

# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>KALIX 0-50-30</b>	
<b>Recommended use</b>	Agricultural / Horticultural Use - NPK fertilizer with micronutrients - Refer to product label	
<b>Recommended restrictions</b>	None known	
<b>Manufacturer</b>	KALIX	
<b>Company Name</b>	1904 United Way, Suite #106 Medford, OR 97504	
<b>Telephone</b>	During Business Hours	1-541-973-2244
<b>Emergency phone number</b>	CHEMTREC (24 hours): USA, Canada, Puerto Rico Virgin Islands International Maritime	1-800-424-9300 1-800-424-9300 1-703-527-3887

## 2. Hazard(s) identification

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Acute toxicity, oral	Category 4
	Serious eye damage/eye irritation	Category 2A
<b>Environmental hazards</b>	Not classified.	
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



<b>Signal word</b>	Warning
<b>Hazard statement</b>	Harmful if swallowed. Causes serious eye irritation.
<b>Precautionary statement</b>	
<b>Prevention</b>	Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear eye/face protection.
<b>Response</b>	If swallowed: Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse mouth. If eye irritation persists: Get medical advice/attention.
<b>Storage</b>	Store away from incompatible materials.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	74.09% of the mixture consists of component(s) of unknown acute oral toxicity.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Monopotassium phosphate		7778-77-0	NA
Monoammonium Phosphate		7722-76-1	NA
Manganese EDTA, disodium salt		15375-84-5	0.3999860001
EDTA, Disodium Copper(II) Salt		14025-15-1	0.3701362986
Boric acid, (H3BO3)		10043-35-3	0.1199988
Sodium Molybdate, Dihydrate		10102-40-6	0.00099999
Other components below reportable levels			73.1991380082

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

#### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Wash off with soap and water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell. Get medical attention if symptoms occur.
<b>Most important symptoms/effects, acute and delayed</b>	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Severe eye irritation.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire-fighting equipment/instructions</b>	Use water spray to cool unopened containers.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Following product recovery, flush area with water. Prevent entry into waterways, sewer, basements or confined areas. For waste disposal, see section 13 of the SDS.
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.

#### 7. Handling and storage

<b>Precautions for safe handling</b>	Do not taste or swallow. Avoid contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in original tightly closed container. Keep container tightly closed. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Manganese EDTA, disodium salt (CAS 15375-84-5)	Ceiling	5 mg/m <sup>3</sup>
Sodium Molybdate, Dihydrate (CAS 10102-40-6)	PEL	5 mg/m <sup>3</sup>

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Boric acid, (H <sub>3</sub> BO <sub>3</sub> ) (CAS 10043-35-3)	STEL	6 mg/m <sup>3</sup>	Inhalable fraction.
Sodium Molybdate, Dihydrate (CAS 10102-40-6)	TWA	2 mg/m <sup>3</sup>	Inhalable fraction.
	TWA	0.5 mg/m <sup>3</sup>	Respirable fraction.

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
EDTA, Disodium Copper(II) Salt (CAS 14025-15-1)	TWA	1 mg/m <sup>3</sup>	Dust and mist.
Manganese EDTA, disodium salt (CAS 15375-84-5)	STEL	3 mg/m <sup>3</sup>	Fume.
	TWA	1 mg/m <sup>3</sup>	Fume.

### Biological limit values

No biological exposure limits noted for the ingredient(s).

### Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Face shield is recommended. Wear safety glasses with side shields (orgoggles).

#### Skin protection

##### Hand protection

Wear appropriate chemical resistant gloves.

##### Other

Wear suitable protective clothing.

#### Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Respiratory protection not required.

#### Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

### General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance

Solid. Granular.

#### Physical state

Solid.

#### Form

Solid. Granular.

#### Color

Grey.

### Odor

None.

### Odor threshold

Not available.

### pH

Not available.

### Salt-Out / Crystallization Temp

Not available.

### Melting point/freezing point

Not available.

### Initial boiling point and boiling range

Not available.

Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
<b>Upper/lower flammability or explosive limits</b>	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
<b>Solubility(ies)</b>	
Solubility (water)	Partial
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion</b>	Harmful if swallowed.
<b>Inhalation</b>	Prolonged inhalation may be harmful.
<b>Skin contact</b>	No adverse effects due to skin contact are expected.
<b>Eye contact</b>	Causes serious eye irritation.

**Symptoms related to the physical, chemical and toxicological characteristics** Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Severe eye irritation.

### Information on toxicological effects

**Acute toxicity** Harmful if swallowed. Not known.

Components	Species	Test Results
Boric acid, (H3BO3) (CAS 10043-35-3)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Oral</i>		
LD50	Chicken	2.95 g/kg

Dog	2000 mg/kg
Mouse	3450 mg/kg
Rat	2660 mg/kg

Components	Species	Test Results
Potassium Nitrate (CAS 7757-79-1)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rabbit	1166 mg/kg

\* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation** Causes serious eye irritation.

**Respiratory or skin sensitization**

**Respiratory sensitization** Not available.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

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

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not available.

**Chronic effects** Prolonged inhalation may be harmful.

**12. Ecological information**

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results
KALIX 0-50-30		
<b>Aquatic</b>		
<i>Acute</i>		
Fish	LC50	Fish 25000 mg/l, 96 hr estimated
<b>Components</b>	<b>Species</b>	<b>Test Results</b>
Boric acid, (H3BO3) (CAS 10043-35-3)		
<b>Aquatic</b>		
Fish	LC50	Colorado squawfish (Ptychocheilus lucius) > 100 mg/l, 96 hours
EDTA, Disodium Copper(II) Salt (CAS 14025-15-1)		
<b>Aquatic</b>		
Fish	LC50	Channel catfish (Ictalurus punctatus) 838 mg/l, 96 hours
Monopotassium phosphate (CAS 7778-77-0)		
<b>Aquatic</b>		
<i>Acute</i>		
Fish	LC50	Fish > 900 mg/l, 48 hours
	EC50	2 ppm, 672 hours

Sodium Molybdate, Dihydrate (CAS 10102-40-6)

**Aquatic**

Crustacea	EC50	Tubificid worm ( <i>Tubifex tubifex</i> )	42.48 - 65.64 mg/l, 48 hours
Fish	LC50	Striped bass ( <i>Morone saxatilis</i> )	> 79.8 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** No data is available on the degradability of this product.

<b>Bioaccumulative potential</b>	Not available.
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

<b>DOT</b>	Not regulated as dangerous goods.
<b>IATA</b>	Not regulated as dangerous goods.
<b>IMDG</b>	Not regulated as dangerous goods.

### 15. Regulatory information

<b>US federal regulations</b>	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List. This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
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#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

EDTA, Disodium Copper(II) Salt (CAS 14025-15-1)	Listed.
Manganese EDTA, disodium salt (CAS 15375-84-5)	Listed.

#### SARA 304 Emergency release notification

Not regulated.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

#### Superfund Amendments and Reauthorization Act of 1986 (SARA)

<b>Hazard categories</b>	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
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#### SARA 302 Extremely hazardous substance

Not listed.

**SARA 311/312 Hazardous chemical** No

#### SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Potassium Nitrate	7757-79-1	25.9097409025
Ammonium Sulfate	7783-20-2	11.9598804011
Monoammonium Phosphate (MAP)	7722-76-1	1.9899801001



## Other federal regulations

### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Manganese EDTA, disodium salt (CAS 15375-84-5)

### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

## US state regulations

### US. Massachusetts RTK - Substance List

Potassium Nitrate (CAS 7757-79-1)

### US. New Jersey Worker and Community Right-to-Know Act

Boric acid, (H3BO3) (CAS 10043-35-3)

EDTA, Disodium Copper(II) Salt (CAS 14025-15-1)

Manganese EDTA, disodium salt (CAS 15375-84-5)

Potassium Nitrate (CAS 7757-79-1)

### US. Pennsylvania Worker and Community Right-to-Know Law

Potassium Nitrate (CAS 7757-79-1)

### US. Rhode Island RTK

EDTA, Disodium Copper(II) Salt (CAS 14025-15-1)

Manganese EDTA, disodium salt (CAS 15375-84-5)

Potassium Nitrate (CAS 7757-79-1)

### US. California Proposition 65

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

## International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Revision date** 1-28-2019

**Disclaimer**

KALIX cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. While the information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Because many factors may affect processing or application, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding products described or information set forth, or that the products, or information may be used without infringing the intellectual property rights of others. In no case shall the information provided be considered a part of our terms and conditions of sale. Further, you expressly understand and agree that the information furnished by our company hereunder are given gratis and we assume no obligation or liability for the information given or results obtained, all such being given and accepted at your risk.

**Revision Information**

GHS: Classification