

Safety Data Sheet

According to 1907/2006/EC, article 31 (REACH), according to Directive 67/548/EEC (DSD) and according to 1272/2008/EC (CLP)

1 PRODUCT AND COMPANY IDENTIFICATION

KALIX CPN
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(office hours only)

Product Name: KALIX PH-Down
Recommended use of the Chemical and Restriction on Use: Solution to maintain optimum pH level for plant growth, when the pH of the nutrient gets too high. Not to be used as food or feed in any forms.
Product Description: PH Down solution
Date of Revision: 7/20/2022
Emergency Phone: 24 Hour Transportation Emergency Number – CHEMTREC 1-800-424-9300 U.S.A, Canada, International

2 HAZARD IDENTIFICATION

GHS Classification of the Substance/Mixture: Skin Corrosion – 1B

GHS Label Elements Pictogram Symbol:



DANGER

Hazard Statement: Causes severe skin burn or eye damage.

Precautionary Statement General: Read label before use. Keep out of reach of children. If medical advice is needed, have product container/label at hand.

Prevention: Wash hands thoroughly after handling. Wear protective gloves / protective clothing / eye protection / face protection. Do not breath dust / fume / gas / mist / vapors / spray.

Response:

Inhalation: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor.

Ingestion: Rinse mouth. Do not induced vomiting.

If on Skin (or hair): Take off immediately all contaminated clothing. Rinse skin with plenty of water. Wash contaminated clothing before use.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easily to do. Continue rinsing.

Storage: Store in a cool and dry place. Store locked up.

Disposal: Dispose of contents and container in accordance with local, regional, national, and international regulations.

Other Hazards (not covered in GHS): Not applicable.

Aggravation of Pre-existing Conditions: No information found.

3 COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS #	Weight %	Classification According to OSHA Law and Regulations
Phosphoric Acid	7664-38-2	60-90	Classified as toxic and hazardous substance on 29 CFR – 1910 Subpart Z: Table Z-1.

Substance / Mixture: Mixture.

Chemical Identity: Not Applicable.

The chemical identity of the remaining ingredients and their exact proportions used in the mixture are a proprietary trade secret (protected by the Confidential Business Information – CBI) and, within the current knowledge of the manufacturer and in the concentration applicable, they are not hazardous to health or the environment.

Non-hazardous components may or may not be listed. Carcinogens are listed when present at 0.1% or more; components which are otherwise hazardous according to OSHA are listed when present at 1.0% or more. This is not intended to be complete compositional disclosure. See Section 15 for applicable states right to know and other regulatory information.

4 FIRST AID MEASURES

Description of Necessary Measures:

Self-protection of First Aid:	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus.
General Information:	Remove contaminated clothing immediately. In case of accident or unwellness, seek medical attention immediately.
Inhalation:	Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention. Seek immediate medical attention.
Skin Contact:	Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.
Eye Contact:	Check for and remove any contact lenses. Flush immediately with water for at least 15 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.
Ingestion:	Do not induce vomiting. If vomiting occurs, lean victim forward to prevent breathing in vomit. Give a cup of water to dilute. Do

not give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention.

Most Important Symptoms / Effects, Acute and Delayed:

- Inhalation:** Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin Contact:** Immediate sever skin burn due to skin contact.
- Eye Contact:** If in eyes it causes sever eye irritation.
- Ingestion:** Irritating to mouth, throat, and stomach.

Indication of immediate medical attention and special treatment needed:

- Notes to Physician:** Probable mucosal damage may contraindicate the use of gastric lavage.
- Specific Treatment:** No specific treatment.

5 FIRE FIGHTING MEASURES

Suitable extinguishing media: Where fire is involved use any firefighting agent that is appropriate extinguishing media for material that is supplying the fuel to the fire.

Unsuitable extinguishing media: Do not use a water jet.

Specific hazards arising from the chemical: Decomposition products may include phosphorus oxides. Isolate and restrict area access. Persons who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special protective precautions for fire-fighters: No special protection is required.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

For Non-Emergency Personnel:	Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
For Emergency Personnel:	Put on appropriate personal protective equipment. If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and Materials for Containment and Clean Up:

Small Spill:	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Neutralize with lime slurry, limestone, or soda ash. Neutralize contamination area and flush with large quantities of water. Try to work upwind of spill. Absorb with an inert dry material and place in an appropriate waste disposal container. Do not touch or walk-through spilled material. Isolate hazard area and restrict access.
Large Spill:	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements, or confined areas. Do not absorb in sawdust or other combustible material. It may lead to a fire risk when it dries out. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g., sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

7 HANDLING AND STORAGE

Precautions for Safe Handling:

Advice on General Hygiene: Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking, and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Protective Measures: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for Safe Storage and any Incompatibilities: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool, and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8 EXPOSURE CONTROL / PERSONAL PROTECTION

Control Parameters:

Occupational Exposure Limits: Limits for air contaminants: 1 mg/m³ of air (Time weighted average, of 8 hrs.), according to OSHA's mandatory PELs in the Z-Tables.

Biological Limit Values: None

Appropriate Engineering Controls: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor, or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental Exposure Controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual Protection Measures:

Hygiene Measures: Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment (PPE): PPE should be used in conjunction with other control measures, including engineering controls, ventilation, and isolation. See Section 5 (Fire-fighting measures) of the SDS for specific fire/chemical PPE advice.

Eye / Face Protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases, or dusts.

Skin Protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory Protection: Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Thermal Hazards: None.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless Viscous Liquid	Specific Gravity (g/mL)	<1.58
Odor	Odorless	pH	<1
Odor Threshold	Odorless	Solubility in water	Miscible in Water
Melting Point	-17°C - 21°C (1-70°F)	Flammability (solid, gas)	Not Flammable
Boiling Point	135-158°C (275-316°F)	Evaporation Rate	Not Available
Flash Point	Not Applicable	Vapor Pressure @ 100°F, psi	5.65 - 216 mm Hg

10 STABILITY AND REACTIVITY

Reactivity: The product reacts with certain metals to form flammable hydrogen gas (in air).

Chemical Stability: Normally stable.

Possibility of Hazardous Reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to Avoid: Keep from freezing. Avoid contact with skin, eyes or ingestion.

Incompatible Materials: Reacts vigorously or violently with many organic and inorganic chemicals such as: acids, acrolein, acrylonitrile, chlorinated hydrocarbons (i.e.: 1,2 dichloroethylene, trichloroethylene), chlorine dioxide, maleic anhydride, nitroethane, nitroparaffins, 2-nitrophenol, nitropropane, phosphorus, potassium persulphate, and tetrahydrofuran (containing peroxides). Will react with aluminum, tin, zinc, or sodium borohydride forming hydrogen gas. Mixing with water can cause spattering and release of large amounts of heat.

Hazardous Decomposition Products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 TOXICOLOGICAL INFORMATION

Acute Toxicity:

Ingredient	Toxicity	Species	Dose	Remark
Phosphoric Acid	Oral LD50	Dog	322.88-492.77 mg/kg bw	ECHA
		Rat	155 mg/kg bw	
	Inhalation LC50	Not Available	Not Available	
	Dermal LD50	Rabbit	2740 mg/kg bw	

Skin Corrosion / Irritation: It causes severe skin burn.

Serious Eye Damage / Irritation: It causes severe eye damage.

Respiratory or Skin Sensitization: No data available.

Germ Cell Mutagenicity: No data available.

Carcinogenicity: No data available.

Reproductive Toxicity: No data available.

STOT-Single Exposure: No data available.

STOT-Repeated Exposure: No data available.

Aspiration Hazard: No data available.

The Likely Routes of Exposure, Health Effects and Symptoms Related to the Physical, Chemical and Toxicological Characteristics:

Eye Contact: Corrosive to eye tissue and may cause severe damage and blindness.

Inhalation: Mists may cause irritation of upper respiratory tract. Coughing, shortness of breath, headaches and confusion may occur. Vapors may cause pulmonary edema.

Skin Contact: It causes severe skin irritation. Causes burns.

Ingestion: It is harmful if ingested. Irritating to mouth, throat, and stomach. There is no known health effect.

Delayed and Immediate Effects and also Chronic Effects from Short or Long Term Exposure:

Short-Term Exposure:**Potential Immediate Effects:** No data available.**Potential Delayed Effects:** No data available.**Long-Term Exposure:****Potential Immediate Effects:** No data available.**Potential Delayed Effects:** No data available.**Numerical Measures of Toxicity:****Acute Toxicity Estimate:****Oral:** No data available.**Inhalation of Vapors:** No data available.**12 ECOLOGICAL INFORMATION****Toxicity**

Ingredient Name	Result	Species	Exposure	Reference
Phosphoric Acid	LC50 138 mg/L	Mosquito Fish	96 hours	ClearTech

Persistence and Degradability: No data available.**Bio Accumulative Potential:** No data available.**Mobility in Soil:** No data available.**Other Adverse Effects:** No data available.**13 DISPOSAL CONSIDERATION****Disposal of Waste Methods:** Disposal of all waste must be done in accordance with municipal, provincial, and federal regulations. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. No sewage disposal.**Contaminated Packaging:** Empty containers should be recycled or disposed of through an approved waste management facility. Persons conducting disposal, recycling or reclamation activities should follow the information in Section 8 of this SDS.**14 TRANSPORT INFORMATION****Identification of Ingredients According to UN Model Regulations:****UN Number:** 1805**UN Proper Shipping Name:** Phosphoric Acid**Transport Hazard Class(es):** 8**Packaging Group:** III

Special Precaution for User: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in Bulk: Not applicable (\leq 1000L-container).

Environmental Hazards:

Ingredient's Name	IMDG	UN	ADR	RID	ADN
Phosphoric Acid	Yes	Yes	Yes	Yes	Yes

15 REGULATORY INFORMATION

Safety, Health and Environmental Regulations Specific for Product in Question: No known specific national and/or regional regulations applicable to this product (including its ingredients).

16 OTHER INFORMATION

Prepared by: KALIX CPN

Date of Preparation: 4/20/2021

Version: 1

Date of Revision: 7/20/2022

Key Acronyms:

ADN: The European Agreement concerning the International Transport of Dangerous Goods by Inland Waterways

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road

BW: Body Weight

IATA: International Air Transport Association shipment of Dangerous Goods Regulation
International

IMDG: International Maritime Dangerous Goods code

RID: The Regulation concerning the International Carriage of Dangerous Goods by Rail

SDS: Safety Data Sheet

Key Literature References: Convention concerning International Carriage by Rail (COTIF) Appendix C – Regulation Section 15. Regulatory Information Section 16.

European Chemical Agency (ECHA) 2015. Information on Chemicals: Registered substances <http://echa.europa.eu/information-on-chemicals/registered-substances>. Online Database. Accessed on March 16, 2015.

European Agreement concerning the International Transport of Dangerous Goods by Inland Waterways (ADN), including the Annexed Regulations, applicable as from 1 January 2013. Volume I and Volume II. ECE/TRANS/231 (Vol. I & II). UN Economic Commission for Europe-Committee on Inland Transport. New York and Geneva, 2012.

European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), applicable as from 1 January 2013. Volume I and Volume II. ECE/TRANS/225 (Vol. I & II). United Nations Economic Commission for Europe-Committee on Inland Transport, New York and Geneva, 2012.

Globally Harmonized System of Classification and Labelling of Chemicals. 5th Edition. ST/SG/AC. 10.30/Rev. 5. United Nations, New York and Geneva, 2013.

Guidance on Labelling and Packaging Regulation in Accordance with EU Regulation 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation). European Chemical Agency, Finland, 2011.

International Maritime Dangerous Goods (IMDG) Code Volume 1 and 2. Incorporating Amendment 33-06, 2006 Edition. International Maritime Organization. London, 2006.

OSH Answers Fact Sheets. Canadian Centre for Occupational Health and Safety.

http://www.ccohs.ca/oshanswers/chemicals/oxidizing/oxidizing_hazards.html

Accessed on April 08, 2015.

OSHA Law and Regulations. Occupational Safety and Health Standards 29 CFR: 1910.

<https://www.osha.gov/law-regs.html> Accessed on April 15, 2015.

Recommendations on the Transport of Dangerous Goods – Manual of Test and Criteria.

5th Edition. ST/SG/AC. 10/11/Rev. 5. United Nations, New York and Geneva, 2009.

Recommendations on the Transport of Dangerous Goods – Model Regulations. 18th

Edition. Volume I and II. ST/SG/AC. 10/1/Rev. 18. UN, New York and Geneva, 2013.

Regulation (EC) No. 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. Official Journal of the European Union L 353/1. 2008.

Others: The data here is for hazard communication to our employees, our customers and their employees and authorized regulatory agencies. For the intended purpose, this SDS may be duplicated or the data transcribed to an alternative form. Note: The information contained herein is provided in good faith and is believed to be correct as of the date of hereof. However, KALIX CPN makes no representation as to the comprehensiveness or accuracy of the information provided. It is expected that individuals receiving the information will exercise their independent judgement in determining the appropriateness for a particular KALIX PH-Up. Accordingly, KALIX CPN will not be responsible for damages of any kind resulting from the use of or reliance upon such information. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder to which the information refers. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment.

Abbreviations and acronyms used:

ACGIH	American Conference of Governmental Industrial Hygienists	NA	not applicable, not available
ANSI	American National Standards Institute	NIOSH	National Institute for Occupational Safety and Health
Atm	Atmosphere (pressure unit)	ND	Not determined
BOD	Biological oxygen demand	NFPA	National Fire Prevention Association
CAS	Chemical Abstracts Service	NTP	National Toxicology Program
CC	Closed cup	OC	Open cup
CDTA	Chemical Drug and Trafficking Act	OSHA	Occupational Safety and Health Administration
COC	Cleveland Open Cup	Part	Partion
COD	Chemical oxygen demand	PEL	Permissible exposure limits

coeff.	coefficient	Ppb	Parts per billion
CFR	Code of Federal Regulations	PPE	Personal protective equipment
CPR	Cardio-pulmonary resuscitation	Ppm	Parts per million
DEA	Drug Enforcement Agency	Psi	Pounds per square inch
DOT	Department of Transportation	RCRA	Resource Conversion and Recovery Act
FDA	Food and Drug Administration	RQ	Reportable quantity
IARC	International Agency for Research on Cancer	RTK	Right to Know
IDLH	Immediate danger to life and health	SARA	Superfund Amendments and Reauthorization Act
Kg	Kilogram	STEL	Short-term exposure limit
L	Liter	TCC	Tagliabue Closed Cup
LC50	Median lethal concentration	TPQ	Threshold planning quantity
LD50	Median lethal dose	TQ	Threshold quantity
LEL	Lower explosive limit	TSCA	Toxic substances Control Act
Mg	Milligram	TWA	Time-weighted average
mL	milliliter	UEL	Upper explosive limit

This document was prepared in accordance with 29 CFR 1910.1200 and ANSI Z400.1-2004.

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