Safety Data Sheet

Issue Date: 14-Jun-2013

Revision Date: 03-Mar-2020

Version 2

1. IDENTIFICATION

Product identifier

Product Name Heavy Duty Lime Lifter

Other means of identification

SDS # EMS-008

Product Code Product Numbers: EMS-5252

Recommended use of the chemical and restrictions on use

Recommended Use Delimer.

Details of the supplier of the safety data sheet

Supplier Address
EMS Detergent Services
390 Herky Street, Suite 4W
North Liberty, IA 52317

Emergency telephone number

Company Phone Number (319) 665-2216

Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Appearance Blue/purple liquid **Physical state** Liquid **Odor** Bitter

Classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

Signal Word
Warning

Hazard statements
Harmful if inhaled
Causes skin irritation
Causes serious eye irritation

Precautionary Statements - Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

IF ON SKIN: Wash with plenty of water and soap
Take off contaminated clothing and wash before reuse
If skin irritation occurs: Get medical advice/attention

IF INHALED: 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

Other hazards

Toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Phosphoric Acid	7664-38-2	15-25
Citric Acid	77-92-9	1-10

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

Eye Contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediately call a poison center or doctor/physician. Do not apply any medicated agents except on the advice from a physician.

Skin Contact

Immediately remove contaminated clothing and flush affected areas with plenty of water for at least 15 minutes. Wash contaminated clothing before reuse, discard footwear, which cannot be decontaminated. Get medical attention immediately. Do not apply any medicated agents except on the advice from a physician.

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. If breathing is irregular or stopped, administer artificial respiration. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Call a physician or poison control center immediately.

Ingestion

Wash mouth out with water provided the person is fully conscious. WARNING: never give anything by mouth to an unconscious person. Move victim to fresh air. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, lean the victim forward and keep head below hips to prevent breathing in vomitus and aspiration of liquid into the lungs. Keep airway clear and give more water. Seek medical attention immediately. If victim is not breathing and convulsing take to hospital immediately.

Most important symptoms and effects, both acute and delayed

Symptoms

Harmful if swallowed. Causes skin irritation. Causes serious eye irritation.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray may be used to keep fire exposed containers cool.

Unsuitable Extinguishing Media	Not determined.

Specific Hazards Arising from the Chemical

Reacts with metals to liberate flammable hydrogen gas. Formation of flammable gases with aldehydes, cyanides, mercaptins and sulfides. Mixtures with nitromethane are explosive.

Protective equipment and precautions for firefighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Evacuate non-essential personnel from area to prevent human exposure to fire, smoke, fumes or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental precautions

Environmental precautions	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.
Methods for Clean-Up	Clean up with absorbent, non-combustible material. Flush spill area with water, avoiding sewers, water courses, basements or confined areas. Ventilate closed spaces before entering. Do NOT reuse any product that has been spilled, as it could be contaminated or lessen the effectiveness of the product for its intended uses. Do not reuse container after spill.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection recommended in Section 8. Do not breathe vapors or spray mist. Wash face, hands and any exposed skin thoroughly after handling. Do not eat or drink while handling this material. Use non-sparking tools.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from heat, sparks, flame. Do not handle or store near any sources of ignition. Keep in properly labeled containers. Keep out of the reach of children. Keep separate from food items. Store locked up. Protect from direct sunlight.
Incompatible Materials	Oxidizing agents, combustible materials, metals and alkalis. Extremely corrosive in the presence of copper, stainless steel (304), stainless steel (316). Highly corrosive in the presence of aluminum. Non-corrosive in the presence of glass. Do NOT mix with Bleach or ammonia or solutions containing either bleach or ammonia.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Phosphoric Acid 7664-38-2	STEL: 3 mg/m^3 TWA: 1 mg/m^3	TWA: 1 mg/m^3 (vacated) TWA: 1 mg/m^3 (vacated) STEL: 3 mg/m^3	IDLH: 1000 mg/m^3 TWA: 1 mg/m^3 STEL: 3 mg/m^3
Citric Acid 77-92-9	-	15 mg / m3 (Total)	-

Appropriate engineering controls

Engineering Controls Apply technical measures to comply with the occupational exposure limits. Eyewash stations. Showers.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear chemical goggles and face shield.

Skin and Body Protection Wear suitable protective clothing. Acid resistant clothing to prevent skin contact. Rubber or acid resistant gloves.

Respiratory Protection Ensure adequate ventilation, especially in confined areas. In case of inadequate ventilation wear respiratory protection. Refer to 29 CFR 1910.134 for respiratory protection requirements.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Wash at the end of each work shift and before eating, smoking or using the toilet. Promptly remove clothing that becomes contaminated. Discard contaminated leather articles. Launder or discard contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Liquid

Appearance Blue/purple liquid

Odor Bitter

Color Blue/purple

Odor Threshold Not determined

Property	Values	Remarks • Method
pH	Not determined	
Melting point / freezing point	21 °C / 69.8 °F	
Boiling point / boiling range	158 °C / 316.4 °F	
Flash point	Not determined	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid-not applicable	

Property	Values	Remarks • Method
Flammability Limit in Air		
Upper flammability or explosive limits	Not determined	
Lower flammability or explosive limits	Not determined	
Vapor Pressure	Not determined	
Vapor Density	3.4	(air = 1)
Relative Density	1.685	
Water Solubility	Not determined	

Solubility in other solvents Not determined

Partition Coefficient Not determined

Autoignition temperature Not determined

Decomposition temperature Not determined

Kinematic viscosity Not determined

Dynamic Viscosity Not determined

Explosive Properties Not determined

Oxidizing Properties Not determined

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid
See Sec. 7 Handling & Storage.

Incompatible materials

Oxidizing agents, combustible materials, metals and alkalis. Extremely corrosive in the presence of copper, stainless steel (304), stainless steel (316). Highly corrosive in the presence of aluminum. Non-corrosive in the presence of glass. Do NOT mix with Bleach or ammonia or solutions containing either bleach or ammonia.

Hazardous decomposition products

Flammable gases, toxic fumes and violent exothermic reaction.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Avoid contact with eyes.

Skin Contact Avoid contact with skin.

Inhalation Harmful if inhaled.

Ingestion Do not ingest.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50

Phosphoric Acid 7664-38-2	= 1530 mg/kg (Rat)	= 2740 mg/kg (Rabbit)	> 850 mg/m^3 (Rat) 1 h
Citric Acid 77-92-9	= 3000 mg/kg (Rat) = 3 g/kg (Rat)	> 2000 mg/kg (Rat)	-

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Carcinogenicity Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

Oral LD50 6,620.22 mg/kg

Dermal LD50 9,665.40 mg/kg

ATEmix (inhalation-dust/mist) 2.51 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects.

Component Information

Chemical name	Algae/aquatic plants	Fish	Crustacea
Phosphoric Acid 7664-38-2		3 - 3.5: 96 h Gambusia affinis mg/L LC50	4.6: 12 h Daphnia magna mg/L EC50
Citric Acid 77-92-9		1516: 96 h Lepomis macrochirus mg/L LC50	120: 72 h Daphnia magna mg/L EC50

Persistence/Degradability
Not determined.

Bioaccumulation
There is no data for this product.

Mobility

Chemical name	Partition coefficient
Citric Acid 77-92-9	-1.72

Other Adverse Effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations. EMS Detergent Services Representatives pick up empty containers upon arrival if requested or seen during service. If not; dispose of in a permitted waste management facility following all local, state and federal regulations.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations. Since emptied containers retain product residues, all hazard precautions given in the data sheet must be observed before disposal of empty containers can occur.

California Hazardous Waste Status

Chemical name	California Hazardous Waste Status
Phosphoric Acid 7664-38-2	Corrosive

14. TRANSPORT INFORMATION

Note

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

Not regulated

IATA

Not regulated

IMDG

Not regulated

15. REGULATORY INFORMATION

International Inventories

Chemical name	TSCA	TSCA Inventory Status	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Phosphoric Acid	X	ACTIVE	X	X	X	X	X	X	X
Citric Acid	X	ACTIVE	X	X	X	X	X	X	X

Legend:

TSCA *- United States Toxic Substances Control Act Section 8(b) Inventory*

DSL/NDSL *- Canadian Domestic Substances List/Non-Domestic Substances List*

EINECS/ELINCS *- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

ENCS *- Japan Existing and New Chemical Substances*

IECSC *- China Inventory of Existing Chemical Substances*

KECL *- Korean Existing and Evaluated Chemical Substances*

PICCS *- Philippines Inventory of Chemicals and Chemical Substances*

AICS *- Australian Inventory of Chemical Substances*

US Federal Regulations

CERCLA

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Phosphoric Acid 7664-38-2	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Phosphoric Acid	5000 lb			X

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Phosphoric Acid 7664-38-2	X	X	X

16. OTHER INFORMATION

NFPA

Health Hazards
2

Flammability
1

Instability
0

Special Hazards
None

HMIS

Health Hazards
Not determined

Flammability
Not determined

Physical hazards
Not determined

Personal Protection
Not determined

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Revision Note: Updated formula

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet