

SAFETY DATA SHEET

ELECTROLYTE SOLUTION

SECTION 1 - IDENTIFICATION

MSDS Name: ELECTROLYTE SOLUTION

Catalog Numbers: HF-8

Synonyms: Caustic potash, Lye, Potassium hydrate, Potassium Hydroxide

Company Identification: Okai Corporation, 687 Lehigh Avenue, Union, NJ 07083

For information, call: 908-687-4443

Emergency Number: 908-687-4443

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

SECTION 2 - HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Appearance: clear, odorless liquid. **Danger!** Corrosive. Harmful if swallowed. Causes severe eye and skin burns. Causes severe digestive and respiratory tract burns.

Target Organs: None.

Potential Health Effects

Eye: Causes severe eye burns. May cause irreversible eye injury. Contact may cause ulceration of the conjunctiva and cornea. Eye damage may be delayed.

Skin: Causes skin burns. May cause deep, penetrating ulcers of the skin.

Ingestion: Harmful if swallowed. May cause circulatory system failure. May cause perforation of the digestive tract. Causes severe digestive tract burns with abdominal pain, vomiting, and possible death.

Inhalation: Harmful if inhaled. Irritation may lead to chemical pneumonitis and pulmonary edema. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma.

Chronic: Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated eye contact may cause conjunctivitis.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS#	Chemical Name	Percent	EINECS/ELINCS
1310-58-3	Potassium hydroxide (KOH)	40-50	215-181-3
7732-18-5	Water	Balance	231-791-2

Hazard Symbols: C

Risk Phrases: 22 35

SECTION 4 - FIRST AID MEASURES

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Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing in a manner which limits further exposure.

Ingestion: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure to fresh air immediately. If breathing is difficult, give oxygen. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Treat symptomatically and supportively.

SECTION 5 - FIREFIGHTING MEASURES

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Use water with caution and in flooding amounts. Contact with moisture or water may generate sufficient heat to ignite nearby combustible materials.

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions.

SECTION 7 - HANDLING AND STORAGE

Handling: Wash thoroughly after handling. Use with adequate ventilation. Do not allow water to get into the container because of violent reaction. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from strong acids. Keep away from water. Keep away from metals. Keep away from flammable liquids. Keep away from organic halogens.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

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Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Potassium hydroxide (KOH)	C 2 mg/m ³	none listed	none listed

OSHA Vacated PELs: Potassium hydroxide (KOH): C 2 mg/m³

Personal Protective Equipment

Eyes: Wear safety glasses and chemical goggles or face shield if handling liquids.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Appearance: Clear liquid

Odor: odorless

pH: 13.5 (0.1M solution)

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 212 deg F

Freezing/Melting Point: 32 deg F

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Decomposition Temperature: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 0; Reactivity: 1

Explosion Limits, Lower: Not available.

Upper: Not available.

Solubility: Soluble in water

Specific Gravity/Density: unknown

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability: Stable. Readily absorbs carbon dioxide and moisture from the air and deliquesces.

Conditions to Avoid: Incompatible materials, moisture, acids, metals.

Incompatibilities with Other Materials: Reacts with chlorine dioxide, nitrobenzene, nitromethane, nitrogen trichloride, peroxidized tetrahydrofuran, 2,4,6-trinitrotoluene, bromoform+ crown ethers, acids alcohols, sugars, germanium cyclopentadiene, maleic dicarbide. Corrosive to metals such as aluminum, tin, and zinc to cause formation of flammable hydrogen gas.

Hazardous Decomposition Products: Oxides of potassium.

Hazardous Polymerization: Has not been reported.

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SECTION 11 - TOXICOLOGICAL INFORMATION

Potassium Hydroxide Only
RTECS#:
CAS# 1310-58-3: TT2100000

LD50/LC50:

CAS# 1310-58-3:

Draize test, rabbit, skin: 50 mg/24H Severe;

Oral, rat: LD50 = 273 mg/kg;

Carcinogenicity:

CAS# 1310-58-3: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No data available.

Teratogenicity: No information reported.

Reproductive Effects: No data available.

Neurotoxicity: No data available.

Mutagenicity: No data available.

Other Studies: No data available.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: Fish: Mosquito Fish: LC50 = 80.0 mg/L; 24 Hr.; Unspecified No data available.

Environmental: No information found.

Physical: No information found.

Other: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

SECTION 14 - TRANSPORT INFORMATION

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	POTASSIUM HYDROXIDE, SOLUTION	N/A	N/A	N/A	POTASSIUM HYDROXIDE SOLUTION

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Hazard Class:	8	N/A	N/A	N/A	8(9.2)
UN Number:	UN1814	N/A	N/A	N/A	UN1814
Packing Group:	II	N/A	N/A	N/A	II

SECTION 15 - REGULATORY INFORMATION

US FEDERAL

TSCA CAS# 1310-58-3 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA Section 302 (RQ)

CAS# 1310-58-3: final RQ = 1000 pounds (454 kg)

Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 1310-58-3: acute, reactive.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class

1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 1310-58-3 is listed as a Hazardous Substance under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA: None of the chemicals in this product are considered highly hazardous by OSHA.

STATE CAS# 1310-58-3 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts. California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives

Hazard Symbols: C

Risk Phrases:

R 22 Harmful if swallowed.

R 35 Causes severe burns.

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Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 1310-58-3: 1

Canada

CAS# 1310-58-3 is listed on Canada's DSL List. CAS# 1310-58-3 is listed on Canada's DSL List.

This product has a WHMIS classification of D1B, E.

CAS# 1310-58-3 is listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 1310-58-3: OEL-AUSTRALIA:TWA 2 mg/m³ OEL-BELGIUM:STEL 2 mg/m³

OEL-DENMARK:TWA 2 mg/m³ OEL-FINLAND:TWA 2 mg/m³ OEL-FRANCE:STEL 2 m

g/m³ OEL-JAPAN:STEL 2 mg/m³ OEL-THE NETHERLANDS:TWA 2 mg/m³ OEL-SWI

TZERLAND:TWA 2 mg/m³ OEL-UNITED KINGDOM:TWA 2 mg/m³;STEL 2 mg/m³ OEL

IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEAL

AND, SINGAPORE, VIETNAM check ACGI TLV

SECTION 16 - OTHER INFORMATION

MSDS Creation Date: 07/07/2015

Revision Summary:

Original Document 07/07/2015

Manufacturer Disclaimer:

This Material Safety Data Sheet is prepared in accordance with U.S. OSHA, Canadian WHMIS, and European Community Safety Data Sheet directives. This document is offered pursuant to OSHA's Hazard Communication Standard 29 CFR 1910.1200. The information and recommendations contained in this Material Safety Data Sheet have been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared, and are offered in good faith. However, no warranty, guaranty or representation is expressed or implied as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine its environmental regulatory compliance obligations under any applicable EC, national or state laws. Okai Corporation assumes no responsibility for injury to the end user caused by the material even if proper safety procedures are followed. The end user should determine the suitability of the information for their particular usage. The end user assumes the risk in the use of this material. The information in this document may be changed periodically.