1. Product and Company Identification

Product Name	:	**AD-K4**
Usage	:	Lime stone remover heating elements
Address	:	KSA -Khobar – NSH Tower 9th floor
Phone Number	:	+966 50 519 6007
E-mail	:	info@maracialsharq.com
Revision date	:	Jan, 2021.D
Distributed by	:	Maraci Alsharq

2. Hazards identification

2.1. Classification

Hazard Classification Product: : This product considered hazardous component by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) Considered non hazardous.

Health hazards : Cause skin corrosion, serious eye damage.

Physical hazards : May be corrosive to metal.

2.2. Label elements

Hazard pictograms: :

Signal Word : danger

Hazard Statements : Causes severe skin burns.
Harmful if swallowed
Causes serious eye damage
May cause respiratory irritation

Precautionary statements : Do not breathe dust, fume, gas, mist, vapors or spray.
. Avoid release to the environment.
Keep in original or other corrosion resistant container

Inhalation : May cause respiratory irritation

Ingestion : Causes burns to mouth and throat and stomach

Eye contact : Causes serious eye damage.

Skin contact : Causes skin irritation and damage

3. Composition/information on ingredients

Information on hazardous components

Active ingredients	Conc. %	CAS #
Phosphoric acid	30-40	7664-38-2

4. First-aid measures

Inhalation : Move affected person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues

Skin contact : Immediate medical attention is required. Wash off immediately with plenty of water for at least 15 minutes while removing all contaminated clothes and shoe, get medical attention if irritation persists after washing.

Eye contact : Remove affected person from source of contamination. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention

Ingestion : Never give anything by mouth to an unconscious person. Do not induce vomiting. Rinse mouth thoroughly with water. Get medical attention if any discomfort continues

Advice to Doctor : Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically

First Aid Facilities : First aid kit, emergency body shower and an emergency eye wash station with enough water to flow for at least 15 minutes.

5. Fire and explosion measures

Flammability : The product is not flammable.

Suitable Extinguishing Media : Use dry powder, in case of fire use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Hazardous combustion products : None under normal use.
If involved in a fire, upon decomposition, this product evolves carbon monoxide, carbon dioxide, and/or low weight hydrocarbons.

Fire and Explosion : Not combustible. Many reactions may cause fire or explosion. Gives off irritating or toxic fumes (or gases) in a fire. Risk of fire and explosion on contact with bases, combustible substances, reducing agents, water or organic material

Instructions to the Fire Fighters	:	Be sure to keep the other surrounding materials away from the fire, suppress (knock down) gases/vapors/mists with a water spray (fog) or foam. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Personal protective equipment	:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Standard procedure for chemical fires	:	Avoid breathing fire gases or vapors. Evacuate area. Wear protective appropriate equipment. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. If a leak or spill has not ignited, use water spray to disperse vapors' and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

6. Accidental release measures

Personal precautions	:	Ensure adequate ventilation. Evacuate personnel to safe areas, Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit, they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.
Methods for Containment & cleaning up	:	Small spills: Stop leak if safe to do so. Contain spillage, and then collect with noncombustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations. Flush away traces with water. If necessary: Neutralize the residue with a dilute solution of sodium carbonate. Large spills: Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapors. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labeled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.
Environmental Precautions	:	Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

7. Handling and storage

Precautions for safe handling	:	Keep container tightly closed in a dry and well-ventilated place. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear goggles, face shield, gloves, apron & footwear impervious to material. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Use only with adequate ventilation and in closed systems
Conditions for safe storage, including any incompatibilities	:	Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from sources of heat and/or ignition. Store locked up. Store in corrosive resistant container with a resistant inner liner or coated fiberboard drum using a strong polyethylene inner package. Keeps container standing upright. Keep containers closed when not in use. Keep away from incompatibles such as oxidizing agents, combustible materials, metals, alkalis. May corrode metallic surfaces Keep out of the reach of children **Incompatible materials**: Chlorine bleach. Incompatible with strong acids and bases. Incompatible with oxidizing agents. Chlorine-based bleaching agents. Ammonia. Rust removers. Vinegar. Contact with metals may evolve flammable hydrogen gas.

8. Exposure controls and personal protection

Exposure Guidelines	:	**Phosphoric acid** ACGIH/OSHA (UNITED STATES) TWA :1 mg/m3 8 hours ACGIH TLV (UNITED STATES) STEL :3 mg/m3 15 minutes
Eye/Face protection	:	Wear safety glasses with side shields (or goggles). Tight sealing safety goggles. Face protection shield.
Hand Protection	:	Wear protective gloves (Household rubber gloves.) Avoid contact the gloves after removing them **Latex** gloves are the least expensive and most common type of glove used in occupational settings but not very chemical-resistant. **Nitrile.** Nitrile gloves have a good, general chemical resistance **Neoprene.** Neoprene gloves provide excellent chemical resistance to a broad range of hazardous chemicals including acids **PVC (polyvinylchloride)** has better chemical resistance than other polymers to diluted oxidizing agents such as nitric, chromic, hydrochloric and phosphoric acids. **PVA (polyvinyl alcohol)** have a weak resistance.
Skin Protection	:	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Respiratory	:	Ensure adequate ventilation, especially in confined areas. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Other Personal Protective Wear	:	Wear appropriate clothing to prevent any possibility of skin contact.

Engineering Controls	:	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location
Hygiene measures	:	When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Take off all contaminated clothing and wash it before reuse. Wear suitable gloves and eye/face protection.

9. Physical and chemical properties

Appearance	:	Clear liquid
Color	:	Green
Odor	:	Natural
PH (1 % aqueous solution)	:	2.0 – 3.0
Density	:	1.1 -1.2 g/ml
Solubility in Water	:	Completely Soluble

10. Stability and reactivity

Chemical Stability	:	Stable under normal conditions
Condition to Avoid	:	Keep away from heat and sources of ignition. Avoid temperatures.
Incompatible Materials	:	Chlorine bleach. Incompatible with strong bases, oxidizing agents. Chlorine-based bleaching agents. Ammonia. Rust removers. Vinegar. Contact with metals may evolve flammable hydrogen gas.
Hazardous Decomposition Products	:	Decomposition products may include the following materials: Carbon oxides Nitrogen oxides (NOx) Sulfur oxides Oxides of phosphorus, Thermal decomposition can lead to release of irritating and toxic gases and vapors.
Hazardous Reactions	:	Contact with metal may produce hydrogen gas which is flammable. Can react with ammonia and other alkalis to neutralize them. This neutralization reaction produces large amounts of heat which can result in spattering of boiling acid and alkali. can also react with cyanides and other chemicals to produce poison gases (e.g., hydrogen cyanide).

11. Toxicological information

Acute Toxicity : **Phosphoric acid**
Oral LD50: 1530 mg/kg (Rat)
Dermal LD50: 2730 mg/kg (Rabbit)
Inhalation LC50: 850 mg/m3 (Rat) 1 h

Carcinogenicity : This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Information on likely routes of exposure : Inhalation, eye contact, skin contact, ingestion

Chronic Exposure : Health injuries are not known or expected under normal use.

Acute & Chronic Potential Health Effects : **Skin:** Causes severe skin burns.
Eyes: Causes serious eye damage
Ingestion: Causes digestive tract burns, Harmful if swallowed. Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract.
Inhalation: Avoid breathing vapors or mists. Inhalation of vapors in high concentration may cause irritation of respiratory system

Germ Cell Mutagenicity : The limited information located doesn't suggest that material is mutagenic.

Reproductive Toxicity : This material has been classified as non-hazardous

12. Ecological information

Ecotoxicity effects : Harmful to aquatic life with long lasting effects, Avoid contaminating waterways, may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms.
Water: Mild water pollutant (surface water). May cause eutrophication. Toxic to plankton. Slightly harmful to bacteria. Slightly harmful to aquatic organisms. pH shift
Mobility: mobile in soil.
Atmosphere: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Air pollutant.

Ecotoxicity of Phosphoric Acid:
acute toxicity:
Algae/aquatic plants No data available
Fish 3 - 3.5: 96 h Gambusia affinis mg/L LC50
Microtox No data available
Water flea 4.6: 12 h Daphnia magna mg/L EC50

Biodegradability : The substance is readily biodegradable

Bioaccumulation : The product does not contain any substances expected to be bio accumulating.

13. Disposal considerations

Waste Disposal	:	Do not contaminate ponds, waterways or ditches with chemical or used container. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility
Legislations	:	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Empty containers	:	This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Do not reuse container

14. Regulatory information:

TSCA Inventory Status	:	All ingredients are listed on the TSCA inventory. Complies
DSCL (EEC)	:	All ingredients are listed on the TSCA inventory. Complies
California Proposition 65	:	Not Listed
SARA 302	:	Not Listed
SARA 304	:	Not Listed
SARA 311	:	Acute health hazard, Chronic health hazard.
SARA 312	:	Acute health hazard, Chronic health hazard.
SARA 313	:	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)		: This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)
WHMIS Canada	:	Class E: Corrosive liquid.

15. Transport information

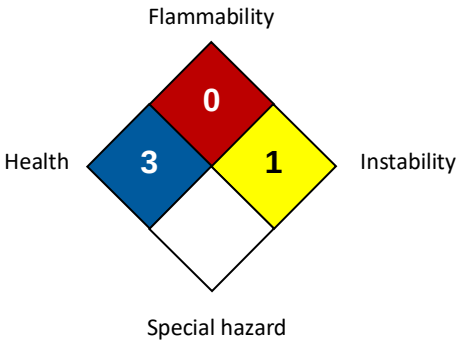
In accordance with DOT

UN-Number	:	UN1805
Description of the goods	:	Corrosive liquid, acidic, inorganic (Phosphoric acid)
Transport hazard class(es)	:	8
Packing group	:	III

Environmental hazards	:	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III. The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID)
Special precautions for user	:	Not applicable.
Hazard labels	:	8 - Corrosive

16. Other information

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARDS	0
PERSONAL PROTECTION	E

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High,
4 = Extreme, * = Chronic

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

The information of this MSDS is based on the present state of our knowledge and on current EEC and national laws. It is always the responsibility of the user to take all necessary steps in order to fulfill the demand laid down in the local rules and legislation. The information in this MSDS is meant as a description of the safety requirements of our product. It is not to be considered as guarantee of the product's properties.

References: Not available.
Other Special Considerations: Not available.