section 15. Regulatory Information**U.S. Federal Regulations**

SARA 313 toxic chemical notification and release reporting:

No products were found.

Clean Water Act (CWA) 311: Phosphoric Acid RQ 5000 lbs. (2270 kg)

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

All Components of this product are listed or exempt from listing on TSCA inventory.

State Regulations**WHMIS (Canada)**

Class E: Corrosive liquid.

Section 16. Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.