

MATERIAL SAFETY DATA SHEETS

PRODUCT CHEMICAL

ELECTROLYTE POTASSIUM HYDROXIDE

MATERIAL SAFETY DATA SHEET

POTASSIUM HYDROXIDE

I. PRODUCT IDENTIFICATION

<u>CHEMICAL NAME</u>	Potassium Hydroxide	<u>SYNONYMS</u>	Caustic Potash, Flake
<u>PRODUCT NAME</u>	Potassium Hydroxide	<u>CAS NUMBER</u>	1310-58-3
<u>CHEMICAL FAMILY</u>	Alkaline Hydroxides	<u>FORMULA</u>	K O H

II. HAZARDOUS INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>CONCENTRATION</u>	
				<u>SOLID</u>	<u>LIQUID</u>
Potassium Hydroxide	1310-58-3	2 mg/cm ³	2 mg/cm ³	85-100 %	12.5-15.0%
Potassium Carbonate	584-8-7	None Known	None Known	0-1.5 %	0-0.25 %
Sodium Hydroxide	1310-73-2	2 mg/cm ³	2 mg/cm ³	0-0.5 %	0-0.10%
Water	7732-18-5	None Known	None Known	0-15%	85-90%

III. PHYSICAL PROPERTIES

<u>PHYSICAL FORM</u>	Solid Flake, or Liquid	<u>VISCOSITY</u>	No Data Available
<u>COLOR</u>	White Flake/ Clear liquid	<u>SOLUBILITY IN WATER</u>	53% at 20°C (68°F)

<u>ODOR</u>	None	<u>SPECIFIC GRAVITY</u>	No Data Available
<u>MOL. WEIGHT</u>	56.10	<u>BULK DENSITY</u>	2.04 (g/cc)
<u>pH</u>	@ 25°C Not Applicable	<u>VAPOR PRESSURE</u>	No Data Available
<u>BOILING POINT</u>	1320°C (2408°F)	<u>EVAPORATION RATE</u>	No Data Available
<u>MELTING POINT</u>	360-380°C (680-716°F)	<u>% VOLATILE</u>	No Data Available

IV. FIRE AND EXPLOSION DATA

<u>FLASH POINT</u>	Not Applicable	<u>UPPER EXPLOSIVE LIMIT</u>	Not Applicable
<u>TEST CUP METHOD</u>	Not Applicable	<u>LOWER EXPLOSIVE LIMIT</u>	Not Applicable
<u>FLAMMABLE</u>	No	<u>AUTO-IGNITION TEMP</u>	Not Applicable
<u>COMBUSTIBLE</u>	No	<u>EXTINGUISHING MEDIA</u>	All Extinguishing Media
<u>SPECIAL FIREFIGHTING PROCEDURES</u>	Wear self-contained breathing apparatus		

UNUSUAL FIRE AND EXPLOSION HAZARDS Not combustible by itself. Contact with water can generate sufficient heat to ignite combustible materials. Contact with some metals can generate flammable hydrogen gas.

V. HUMAN HEALTH DATA

ROUTE(S) OF ENTRY Eyes, Skin, Inhalation and Ingestion

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

INHALATION May cause severe burns or deep ulcerations of respiratory tract. Inhalation of high concentrations can result in permanent lung damage.

INGESTION Irritation and/or burns may occur to entire gastrointestinal tract, characterized by nausea, vomiting, diarrhea, abdominal pain.

SKIN CONTACT May cause severe burns or deep ulcerations. Prolonged skin exposure can cause destruction of dermis with impairment of the skin at site of contact to regenerate.

EYE CONTACT May cause severe burns or deep ulcerations. Contact may cause impairment of vision and corneal damage.

CHRONIC EXPOSURE Prolonged skin exposure is similar to similar exposure. Prolonged inhalation may cause impairment of lung function and permanent damage.

AGGRAVATION OF PRE-EXISTING CONDITIONS Asthma and respiratory and cardiovascular disease.

CARCINOGENICITY Not listed by NTP, IARC or regulated as a carcinogen.

VI. FIRST AID

INHALATION Remove to fresh air. Call a physician. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.

INGESTION If swallowed call a physician. If person is conscious, immediately drink large quantities of water. *****DO NOT INDUCE VOMITING*****

SKIN CONTACT In case of contact with skin, wash skin with soap and water. Wash clothing before reusing. Call a physician if irritation persists.

EYE CONTACT Immediately flush eyes with running water for 15 minutes. Call a physician.

VII. EMPLOYEE PROTECTION RECOMMENDATIONS

EYE PROTECTION Use chemical safety goggles. Do not wear contact lens if airborne dust is present.

SKIN PROTECTION Use chemically resistant gloves and clothing. Wash face and hands before eating or drinking.

PERSONAL RESPIRATORS Use a NIOSH/MSHA approved dust respirator.

VENTILATION SYSTEM Use local exhaust if dust concentration exceeds nuisance exposure limit or if worker discomfort exists.

ADDITIONAL MEASURES Prolonged skin exposure is similar to similar exposure. Prolonged inhalation may cause impairment of lung function and permanent damage.

VIII. REACTIVITY DATA

STABILITY Stable under ordinary conditions of use and storage.

CONDITIONS TO AVOID None Known

HAZARDOUS
POLYMERIZATION Will not occur.

INCOMPATIBILITIES Acids, nitrogen containing organics, tin, zinc, carbohydrates, phosphorous, explosives, organic peroxides, aluminum

DECOMPOSITION
TEMPERATURE No data available.

DECOMPOSITION
BYPRODUCTS Carbon monoxide with carbohydrates, hydrogen with aluminum, zinc and tin.

IX. SPILL AND LEAK PROCEDURES

GENERAL SAFETY Remove all sources of ignition; ventilate area. Provide protection from inhalation of dust or fumes.

SPILL OR LEAK
RESPONSE Utilize recommended protective clothing and equipment. Sweep up spill/leak and place in clean, dry containers. Avoid dispersing dust into air.

WASTE DISPOSAL Check Federal, State, and local environmental regulations. Prevent wash water from entering ground water. Hazardous concentrations in air may be found in local spill area. This product may represent an explosion hazard if liquified and in contact with some metals. Remove all sources of ignition.

X. SPECIAL PRECAUTIONS AND STORAGE DATA

STORAGE TEMPERATURE No data available.

SHELF LIFE No limitation if tightly sealed.

SPECIAL SENSITIVITY No data available.

HANDLING & STORAGE Maintain safe housekeeping practices.

PRECAUTIONS Do not store above 54°C (130°F)

XI. SHIPPING INFORMATION

D.O.T. SHIPPING NAME Potassium Hydroxide, Solution

HAZARD CLASS 8

U.N. NUMBER 1,814

PACKING GROUP II

LABELS Corrosive

RQ ENTRY REQUIRED Yes

XII. ANIMAL TOXICITY DATA

ORAL LD 50 365 mg/jg (RAT)

DERMAL LD 50 >2 g/kg (RABBIT)

INHALATION LD 50 No data available

SKIN EFFECTS Causes burns

SENSITIZATION No data available

EYE EFFECTS Causes burns

OTHER TOXICITY

SUBCHRONIC TOXICITY No data available

CHRONIC TOXICITY No data available

AQUATIC TOXICITY Rating: " 2 (TLM96: 100-10ppm)

OTHER TOXICITY DATA (TLM96: 100-10ppm): Trout 50ppm; GREENgills 56ppm; Lepomis Pallidus (minnows) 28ppm

XIII. FEDERAL REGULATORY INFORMATION

OSHA STATUS Hazardous

TSCA STATUS Listed on TSCA inventory

CERCLA RQ 1000 Lbs

RCRA STATUS Not hazardous waste in purchased form

SARA TITLE III

S302 EHS RQ None established

S302 EHS TPQ None established

S313 TOXIC CHEMICALS None

S311/312 HAZARD CATEGORIES Health: Immediate (acute); Physical: Reactivity

XIV. OTHER REGULATORY INFORMATION

THE FOLLOWING CHEMICALS ARE SPECIFICALLY LISTED BY INDIVIDUAL STATES; OTHER PRODUCT SPECIFIC HEALTH AND SAFETY DATA IN OTHER SECTIONS OF THIS MSDS MAY ALSO BE APPLICABLE FOR STATE REQUIREMENTS. FOR DETAILS ON YOUR REGULATORY REQUIREMENTS YOU SHOULD CONTACT THE APPROPRIATE AGENCY IN YOUR STATE.

NJ4 New Jersey; included in 5 predominant ingredients >1%

PA3 Pennsylvania; Non-hazardous present at 3% or greater

CA65 California Proposition 65; To our knowledge this product contains levels of listed substances which California has found to cause cancer, birth defects or other reproductive effects.

MSL Massachusetts Substance List (MSL); Hazardous substances and extraordinarily hazardous substances on the MSL must be identified when present in products.

INGREDIENT NAME	CAS NUMBER	CONCENTRATION		STATE CODE
Potassium Hydroxide	1310-58-3	Between	85-100%	NJ4, PA3, MSL

Potassium Carbonate	584-8-7	Between	0-1.5%	NJ4, PA3, MSL
Sodium Hydroxide	1310-73-2	Between	0-0.5%	NJ4, PA3, MSL
Water	7732-18-5	Between	0-15%	NJ4, PA3

XV. ADDENDUM TO MSDS

V. Human Health Data Effects and Symptoms of Overexposure, Continued Bleeding, and./or tissue ulceration. Ingestion causes severe damage to gastrointestinal tract with the potential to cause perforation. The approximate lethal dose for humans is 5 grams.

IX. Spill and Leak Procedures Water Release: This material is heavier than water. It is soluble in water. Stop source of leak as soon as possible. Direct all water flow to a holding area for treatment and/or disposal.

Land Spill: Dike area if necessary. Keep material dry and free of contaminants. Clean up must be done utilizing clean, dry equipment and material placed in clean, dry containers for further handling.

Company Details: TIP Temperature Products
415 Keim Blvd
Suite #2
Burlington
NJ 08016

Toll Free Tel #: 1 (877) 847-8367 Tel #: 1 (609) 239-1900 Fax #: 1 (609) 239-1911