



# Inland ATK-Titrant Standard

## Material Safety Data Sheet

Revision Date January 2004

For Chemical Emergency Call Chemtrec 800-424-9300

### 1. Substance/Company Identification

PRODUCT NAME: **Inland Acidity Test Kit-Titrant Standard**  
CAS NUMBER: 2-propanol 67-63-0  
Potassium Hydroxide 1310-58-6  
MANUFACTURER: Inland Vacuum Industries  
Churchville NY 14428  
(585) 293-3330

### 2. Composition/ Ingredients

CHEMICAL NAME: Potassium Hydroxide, 2-propanol  
PRODUCT CLASSIFICATION: Alkaline and petroleum solvent  
CHEMICAL FORMULA: KOH, C<sub>3</sub>H<sub>8</sub>O,  
REGULATED INGREDIENTS: 6% Potassium Hydroxide, 94% 2-propanol

### 3. Hazards Identification

POSSIBLE ENTRY ROUTES: Potassium Hydroxide: is toxic and a severe eye, skin, and mucous membrane irritant.  
TARGET ORGANS: Isopropanol-poisoning may affect the kidneys

#### ACUTE EFFECTS:

##### **Potassium Hydroxide**

Inhalation: may cause symptoms of respiratory tract irritation possibly including coughing, choking, pain in the nose, mouth and throat, lesions of the nasal septum, and burns of the mucous membranes. If sufficient quantities are inhaled, pulmonary edema may develop. Symptoms may include tightness of the chest, dyspnea, frothy sputum, cyanosis, and dizziness.

Skin Contact: Direct contact may cause severe pain, burns, and possibly brownish stains. The corroded areas are soft, gelatinous and necrotic, and the tissue destruction may be deep.

Eye Contact: May cause pain and burns, possibly severe. There may be edema, destruction of epithelium, corneal opacification, and iritis. When damage is less than excessive, these symptoms tend to ameliorate.

Ingestion: Of 273mg/kg of potassium hydroxide was lethal to rats tested. Ingestion of strong alkalis may be followed by severe pain, vomiting, diarrhea, and collapse. The vomitus contains blood and desquamated mucosal lining. If death does not occur in the first 24 hours, the patient may improve for 2-4 days then have a sudden onset of severe abdominal rigidity, and a rapid fall of blood pressure indicating delayed gastric or esophageal perforation. Damage to the esophagus and stomach may progress for 2-3 weeks. Death from peritonitis may occur as late as 1 month after ingestion. Even though the patient recovers from the immediate damage, esophageal stricture may occur weeks, months or even years later to make swallowing difficult.

##### **Isopropanol**

Inhalation: Human subjects exposed to 400ppm had mild irritation of the nose and throat.

Skin Contact: May cause slight irritation. Slight erythema occurred after single application to rabbit skin. The substance may be absorbed.

Eye Contact: In rabbit eyes, a drop caused mild transitory injury. A 50% aqueous solution after 3 minutes caused moderate irritation.

Ingestion: May cause abdominal pain, nausea, vomiting, and hemorrhage. Central nervous system depression may occur with headache, dizziness, flushing, incoordination, confusion, hypertension, and depressed respiration.

#### CHRONIC EFFECTS:

**Potassium Hydroxide**

**Inhalation:** Repeated or prolonged exposure may cause inflammatory and ulcerative changes in the mouth and possibly bronchial and gastrointestinal disturbances.

**Skin Contact:** Repeated or prolonged contact may cause dermatitis or effects similar to acute exposure. Frequent applications of aqueous solutions (3-6%) of potassium hydroxide to the skin of mice for 46 weeks produced tumors identical to those from coal tar; warts occurred first then skin tumors developed.

**Eye Contact:** Effects depend on concentration and duration of exposure. Repeated or prolonged exposure to vapors and/or fumes may result in conjunctivitis or effects as in acute exposure.

**Ingestion:** The food and drug administration lists potassium hydroxide as a direct food substance affirmed as generally recognized as safe levels not to exceed current manufacturing practices.

**Isopropanol**

**Inhalation:** Mice subjected to 10900ppm isopropyl alcohol for about hours/day until they accumulated 123 hrs. of exposure were narcotized but survived. Reversible fatty changes were observed in the liver

**Skin Contact:** Repeated or prolonged exposure may cause dermatitis due to the defatting action on the skin. Repeated and prolonged exposure to the skin of rabbits caused slight erythema, drying and superficial desquamation.

**Eye Contact:** Prolonged or repeated exposure to vapors may cause conjunctivitis, iritis, and corneal opacity.

**Ingestion:** No adverse effects resulted in human following daily ingestion of 2.6 and 6.4mg/kg for 6 weeks.

**4. First Aid Measures**

**INHALATION:** remove to fresh air. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Get medical attention immediately.

**SKIN CONTACT:** Remove contaminated clothing and shoes immediately. Wash affected area with soap and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.

**EYES:** Flush with water for at least 15 min. Contact a physician immediately.

**INGESTION:** Do not induce vomiting. Contact a physician. No specific antidote. Treat symptomatically and supportively.

**5. Fire Fighting Measures**

**FLASH POINT:** 15°C

**METHOD USED:** Pensky-Martin Closed Cup

**EXPLOSIVE LIMITS LOWER:** 2% **UPPER:** 12%

**EXTINGUISHING MEDIA:** Water fog, halon, carbon dioxide, alcohol foam, or dry chemical **NFPA Class I B Material.**

**SPECIAL FIREFIGHTING PROCEDURES:** Wear breathing gear when fighting fires in enclosed spaces.

**UNUSUAL FIRE AND/OR EXPLOSION HAZARDS:** Move containers from fire area if possible. Cool fire exposed containers from side until well after is out. Avoid breathing vapors.

**6. Accidental Release Measures**

**PROCEDURE TO BE FOLLOWED IN EVENT OF RELEASE:** Absorb with vermiculite or other suitable material. Place in a suitable container (plastic) for later disposal.

**7. Handling and Storage**

**HANDLING:** Keep container closed and store in a cool place away from heat and flame. Never wear contact lenses when handling this product. Keep out of reach of children.

**STORAGE:** Do not allow the material to dry out.

**8. Exposure Controls/Personal Protection**

**ENGINEERING CONTROL MEASURES:** None required

**RESPIRATORY PROTECTION:** Self-contained breathing gear should be worn when handling large quantities.

**PROTECTIVE GLOVES:** Yes - impermeable.

**SAFETY GLASSES/GOGGLES:** Yes - glasses should have side shields, no contact lenses

**OTHER PROTECTIVE EQUIPMENT:** Impervious clothing and equipment to prevent repeated or prolonged skin contact.

**9. Physical & Chemical Properties**

**PHYSICAL STATE:** Liquid

VAPOR PRESSURE: >33 Torr @ 20 °C  
 BOILING POINT: >181 °C  
 MELTING POINT: -89 °C  
 EVAPORATION RATE (butyl acetate = 1): 2.8  
 VAPOR DENSITY: 2.1  
 SPECIFIC GRAVITY: 0.82  
 SOLUBILITY IN WATER: 100%  
 APPEARANCE: Clear colorless liquid  
 ODOR: Strong smell of rubbing alcohol

**10. Stability & Reactivity**

STABILITY: Material is stable under normal temperatures and pressures  
 CONDITIONS TO AVOID: None reported.  
 INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers, fire and explosion hazards.  
 HAZARDOUS DECOMPOSITION PRODUCTS: Incomplete combustion may produce toxic oxides of potassium and carbon. Potassium oxide may react with water or steam to produce heat and flammable hydrogen.  
 HAZARDOUS POLYMERIZATION: Violent polymerization may occur with acrolein or acrylonitrile due to the presence of the hydroxide ion from potassium hydroxide.

**11. Toxicological Information**

ACUTE ORAL: See section 3 of this MSDS  
 ACUTE DERMAL: See section 3 of this MSDS  
 ACUTE INHALATION: See section 3 of this MSDS

**12. Ecological Information**

ENVIRONMENTAL: When used as indicated, no adverse environmental effects are foreseen.  
 MOBILITY: Volatile and soluble in water.  
 BIODEGRADABILITY: No evidence of biodegradation  
 BIOACCUMULATION: No evidence of bioaccumulation.

**13. Disposal Considerations**

Product and packaging must be disposed of in accordance with Federal, State and local regulations. Material may be returned for reclamation. Can be burned in a chemical incinerator equipped with an afterburner and scrubber.

**14. Transport Classification**

**Shipped under UN1993. Reportable quantity for Toluene is 1000 lbs.  
 EPA hazardous waste number F005**

**15. Regulatory Information**

Listed on the TSCA Inventory and EINECS

**16. Other Information**

**NFPA RATING**

FLAMMABILITY	3
HEALTH HAZARD	2
REACTIVITY	0
SPECIAL HAZARD	NONE