

Material Safety Data Sheet (MSDS)

Product Identification

Product Name Oxygen Sensor Series – PO2, TO2 series
Synonyms Precision Electrochemical Sensor
Manufacturer Southland Sensing Ltd, 4045 E. Guasti Rd. Suite 203 Ontario, CA 91761
Emergency Phone Number 1-949-398-2879
Preparation / Revision Date April 23rd, 2016
Notes Oxygen sensors are sealed, contain protective coverings and in normal conditions do not present a health hazard.
Information applies to electrolyte unless otherwise noted.

Specific Generic Ingredients

Carcinogens at levels > 0.1% None
Others at levels > 1.0% Potassium Hydroxide or Acetic Acid, Lead
CAS Number Potassium Hydroxide = KOH 1310-58-3 or Acetic Acid = 64-19-7, Lead = Pb 7439-92-1

General Requirements

Use Potassium Hydroxide or Acetic Acid - electrolyte, Lead - anode
Handling Rubber or latex gloves, safety glasses
Storage Indefinitely

Physical Properties

Boiling Point Range KOH = 100 to 115 C or Acetic Acid = 100 to 117 C
Melting Point Range KOH -10 to 0 C or Acetic Acid – NA, Lead 327 C
Freezing Point KOH = -40 to -10 C or Acetic Acid = -40 to -10 C
Molecular Weight KOH = 56 or Acetic Acid – NA, Lead = 207
Specific Gravity KOH = 1.09 @ 20 C, Acetic Acid = 1.05 @ 20 C
Vapor Pressure KOH = NA or Acetic Acid = 11.4 @ 20 C
Vapor Density KOH – NA or Acetic Acid = 2.07
pH KOH > 14 or Acetic Acid = 2-3
Solubility in H2O Complete
% Volatiles by Volume None
Evaporation Rate Similar to water
Appearance and Odor Aqueous solutions: KOH = Colorless, odorless or Acetic Acid = Colorless, vinegar-like odor

Fire and Explosion Data

Flash and Fire Points Not applicable
Flammable Limits Not flammable
Extinguishing Method Not applicable
Special Fire Fighting Procedures Not applicable

Reactivity Data

Stability Stable
Conditions Contributing to Instability None
Incompatibility KOH = Avoid contact with strong acids or Acetic Acid = Avoid contact with strong bases
Hazardous Decomposition Products KOH = None or Acetic Acid = Emits toxic fumes when heated
Conditions to Avoid KOH = None or Acetic Acid = Heat

Spill or leak

Steps if material is released

Sensor is packaged in a sealed plastic bag, check the sensor inside for electrolyte leakage. If the sensor leaks inside the plastic bag or inside an analyzer sensor housing do not remove it without rubber or latex gloves, safety glasses, and a source of water. Flush or wipe all surfaces repeatedly with water or a wet paper towel (fresh each time). Dispose in accordance with federal, state, and local regulations.

Health Hazard Information

Primary Route(s) of Entry

Exposure Limits

Ingestion, eye and skin contact

Potassium Hydroxide - ACGIH TLV 2 mg/cubic meter or Acetic Acid - ACGIH TLV / OSHA PEL 10 ppm (TWA), Lead - OSHA PEL .05 mg/cubic meter

Ingestion

Electrolyte could be harmful or fatal if swallowed. KOH = Oral LD50 (RAT) = 2433 mg/kg or Acetic Acid = Oral LD50 (RAT) = 6620 mg/kg

Eye

Electrolyte is corrosive and eye contact could result in permanent loss of vision.

Skin

Electrolyte is corrosive and skin contact could result in a chemical burn.

Inhalation

Liquid inhalation is unlikely.

Symptoms

Eye contact - burning sensation. Skin contact - slick soapy feeling.

Medical Conditions Aggravated

None

Carcinogenic Reference Data

KOH and Acetic Acid = NTP Annual Report on Carcinogens - not listed; LARC Monographs - not listed; OSHA - not listed

Other

Lead is listed as a chemical known to the State of California to cause birth defects or other reproductive harm.

Special Protection

Ventilation Requirements

None

Eye

Safety glasses

Hand

Rubber or latex gloves

Respirator Type

Not applicable

Other Special Protection

None

Special Precautions

Precautions

Do not remove the sensor's protective Teflon and PCB coverings. Do not probe the sensor with sharp objects. Wash hands thoroughly after handling. Avoid contact with eyes, skin, and clothing.

Empty sensor body may contain hazardous residue.

Transportation

Not applicable