Potassium Hydroxide, 0.5N (0.5M) in Isopropanol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 12/20/2013 Revision date: 02/08/2018 Supersedes: 02/08/2018 Version: 1.1

SECTION 1: Identification

1.1. Identification
Product form : Mixtures
Product name : Potassium Hydroxide, 0.5N (0.5M) in Isopropanol
Product code : LC19530

1.2. Recommended use and restrictions on use
Use of the substance/mixture : For laboratory and manufacturing use only.
Recommended use : Laboratory chemicals
Restrictions on use : Not for food, drug or household use

1.3. Supplier
LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 16063 - USA
412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number
Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS-US classification
Flammable liquids H225 Highly flammable liquid and vapour
Category 2
Skin corrosion/irritation H314 Causes severe skin burns and eye damage
Category 1B
Serious eye damage/eye irritation Category 1 H318 Causes serious eye damage
Specific target organ toxicity (single exposure) Category 3 H336 May cause drowsiness or dizziness

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements
GHS-US labeling
Hazard pictograms (GHS-US) :

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H225 - Highly flammable liquid and vapour
H314 - Causes severe skin burns and eye damage
H336 - May cause drowsiness or dizziness
Precautionary statements (GHS-US) : P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical, ventilating, lighting equipment
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe mist, vapors, spray.
P264 - Wash exposed skin thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 - IF in eyes: Rinse cautiously with water for several minutes. Remove contact...
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P310 - Immediately call a poison center or doctor/physician.
P235 - Keep cool.
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use carbon dioxide (CO2), powder, alcohol-resistant foam to extinguish
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to comply with local, state and federal regulations
If inhaled: Remove person to fresh air and keep comfortable for breathing

2.3. Other hazards which do not result in classification
Other hazards not contributing to the classification : None.

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl Alcohol (2-Propanol)</td>
<td>(CAS-No.) 67-63-0</td>
<td>97.25</td>
<td>Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H335</td>
</tr>
<tr>
<td>Potassium Hydroxide</td>
<td>(CAS-No.) 1310-58-3</td>
<td>2.75</td>
<td>Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Aquatic Acute 3, H402</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures
First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician. Call a POISON CENTER or doctor/physician if you feel unwell.
First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Immediately call a poison center or doctor/physician.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects (acute and delayed)
Symptoms/effects : Causes severe skin burns and eye damage.
Symptoms/effects after inhalation : May cause drowsiness or dizziness.
Symptoms/effects after eye contact : Causes serious eye damage.

4.3. Immediate medical attention and special treatment, if necessary
Obtain medical assistance.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical
Fire hazard : Highly flammable liquid and vapor.
Explosion hazard : May form flammable/explosive vapor-air mixture.
Reactivity : Thermal decomposition generates : Corrosive vapors.
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5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking.

6.1.1. For non-emergency personnel


Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection. Avoid breathing mist, spray.

Emergency procedures: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed: Handle empty containers with care because residual vapors are flammable.

Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No naked lights. No smoking. Use only non-sparking tools. Do not breathe mist, vapors, spray. Use only outdoors or in a well-ventilated area.

Hygiene measures: Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/… equipment. Comply with applicable regulations.

Storage conditions: Keep only in the original container in a cool, well ventilated place away from: Heat sources, Ignition sources, incompatible materials. Keep in fireproof place. Keep container tightly closed.


Incompatible materials: Sources of ignition. Direct sunlight. Heat sources.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th></th>
<th>ACGIH Ceiling (mg/m³)</th>
<th>ACGIH TWA (ppm)</th>
<th>Isopropyl Alcohol (2-Propanol) (67-63-0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Hydroxide (1310-58-3)</td>
<td>2 mg/m³ (Potassium hydroxide; USA; Momentary value; TLV - Adopted Value)</td>
<td>200 ppm (2-propanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)</td>
<td></td>
</tr>
<tr>
<td>NIOSH</td>
<td>2 ppm</td>
<td>400 ppm</td>
<td>980 mg/m³ (2-propanol; USA; Short time value; TLV - Adopted Value)</td>
</tr>
<tr>
<td>ACGIH</td>
<td>ACGIH TWA (ppm)</td>
<td>400 ppm</td>
<td>400 ppm</td>
</tr>
<tr>
<td>OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>980 mg/m³</td>
<td>2000 ppm</td>
</tr>
<tr>
<td>IDLH</td>
<td>US IDLH (ppm)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Isopropyl Alcohol (2-Propanol) (67-63-0)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NIOSH REL (TWA) (mg/m³)</td>
<td>980 mg/m³</td>
</tr>
<tr>
<td>NIOSH REL (TWA) (ppm)</td>
<td>400 ppm</td>
</tr>
<tr>
<td>NIOSH REL (STEL) (mg/m³)</td>
<td>1225 mg/m³</td>
</tr>
<tr>
<td>NIOSH REL (STEL) (ppm)</td>
<td>500 ppm</td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls
Appropriate engineering controls: Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Ensure exposure is below occupational exposure limits (where available).

8.3. Individual protection measures/Personal protective equipment
Personal protective equipment:

Hand protection:
Wear protective gloves.

Eye protection:
Chemical goggles or face shield

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
Respiratory protection not required in normal conditions

Other information:
Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>sharp</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Highly flammable liquid and vapor.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water. Soluble in methanol. Soluble in ethanol.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
</tbody>
</table>
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Decomposition temperature: No data available
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
Explosion limits: No data available
Explosive properties: No data available.
Oxidizing properties: None.

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
Thermal decomposition generates: Corrosive vapors.

10.2. Chemical stability
Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

10.3. Possibility of hazardous reactions
May react violently with oxidants.

10.4. Conditions to avoid
Direct sunlight. Extremely high or low temperatures. Open flame.

10.5. Incompatible materials
Strong oxidizers. Strong acids.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure: Inhalation; Skin and eye contact
Acute toxicity: Not classified

Potassium Hydroxide (1310-58-3)
LD50 oral rat 333 mg/kg (Rat; Equivalent or similar to OECD 425; Experimental value)
ATE US (oral) 333 mg/kg body weight

Isopropyl Alcohol (2-Propanol) (67-63-0)
LD50 dermal rabbit 12870 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402; 16.4; Rabbit)
LC50 inhalation rat (mg/l) 73 mg/l/4h (Rat)
ATE US (oral) 5045 mg/kg body weight
ATE US (dermal) 12870 mg/kg body weight
ATE US (vapors) 73 mg/l/4h
ATE US (dust, mist) 73 mg/l/4h

Skin corrosion/irritation: Causes severe skin burns and eye damage.
Serious eye damage/irritation: Causes serious eye damage.
Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified

Isopropyl Alcohol (2-Propanol) (67-63-0)
IARC group 3 - Not classifiable
Reproductive toxicity: Not classified
Specific target organ toxicity – single exposure: May cause drowsiness or dizziness.
Specific target organ toxicity – repeated exposure: Not classified
Aspiration hazard: Not classified
### Potential Adverse Human Health Effects and Symptoms

- **Symptoms/Effects After Inhalation**: May cause drowsiness or dizziness.
- **Symptoms/Effects After Eye Contact**: Causes serious eye damage.

### SECTION 12: Ecological Information

#### 12.1. Toxicity

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 (mg/l)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Hydroxide (1310-58-3)</td>
<td>80</td>
<td>LC50 fish 2 (LC50; Gambusia affinis; Static system; Fresh water)</td>
</tr>
<tr>
<td>Isopropyl Alcohol (2-Propanol) (67-63-0)</td>
<td>9640</td>
<td>LC50 fish 2 (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value)</td>
</tr>
<tr>
<td>EC50 Daphnia 2</td>
<td>13299</td>
<td>EC50 Daphnia 2 (EC50; Other; 48 h; Daphnia magna)</td>
</tr>
<tr>
<td>Threshold limit algae 1</td>
<td>&gt; 1000</td>
<td>Threshold limit algae 1 (EC50; UBA; 72 h; Scenedesmus subspicatus)</td>
</tr>
</tbody>
</table>

#### 12.2. Persistence and Degradability

- **Potassium Hydroxide, 0.5N (0.5M) in Isopropanol**: Not established.
- **Potassium Hydroxide (1310-58-3)**: Biodegradability: not applicable.
- **Chemical oxygen demand (COD)**: Not applicable
- **ThOD**: Not applicable
- **Isopropyl Alcohol (2-Propanol) (67-63-0)**: Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No test data on mobility of the substance available.

#### 12.3. Bioaccumulative Potential

- **Potassium Hydroxide, 0.5N (0.5M) in Isopropanol**: Not established.
- **Potassium Hydroxide (1310-58-3)**: Bioaccumulation: not applicable.
- **Isopropyl Alcohol (2-Propanol) (67-63-0)**: Log Pow = 0.05 (Weight of evidence approach; Other; 25 °C)

#### 12.4. Mobility in Soil

- **Isopropyl Alcohol (2-Propanol) (67-63-0)**: Surface tension = 0.021 N/m (25 °C)

#### 12.5. Other Adverse Effects

- **Other Information**: Avoid release to the environment.

### SECTION 13: Disposal Considerations

#### 13.1. Disposal Methods

- **Waste Disposal Recommendations**: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.
- **Additional Information**: Handle empty containers with care because residual vapors are flammable.
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Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT

Transport document description: UN2924 Flammable liquids, corrosive, n.o.s., 3, II

UN-No.(DOT): UN2924
Proper Shipping Name (DOT): Flammable liquids, corrosive, n.o.s.
Transport hazard class(es) (DOT): 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT): II - Medium Danger
Hazard labels (DOT): 3 - Flammable liquid
8 - Corrosive

DOT Packaging Non Bulk (49 CFR 173.xxx): 202
DOT Packaging Bulk (49 CFR 173.xxx): 243
DOT Symbols: G - Identifies PSN requiring a technical name
DOT Special Provisions (49 CFR 172.102): IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 °C (1.1 bar at 122 °F), or 130 kPa at 55 °C (1.3 bar at 131 °F) are authorized.
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 °C (59 °F) and 50 °C (122 °F), respectively.
TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx): 150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): 5 L
DOT Vessel Stowage Location: B - (i) The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
DOT Vessel Stowage Other: 40 - Stow “clear of living quarters”
Other information: No supplementary information available.

SECTION 15: Regulatory information

15.1. US Federal regulations

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SARA Section 311/312 Hazard Classes: Fire hazard
Immediate (acute) health hazard

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.
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Isopropyl Alcohol (2-Propanol) | CAS-No. 67-63-0 | 97.25%

<table>
<thead>
<tr>
<th>Potassium Hydroxide (1310-58-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ (Reportable quantity, section 304 of EPA's List of Lists)</td>
</tr>
<tr>
<td>SARA Section 311/312 Hazard Classes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Isopropyl Alcohol (2-Propanol) (67-63-0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARA Section 311/312 Hazard Classes</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

National regulations
No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Revision date : 02/08/2018
Other information : None.

Full text of H-phrases: see section 16:

<table>
<thead>
<tr>
<th>H225</th>
<th>Highly flammable liquid and vapour</th>
</tr>
</thead>
<tbody>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
<tr>
<td>H336</td>
<td>May cause drowsiness or dizziness</td>
</tr>
<tr>
<td>H402</td>
<td>Harmful to aquatic life</td>
</tr>
</tbody>
</table>

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.
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<table>
<thead>
<tr>
<th>Hazard Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given</td>
</tr>
<tr>
<td>Flammability</td>
<td>3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB &amp; IC)</td>
</tr>
<tr>
<td>Physical</td>
<td>0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.</td>
</tr>
</tbody>
</table>

### Personal protection

- **H**
  - H - Splash goggles, Gloves, Synthetic apron, Vapor respirator

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