

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 Base
Synonym(s): Nitrate acid, ammonium calcium salt
Product Type: Solid (prills)
Area of Application: Professional Application
Date of Revision: 5/8/2023
Emergency Phone: 24 Hour Transportation Emergency Number – CHEMTREC 1-800-424-9300 U.S.A, Canada, International

2 HAZARD IDENTIFICATION

OSHA/HCS Status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification and labelling have been performed following the guidelines and recommendation of GHS and the intended use.

Classification of the Substance or Mixture: ACUTE TOXICITY (oral) - Category 4 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

Label Elements:



Hazard Pictograms:

Signal Word: Danger.

Hazard Statement: Harmful if swallowed. Causes serious eye damage.

Precautionary Statement:

Prevention: Wear protective gloves and eye protection. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

Hazard(s) not otherwise Classified (HNOC): Product forms slippery surface when combined with water.

3 COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Substance

CAS Number / other Identifiers

Component	Common Names, Synonyms	CAS #	Weight %
Nitric acid, ammonium calcium salt	Nitric acid, ammonium calcium salt	15245-12-2	100

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

4 FIRST AID MEASURES

Description of Necessary Measures:

Skin Contact:	Wash with soap and water. Get medical attention if irritation develops.
Eye Contact:	Immediately flush eyes with plenty of water for at least 15 minutes, keeping eyelids open. Check for and remove any contact lenses. Get medical attention immediately. Rinse mouth. Get medical attention if symptoms occur.
Ingestion:	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if you feel unwell.
Inhalation:	If inhaled, remove to fresh air. Get medical attention immediately. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus.

Most Important Symptoms/Effects, Acute and Delayed

Eye Contact:	Causes serious eye damage.
Inhalation:	May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin Contact:	No known significant effects or critical hazards.
Ingestion:	Harmful if swallowed. May cause burns to mouth, throat and stomach.

Over-Exposure Signs/Symptoms

Eye Contact: Adverse symptoms may include the following:
pain
watering
redness

Inhalation: No specific data.

Skin Contact: No specific data.

Ingestion: Adverse symptoms may include the following:
stomach pains

**Indication of Immediate
Medical Attention and Special
Treatment Needed, if Necessary**

Notes to Physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific Treatments: No specific treatment.

Protection of First-aiders: 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**See Toxicological Information
(Section 11)**

5 FIRE FIGHTING MEASURES

Extinguishing Media

Suitable extinguishing media: Use flooding quantities of water for extinction.

Unsuitable extinguishing media: Do NOT use chemical extinguisher or foam or attempt to smother the fire with steam or sand.

Specific hazards arising from the chemical: No specific fire or explosion hazard.

Hazardous Thermal Decomposition Products: Avoid breathing dusts, vapors or fumes from burning materials.

Remark: Non-flammable substance.

Special protective actions for fire-fighters: 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.

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.

Remark: Non-flammable.

Remark: None.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

For Non-Emergency Personnel: 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.

For Emergency Responders: 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".

Personal Precautions, Protective Equipment and Emergency Procedures: 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 (see Section 8).

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 Material for Containment and Cleaning Up

Small Spill: Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large Spill: Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 HANDLING AND STORAGE

Precautions for Safe Handling

Protective Measures: Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

Advice on General Occupational 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.

Conditions for Safe Storage, Including 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. Keep away from: organic materials, oil and grease.

8 EXPOSURE CONTROL / PERSONAL PROTECTION

Control Parameters

Occupational Exposure Limits

None.

Appropriate Engineering Controls: 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. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual Protection Measures

Hygiene Measures: A washing facility or water for eye and skin cleaning purposes should be present.

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.

Recommended: Tightly-fitting goggles

Skin Protection

Hand 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.

> 8 hours (breakthrough time): Protective gloves should be worn under normal conditions of use.

Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

Other skin protection: 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, particulate filter 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.



Personal Protective Equipment (Pictograms):

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical State: Solid [prills].

Color: White.

Odor: Odorless.

Odor threshold: Not determined.

pH: 5 - 7 [Conc.: 110 g/l]

Melting/freezing point: 400 °C (752.00 °F)

Boiling/condensation point: Not determined.

Sublimation temperature: Not determined.

Flash point: Not determined.

Evaporation rate: Not determined.

Flammability: Non-flammable.

Lower and upper explosive (flammable) limits: Lower: Not determined. **Upper:** Not determined.

Vapor pressure: Not determined.

Relative density: Not determined.

Solubility: > 100 g/l Easily soluble in the following materials: cold water

Solubility in water: > 100 g/l

Partition coefficient: n-octanol/water: Not determined.

Auto-ignition temperature: Not determined.

Decomposition temperature: Not determined.

Viscosity: Dynamic: Not determined. **Kinematic:** Not determined.

Explosive properties: None.

Oxidizing properties: None.

10 STABILITY AND REACTIVITY

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical Stability: The product is stable.

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

Conditions to Avoid: Avoid contamination by any source including metals, dust and organic materials.

Incompatible Materials: alkalis

combustible materials

reducing materials

organic materials

acids

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

11 TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute toxicity

Product / ingredient name	Result	Species	Dose	Exposure	References
Nitric acid, ammonium calcium salt					
	LD50 Oral	Rat	500 mg/kg 423 Acute Oral toxicity - Acute Toxic Class Method	-	IUCLID 5
	LD50 Dermal	Rat	> 2,000 mg/kg OECD 402	-	IUCLID 5

Conclusion / Summary: Harmful if swallowed.

Irritation / Corrosion

Product / ingredient name	Result	Species	Score	Exposure	Observation	References
Nitric acid, ammonium calcium salt	Eyes - Severe irritant OECD 405	Rabbit		24 - 72 h	21 d	IUCLID 5

Conclusion / Summary

Skin: Non-irritating to the skin.

Eyes: Causes serious eye damage.

Respiratory: Non-irritating to the respiratory system.

Sensitization

Conclusion / Summary

Skin: Not sensitizing.

Respiratory: Not determined.

Mutagenicity

Conclusion / Summary: No mutagenic effect.

Carcinogenicity

Conclusion / Summary: No known significant effects or critical hazards.

Reproductive toxicity

Product / ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure	References
Nitric acid, ammonium calcium salt	Negative	Negative	Negative	Rat	Oral: 1500 mg/kg OECD 422	53 days	IUCLID 5

Conclusion / Summary: No known significant effects or critical hazards.

Teratogenicity

Conclusion / Summary: No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

No known significant effects or critical hazards.

Specific target organ toxicity (repeated exposure)

No known significant effects or critical hazards.

Aspiration hazard

No known significant effects or critical hazards.

Information on the likely routes of exposure: Not available.

Potential Acute Health Effects

Eye Contact: Causes serious eye damage.

Inhalation: May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact: No known significant effects or critical hazards.

Ingestion: Harmful if swallowed.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics

Eye Contact: Adverse symptoms may include the following: pain, watering, redness.

Inhalation: No specific data.

Skin Contact: No specific data.

Ingestion: Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short Term Exposure

Potential immediate effects: Adverse health effects are considered unlikely, when the product is used according to directions.

Potential delayed effects: None identified.

Long Term Exposure

Potential immediate effects: Adverse health effects are considered unlikely, when the product is used according to directions.

Potential delayed effects: None identified.

Potential Chronic Health Effects

Product / ingredient name	Result	Species	Dose	Exposure	References
Nitric acid, ammonium calcium salt	NOAEL Oral	Rat	> 1000 mg/kg OECD 407	28days	IUCLID 5

Conclusion / Summary: Not toxic.

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Potential immediate effects: Adverse health effects are considered unlikely, when the product is used according to directions.

Potential delayed effects: None identified.

Over-Exposure Signs / Symptoms

Eye contact: Adverse symptoms may include the following: pain watering redness

Inhalation: No specific data.

Skin contact: No specific data.

Ingestion: Adverse symptoms may include the following: stomach pains

12 ECOLOGICAL INFORMATION

Toxicity

Product / ingredient name	Result	Species	Exposure	References
Nitric acid, ammonium calcium salt				
	Acute LC50 447 mg/l Fresh water	Fish - Labeo boga	48 h	IUCLID 5
	Acute EC50 > 100 mg/l Fresh water OECD 202	Aquatic invertebrates. - Daphnia	48 h	IUCLID 5
	Acute LC50 > 100 mg/l Fresh water OECD 201	Aquatic plants - Heterosigma akashiwo	72 h	IUCLID 5
	Acute EC50 > 1,000 mg/l Activated sludge OECD 209	Micro-organism	3 h	IUCLID 5

Conclusion / Summary: The product does not show any bioaccumulation phenomena. The product is not expected to harm the environment when used properly according to directions.

Persistence / Degradability

Conclusion/Summary : Readily biodegradable in plants and soils.

Product / ingredient name	Aquatic half-life	Photolysis	Biodegradability
Nitric acid, ammonium calcium salt			
			Not relevant for inorganic substances.

Bioaccumulative potential

Product / ingredient name	LogPow	BCF	Potential
Nitric acid, ammonium calcium salt	< 0	-	low

Conclusion / Summary: No known significant effects or critical hazards.

Mobility in Soil

Soil / water partition coefficient (KOC): <1

Mobility: This product may move with surface or groundwater flows because its water solubility is: high

Other adverse effects: No known significant effects or critical hazards.

13 DISPOSAL CONSIDERATION

Product

Methods of disposal: The generation of waste should be avoided or minimized wherever possible.

Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Acute hazardous waste "P" List:

Not listed

United States - RCRA Toxic hazardous waste "U" List:

Not listed

14 TRANSPORT INFORMATION

DOT: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

15 REGULATORY INFORMATION

United States

US Federal Regulations:

United States - TSCA 12(b) - Chemical export notification: None of the components are listed.

United States - TSCA 4(a) - Final Test Rules: Not listed

United States - TSCA 4(e) - ITC Priority list: Not listed

United States - TSCA 4(a) - Proposed test rules: Not listed

United States - TSCA 4(f) - Priority risk review: Not listed

United States - TSCA 5(a)2 - Final significant new use rules: Not listed

United States - TSCA 5(a)2 - Proposed significant new use rules: Not listed

United States - TSCA 5(e) - Substances consent order: Not listed

United States - TSCA 6 - Final risk management: Not listed

United States - TSCA 6 - Proposed risk management: Not listed

United States - TSCA 8(a) - Comprehensive assessment report (CAIR): Not listed

United States - TSCA 8(a) - Chemical risk rules: Not listed

United States - TSCA 8(a) - Dioxin/Furane precursor: Not listed

United States - TSCA 8(a) - Chemical Data Reporting (CDR): Not determined

United States - TSCA 8(a) - Preliminary assessment report (PAIR): Not listed

United States - TSCA 8(c) - Significant adverse reaction (SAR): Not listed

United States - TSCA 8(d) - Health and safety studies: Not listed

United States - EPA Clean water act (CWA) section 307 - Priority pollutants: Not listed

United States - EPA Clean water act (CWA) section 311 - Hazardous substances: Not listed

United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Flammable substances: Not listed

United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Toxic substances: Not listed

United States - Department of commerce - Precursor chemical: Not listed

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs): Not listed

Clean Air Act Section 602 Class I Substances: Not listed

Clean Air Act Section 602 Class II Substances: Not listed

DEA List I Chemicals (Precursor Chemicals): Not listed

DEA List II Chemicals (Essential Chemicals): Not listed

SARA 302/304: Not applicable.

SARA 304 RQ: Not applicable.

SARA 311/312

Classification: Immediate (acute) health hazard

State Regulations

Massachusetts: None of the components are listed.

New York: None of the components are listed.

New Jersey: None of the components are listed.

Pennsylvania: None of the components are listed.

California Prop. 65

This product contains a chemical (or chemicals) known to the State of California to cause cancer and birth defects or other reproductive harm.

16 OTHER INFORMATION

Hazardous Material Information System (U.S.A.)

Health: 2

Flammability: 0

Physical Hazards: 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.

Prepared by: KALIX CPN

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