

# Safety Data Sheet

Material Name: LIQUID POTASSIUM ALUMINATE

SDS ID: USA19204

## \*\*\* Section 1 - PRODUCT AND COMPANY IDENTIFICATION \*\*\*

### Synonyms

USALCO POTASSIUM ALUMINATE; AI2K2O4

### Material Name: LIQUID POTASSIUM ALUMINATE

#### Manufacturer Information

USALCO, LLC  
1120 Middle River Rd.  
Baltimore, MD 21220

Emergency # 1-800-424-9300 (CHEMTREC)

#### Chemical Family

metal oxides

#### Product Use

water treatment coagulant, flocculant, concrete/drilling mud accerlerant

## \*\*\* Section 2 - HAZARDS IDENTIFICATION \*\*\*

#### EMERGENCY OVERVIEW

**Color:** amber

**Physical Form:** liquid

**Health Hazards:** respiratory tract burns, skin burns, eye burns, mucous membrane burns

#### POTENTIAL HEALTH EFFECTS

##### Inhalation

**Short Term:** burns

**Long Term:** burns

##### Skin

**Short Term:** burns

**Long Term:** burns

##### Eye

**Short Term:** burns

**Long Term:** burns

##### Ingestion

**Short Term:** burns

**Long Term:** burns

## \*\*\* Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS \*\*\*

CAS	Component	Percent	Symbol(s)	Risk Phrase(s)
12003-63-3	LIQUID POTASSIUM ALUMINATE 234-432-8	100	---	---

#### Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Aluminium compounds, Aluminium oxides.

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### \*\*\* Section 4 - FIRST AID MEASURES \*\*\*

#### Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

#### Skin

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing before reuse. Destroy contaminated shoes.

#### Eyes

Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

#### Ingestion

If swallowed, drink plenty of water, do NOT induce vomiting. Get immediate medical attention.

#### Note to Physicians

For inhalation, consider oxygen.  
Avoid gastric lavage or emesis.

### \*\*\* Section 5 - FIRE FIGHTING MEASURES \*\*\*

See Section 9 for Flammability Properties

NFPA Ratings: Health: 3 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

#### Flammable Properties

Negligible fire hazard.

#### Extinguishing Media

regular dry chemical, carbon dioxide, water, regular foam

#### Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Use extinguishing agents appropriate for surrounding fire. Do not get water directly on material. Large fires: Flood with fine water spray. Reduce vapors with water spray. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

#### Thermal Decomposition Products

**Combustion:** oxides of aluminum, oxides of potassium

#### Sensitivity to Mechanical Impact

Not sensitive

#### Sensitivity to Static Discharge

Not sensitive

### \*\*\* Section 6 - ACCIDENTAL RELEASE MEASURES \*\*\*

Do not touch spilled material.

Stop leak if possible without personal risk.

Small spills:

Absorb with sand or other non-combustible material.

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Collect spilled material in appropriate container for disposal.  
Surface may be rinsed clear with water and/or neutralized lime or soda ash.

## \*\*\* Section 7 - HANDLING AND STORAGE \*\*\*

Liquid potassium aluminate is a suspended solids solution of alumina in potassium hydroxide. Under normal conditions, the solution is completely stable, however, there are several factors that may cause the material to precipitate. Do not let the material come into contact with moisture, dust, or dirt. Avoid constant agitation or recirculation and do not put it under pressure. Any of the above actions may introduce contaminants to the solution which may cause precipitation.

Store in a cool, dry place and in tightly sealed containers. Keep separated from incompatible substances.

## \*\*\* Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION \*\*\*

### Component Exposure Limits

ACGIH and EU have not developed exposure limits for any of this product's components.

### Ventilation

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

### PERSONAL PROTECTIVE EQUIPMENT

#### Eyes/Face

Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

#### Protective Clothing

Wear appropriate chemical resistant clothing.

#### Glove Recommendations

Wear appropriate chemical resistant gloves.

While not normally required, respiratory protection may be required under conditions where extensive misting or fuming may occur due to insufficient or improper engineering controls.

## \*\*\* Section 9 - PHYSICAL AND CHEMICAL PROPERTIES \*\*\*

<b>Physical State:</b> Liquid	<b>Appearance:</b> clear
<b>Color:</b> amber	<b>Physical Form:</b> liquid
<b>Odor:</b> Not Available	<b>Odor Threshold:</b> Not available
<b>pH:</b> 12.0	<b>pH (solution):</b> 1.0 %
<b>Melting Point:</b> -32 °C	<b>Boiling Point:</b> 115 °C
<b>Flash Point:</b> not flammable	<b>Evaporation Rate:</b> Not available
<b>Vapor Pressure:</b> Not available	<b>Vapor Density (air = 1):</b> Not available
<b>Density:</b> Not available	<b>Specific Gravity (water = 1):</b> 1.54 @ 25 °C
<b>Water Solubility:</b> decomposes	<b>Coeff. Water/Oil Dist:</b> Not available
<b>Viscosity:</b> Not available	<b>Volatility:</b> none
<b>Molecular Weight:</b> 250.2	<b>Molecular Formula:</b> Al <sub>2</sub> -K <sub>2</sub> -O <sub>4</sub>

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### \*\*\* Section 10 - STABILITY AND REACTIVITY \*\*\*

#### Chemical Stability

Stable at normal temperatures and pressure.

#### Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Dangerous gases may accumulate in confined spaces.  
May ignite or explode on contact with combustible materials.

#### Materials to Avoid

acids, combustible materials  
POTASSIUM ALUMINATE:  
ACIDS (STRONG): Possible violent or explosive reaction.  
ALDEHYDES: Possible explosive reaction.  
ALUMINUM + ALLOYS: May corrode.  
TIN + ALLOYS: May corrode.  
ZINC + ALLOYS: May corrode.

#### Thermal Decomposition Products

**Combustion:** oxides of aluminum, oxides of potassium  
No data available.

#### Possibility of Hazardous Reactions

Will not polymerize.

### \*\*\* Section 11 - TOXICOLOGICAL INFORMATION \*\*\*

#### Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

#### RTECS Acute Toxicity (selected)

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

#### Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, or DFG.

#### RTECS Irritation

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

#### Local Effects

##### LIQUID POTASSIUM ALUMINATE (12003-63-3)

**Corrosive:** inhalation, skin, eye, ingestion.

#### HEALTH EFFECTS

##### Inhalation - Acute Exposure

ALKALINE CORROSIVES: May cause irritation of the respiratory tract with coughing, choking, pain, and possibly burns of the mucous membranes. In some cases, pulmonary edema may develop, either immediately in severe cases or more often with a latent period of 5-72 hours. The symptoms may include tightness in the chest, dyspnea, frothy sputum, cyanosis, and dizziness. Physical findings may include hypotension, weak and rapid pulse and moist rales. Severe cases may be fatal.

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### Inhalation - Chronic Exposure

ALKALINE CORROSIVES: Depending on the concentration and duration of exposure, repeated or prolonged exposure may cause inflammatory and ulcerative changes in the mouth. There may also be bronchial and gastrointestinal disturbances leading to effects similar to those in acute exposure.

### Inhalation - Other Toxicity Information

LIQUID POTASSIUM ALUMINATE: See information on Alkaline Corrosives.

### Skin Contact - Acute Exposure

ALKALINE CORROSIVES: Direct contact may cause severe pain, burns and possibly brownish stains. The corroded areas may be soft, gelatinous, and necrotic. Tissue destruction may be deep.

### Skin Contact - Chronic Exposure

ALKALINE CORROSIVES: Effects depend on the concentration and duration of exposure. Repeated or prolonged contact may cause dermatitis or effects similar to acute exposure.

### Skin Contact - Other Toxicity Information

LIQUID POTASSIUM ALUMINATE: See information on Alkaline Corrosives.

### Eye Contact - Acute Exposure

ALKALINE CORROSIVES: Direct contact may cause pain and burns. There may be edema, destruction of epithelium, corneal opacification and iritis. When damage is less than excessive, these symptoms tend to ameliorate. In severe burns, the full extent of the injury may not be immediately apparent. Late complications may include persistent edema, vascularization and scarring of the cornea, permanent opacity, staphyloma, cataract, symblepharon and blindness.

### Eye Contact - Chronic Exposure

ALKALINE CORROSIVES: Effects depend on concentration and duration of exposure. Repeated or prolonged contact may result in conjunctivitis or effects as in acute exposure.

### Eye - Other Toxicity Information

LIQUID POTASSIUM ALUMINATE: See information on Alkaline Corrosives.

### Ingestion - Acute Exposure

ALKALINE CORROSIVES: May cause immediate pain, circumoral burns and corrosion of the mucous membranes which at first turn white and soapy and then become brown, edematous and ulcerated. There may be profuse salivation and difficulty or inability to swallow or speak. Even when there is no evidence of oral burns, the esophagus and stomach may be involved with burning pain, vomiting and diarrhea. The vomitus may be thick and slimy with mucous, and later contain blood and shreds of mucosa. Epiglottal edema may result in respiratory distress and possibly asphyxia. Shock with marked hypotension, weak and rapid pulse, shallow respiration, and clammy skin may occur. Circulatory collapse may ensue, and if uncorrected, lead to renal failure. In severe cases, esophageal or gastric perforation are possible and may be accompanied by mediastinitis, substernal pain, peritonitis, abdominal rigidity, and fever. Esophageal, and possibly gastric or pyloric stricture, may occur within a few weeks, but may be delayed for months or even years. Death may result within a short time from asphyxia, circulatory collapse, or aspiration of even minute amounts. If death is delayed it may be due to the complications of perforation, pneumonia, or the effects of stricture formation.

### Ingestion - Chronic Exposure

ALKALINE CORROSIVES: Depending on the concentration, repeated ingestion may result in inflammatory and ulcerative effects on the oral mucous membranes and other effects as with acute ingestion.

### Ingestion - Other Toxicity Information

LIQUID POTASSIUM ALUMINATE: See information on Alkaline Corrosives.

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### \*\*\* Section 12 - ECOLOGICAL INFORMATION \*\*\*

#### Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

### \*\*\* Section 13 - DISPOSAL CONSIDERATIONS \*\*\*

#### Disposal Methods

Dispose in accordance with all applicable regulations.

#### Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

### \*\*\* Section 14 - TRANSPORT INFORMATION \*\*\*

#### US DOT Information

**Shipping Name:** Caustic alkali liquids, n.o.s. (Contains: LIQUID POTASSIUM ALUMINATE)

**UN/NA #:** UN1719 **Hazard Class:** 8 **Packing Group:** II

**Required Label(s):** 8

#### TDG Information

**Shipping Name:** Caustic alkali liquid, n.o.s. (Contains: LIQUID POTASSIUM ALUMINATE)

**UN #:** UN1719 **Hazard Class:** 8 **Packing Group:** II

**Required Label(s):** 8

#### ADR Information

**Shipping Name:** Caustic alkali liquid, n.o.s. (Contains: LIQUID POTASSIUM ALUMINATE)

**UN #:** UN1719 **Hazard Class:** 8 **Packing Group:** II

**Required Label(s):** 8

#### RID Information

**Shipping Name:** Caustic alkali liquid, n.o.s. (Contains: LIQUID POTASSIUM ALUMINATE)

**UN #:** UN1719 **Hazard Class:** 8 **Packing Group:** II

**Required Label(s):** 8

#### IATA Information

**Shipping Name:** Caustic alkali liquid, n.o.s. (Contains: LIQUID POTASSIUM ALUMINATE)

**UN #:** UN1719 **Hazard Class:** 8 **Packing Group:** II

**Required Label(s):** 8

#### ICAO Information

**Shipping Name:** Caustic alkali liquid, n.o.s. (Contains: LIQUID POTASSIUM ALUMINATE)

**UN #:** UN1719 **Hazard Class:** 8 **Packing Group:** II

**Required Label(s):** 8

#### IMDG Information

**Shipping Name:** Caustic alkali liquid, n.o.s. (Contains: LIQUID POTASSIUM ALUMINATE)

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UN #: UN1719 Hazard Class: 8 Packing Group: II

## \*\*\* Section 15 - REGULATORY INFORMATION \*\*\*

### U.S. Federal Regulations

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

### SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: Yes Chronic Health: No Fire: No Pressure: No Reactive: No

### U.S. State Regulations

None of this product's components are listed on the state lists from CA, MA, MN, NJ, PA, or RI.

Not regulated under California Proposition 65

### Safety Phrases

**S2** Keep out of the reach of children. **S20** When using do not eat or drink. **S24** Avoid contact with skin. **S25** Avoid contact with eyes. **S26** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. **S27** Take off immediately all contaminated clothing. **S39** Wear eye/face protection. **S46** If swallowed, seek medical advice immediately and show this container or label.

### Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
LIQUID POTASSIUM ALUMINATE	12003-63-3	Yes	DSL	EIN	Yes	No	Yes	Yes	No	No

## \*\*\* Section 16 - OTHER INFORMATION \*\*\*

### Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

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### Other Information

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