

## SECTION I – PRODUCT IDENTIFICATION

Manufacturer's Name:	Maxtec, Inc.
Address	6526 South Cottonwood Street, Salt Lake City, Utah 84107
Telephone	(801) 266-5300 (800)748-5355
Date Prepared	October 29, 1996
Date Revised	August 17, 2010
Trade Name	Maxtec KOH Oxygen Sensors (TEC Series Sensors)
Description	Base solution encapsulated in plastic housing

## SECTION II – HAZARDOUS INGREDIENTS OF SOLUTION

Lead (Pb)	CAS # 7439-92-1 Quantity 3 – 20 gms OSHA/PEL 0.05 mg/m3 ACGIH/TLV 0.15 mg/m3
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NOTE: TLV and PEL are for lead, inorganic dusts and fumes, as Pb Lead has been reported as causing cancer in laboratory animals, exercise due care

Potassium Hydroxide	CAS # 1310-58-3 Quantity 1 – 5 mls OSHA/PEL 0.05 none ACGIH/TLV 2 mg/m3
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NOTE: TLV and PEL are for solution 15% (KOH)

## SECTION III – PHYSICAL & CHEMICAL CHARACTERISTICS

Lead (Pb)	
Boiling Point 1744	Specific Gravity 11.34
Vapor Pressure N/A	Density N/A
Melting Point (C) 328	Evaporation Rate N/A
Solubility in Water Insoluble	Odor Solid, Silver Gray, Odorless

Potassium Hydroxide	
Boiling Point 1320	Specific Gravity 2.04
Vapor Pressure N/A	Density N/A
Melting Point (C) 360	Evaporation Rate N/A
Solubility in Water Complete	Odor White or slightly yellow, no odor

## SECTION IV – FIRE AND EXPLOSION HAZARD DATA

Flash Point	N/A
Flammable Limits	N/A
LEL	N/A
UEL	N/A
Extinguishing Media	Use extinguishing media appropriate to surrounding fire conditions. No specific agents recommended.
Special Fire Fighting Equip.	Wear NIOSH/OSHA approved self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

## SECTION V – REACTIVITY DATA OF SOLUTION

Stability	Stable
Incompatibilities	Aluminum, organic materials, acid chlorides, acid anhydrides, magnesium, copper. Avoid contact with acids and hydrogen peroxide > 52%
Hazardous Decomposition of By-products	Toxic fumes
Hazardous Polymerization	Will not occur

## SECTION VI – HEALTH HAZARD DATA OF SOLUTION

Routes of Entry	Inhalation: Highly unlikely Ingestion: May be fatal if swallowed
Skin	The electrolyte (potassium hydroxide) is corrosive; skin contact may cause irritation or chemical burns.
Eyes	The electrolyte (potassium hydroxide) is corrosive; eye contact may cause irritation or severe chemical burns.
Acute Effects	The electrolyte is harmful if swallowed, inhaled or absorbed through the skin. It is extremely destructive to tissue of the mucous membrane, stomach, mouth, upper respiratory tract, eyes and skin.
Chronic Effects	Prolonged exposure with the electrolyte has a destructive effect on tissue. Chronic exposure to lead may cause disease of the blood and blood forming organs, kidneys and liver, damage to the reproductive systems and decrease in fertility in men and women, and damage to the fetus of a pregnant woman. Chronic exposure from the lead contained in this product is extremely unlikely.
Signs and Symptoms of	Contact of electrolyte with the skin or eyes will cause a burning sensation and /or feel soapy or slippery to touch. Other symptoms of exposure to lead include loss of sleep, loss of appetite, metallic taste and fatigue.
Carcinogenicity	Lead is classified by the LARC as a class 2B carcinogen (possibly carcinogenic to humans)
OSHA	Where airborne lead exposures exceed the OSHA action level, refer to OSHA Lead Standard 1910.1025.
NTP	N/A
Medical Conditions Generally Aggravated by Exposure	Lead exposure may aggravate disease of the blood and blood forming organs, hypertension, kidneys, nervous and possibly reproductive systems. Those with preexisting skin disorders of eye problems may be more susceptible to the effects of the electrolyte.
Emergency First Aid Procedures	In case of contact with the skin or eyes, immediately flush with plenty of water for at least 15 minutes and remove all contaminated clothing. Get medical attention immediately If ingested, give large amounts of water and DO NOT INDUCE VOMITING. Obtain medical attention immediately. If inhaled, remove to fresh air and obtain medical attention immediately.

## SECTION VII – PRECAUTIONS FOR SAFE HANDLING AND USE

NOTE: The oxygen sensors are sealed, and under normal circumstances, the contents of the sensors do not present a health hazard. The following information is given as a guide in the event that a cell leaks.

Protective measures during cell replacement	Before removing the sensor cell from the container, check for sensor cell leakage. If the sensor cell leaks, do not remove from container. If there is liquid around the cell while in the instrument, wear eye and hand protection.
Cleanup Procedures	Wipe down the area several times with a wet paper towel. Use a fresh towel each time. Contaminated paper towels are considered hazardous waste.

## SECTION VIII – CONTROL MEASURES

Eye Protection	Chemical splash goggles
Hand Protection	Rubber gloves
Other Protective Clothing	Apron, face shield
Ventilation	N/A

NOTE: Handling sensors with exposed electrolyte

## SECTION IX – DISPOSAL

Both lead and potassium hydroxide are considered hazards and are regulated under TSCA AND SARA Title III.

EPA Waste Number	D008
California waste Number	181
DOT Information	RQ Hazardous Waste Solid N.O.S. (Lead), 9, UN3077 PG III Follow all Federal, State and Local regulations.

## SECTION X – TRANSPORTATION

### U.S. DOT/ IATA Information:

Maxtec KOH sensors are not subject to the full requirements of 49 CFR § 173.136, 202 and 242, which cover UN1814 Potassium hydroxide solutions, because they meet the exceptions criteria in 49 CFR § 173.154 (b) Limited quantities: "For corrosive materials in Packing Group III, in inner packagings not over 5.0 L (1.3 gallons) net capacity each for liquids, or not over 5.0 kg (11 lbs) net capacity each for solids, and packed in strong outer packagings." Specifically, they are exempted from the labeling requirements 49 CFR § 172.400 and the specification packaging requirements 49 CFR § 178.

Maxtec KOH sensors are not subject to the full requirements of 49 CFR § 173.140, 213 and 240, which cover UN3077 Environmentally hazardous substances, solid, n.o.s., because they meet the exceptions criteria in 49 CFR § 173.155(b) Limited quantities: "For solids, in inner packagings not over 5.0 kg (11 pounds) net capacity each, packed in strong outer packagings." Specifically, they are exempted from the labeling requirements 49 CFR § 172.400 and the specification packaging requirements 49 CFR § 178.

## SECTION XI – REFERENCES

Material Safety Data Sheets from J. T. Baker Chemical, Permagile Industries Inc., Royal Society of Chemistry

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