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Section 1  Chemical Product and Company Identification

SDS No.: EE0076  
Page E1 of E2

Section 2  Hazards Identification

Signal word: DANGER  
Pictograms: GHS02 / GHS06 / GHS07 / GHS08  
Target organs: Eyes, Central nervous system, Liver, Kidneys.

GHS Classification:  
Flammable liquid (Category 2)  
Acute toxicity, oral (Category 3)  
Acute toxicity, dermal (Category 3)  
Acute toxicity, inhalation (Category 3)  
Eye irritation (Category 2B)  
STOT-SE (Category 2)  
STOT-SE (Category 3)

GHS Label information: Hazard statement:  
H225: Highly flammable liquid and vapour.  
H301: Toxic if swallowed.  
H311: Toxic in contact with skin.  
H331: Toxic if inhaled.  
H336: May cause drowsiness or dizziness.  
H371: May cause damage to organs.

Precautionary statement:  
P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P233+P235: Keep container tightly closed. Keep cool.  
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/vapours/spray.  
P264: Wash hands thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P271: Use only outdoors or in a well-ventilated area.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P302+P305: IF SWALLOWED: Immediatelcall a POISON CENTER or doctor.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing.  
Rinse skin with water/shower.  
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P308+P311: IF exposed or concerned: Call a POISON CENTER or doctor.  
P337+P313: If eye irritation persists: Get medical attention.  
P361+P364: Take off immediately all contaminated clothing and wash it before reuse.  
P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or water spray to extinguish.  
P403+P405: Store in a well-ventilated place. Store locked up.  
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65: This product contains a chemical known to the State of California to cause reproductive toxicity (Methanol, developmental).

Section 3  Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>%</th>
<th>EINECS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol</td>
<td>64-17-5</td>
<td>85.9%</td>
<td>200-578-6</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>5.0%</td>
<td>231-791-2</td>
</tr>
<tr>
<td>Isopropyl alcohol (denaturant)</td>
<td>67-63-0</td>
<td>4.8%</td>
<td>200-661-7</td>
</tr>
<tr>
<td>Methanol (denaturant)</td>
<td>67-66-1</td>
<td>4.3%</td>
<td>200-659-6</td>
</tr>
</tbody>
</table>

Section 4  First Aid Measures

INGESTION: TOXIC IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: TOXIC IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: TOXIC IN CONTACT WITH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5  Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

Section 6  Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.
Section 8 Exposure Controls / Personal Protection

<table>
<thead>
<tr>
<th>Exposure Limits:</th>
<th>ACGIH (TLV)</th>
<th>OSHA (PEL)</th>
<th>NIOSH (REL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethanol</td>
<td>STEL: 1000 ppm / 1880 mg/m³ (A3)</td>
<td>TWA: 1000 ppm / 1900 mg/m³</td>
<td>TWA: 1000 ppm / 1900 mg/m³</td>
</tr>
</tbody>
</table>

Section 9 Physical & Chemical Properties

- Appearance: Clear, colorless liquid.
- Odor: Mild characteristic odor.
- Odor threshold: Data not available.
- pH: Data not available.
- Melting / Freezing point: -114°C (-173°F)*
- Boiling point: 78°C (163-174°F)*
- Flash point: 13°C (55°F) TCC

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Section 10 Stability & Reactivity

- Chemical stability: Stable
- Hazardous polymerization: Will not occur.
- Incompatible materials: Strong oxidizers, inorganic acids and halogens.
- Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological Information

- Acute toxicity: Oral-rat LD50: 7060 mg/kg; Inhalation-rat LC50: 124.7 mg/ml/4hours [Ethanol]
- Skin corrosion/irritation: Skin-rabbit - Slight irritant.
- Serious eye damage/irritation: Eyes-rabbit - Severe irritant.
- Respiratory or skin sensitization: Data not available.
- Germ cell mutagenicity: Data not available.
- Carcinogenicity: Data not available.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- IARC classified: Group 3: Not classifiable as to its carcinogenicity to humans. [Isopropanol]
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
- Reproductive toxicity: Data not available.
- STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.
- STOT-repeated exposure: Data not available.
- Aspiration hazard: Data not available.
- Potential health effects:
  - Inhalation: Inhalation may cause dizziness, drowsiness, nausea, vomiting, inability to concentrate and irritation of the throat.
  - Ingestion: Ingestion causes dizziness, drowsiness, decreased reaction, euphoria, nausea, vomiting, staggering gait and coma.
  - Skin: Contact with skin causes irritation defatting on prolonged contact.
  - Eyes: Contact with eyes may cause blindness.
- Signs and symptoms of exposure: See Potential health effects above.
- Additional information: RTECS #: KQ6300000 [Ethanol]

Section 12 Ecological Information

- Toxicity to fish: Oncorhynchus mykias (fish, fresh water), LC50 = 11,200 mg/l/24 hours [Ethanol]
- Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea), EC50 = 10,800 mg/l/24 hours [Ethanol, 99.8% pure]
- Toxicity to algae: Chlorella pyrenoidosa (Algae), EC50 = 9,310 mg/l/growth rate [Ethanol, absolute]
- Persistence and degradability: No data available.
- Bioaccumulative potential: No data available.
- Mobility in soil: No data available.
- PBT and vPvB assessment: No data available.
- Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

- UN/NA number: UN1170
- Shipping name: Ethanol
- Hazard class: 3
- Packing group: II
- Reportable Quantity: 5,000 lbs (2270 kg)
- Marine pollutant: No
- Exceptions: Limited quantity equal to or less than 1 L
- 2016 ERG Guide # 127

Section 15 Regulatory Information

- A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>CERCLA (RQ)</th>
<th>RCRA code</th>
<th>DSL</th>
<th>NDSL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>Listed</td>
<td>Not listed</td>
<td>D001</td>
<td>Listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Methanol</td>
<td>Listed</td>
<td>5,000 lbs.</td>
<td>U154</td>
<td>Listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>Listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure.

ERG: Emergency Response Guidebook.
Product | HYDROGEN PEROXIDE, 3%
---|---

**Synonyms**: Hydrogen peroxide aqueous solution, stabilized

**Precautionary statement:**
- P264: Wash hands thoroughly after handling.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313: If eye irritation persists: Get medical attention.
- P312: Call a POISON CENTER or doctor if you feel unwell.

**Signal word**: WARNING

**Pictograms**: No symbol required

**Target organs**: Respiratory and gastrointestinal systems, skin, eyes

**GHS Classification**:
- Acute toxicity (Category 5)
- Eye irritation (Category 2B)

**GHS Label information**:
- Hazard statement:
  - H303: May be harmful if swallowed.
  - H320: Causes eye irritation.

**INGESTION**: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

**INHALATION**: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT**: CAUSES IRRITATION TO EYES. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

**SKIN ABSORPTION**: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

**Suitable Extinguishing Media**: Water only! Apply vast amounts for cooling and dilution.

**Protective Actions for Fire-fighters**: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

**Specific Hazards**: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This product is a strong oxidizer which may release oxygen and promote the combustion of flammable materials. Spontaneous combustion can occur if allowed to remain in contact with oxidizable materials. Drying of product on clothing or combustible material may cause fire.

**Containment and Cleanup**: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.
Section 7  Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8  Exposure Limits / Personal Protection

Exposure Limits:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH (TLV)</th>
<th>OSHA (PEL)</th>
<th>NIOSH (REL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>TWA: 1 ppm ; 1.4 mg/m³ (A3)</td>
<td>TWA: 1 ppm ; 1.4 mg/m³</td>
<td>TWA: 1 ppm ; 1.4 mg/m³</td>
</tr>
</tbody>
</table>

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9  Physical & Chemical Properties

Appearance: Clear, colorless liquid.
Odor: Slightly pungent odor.
Odor threshold: Data not available.
pH: Data not available.
Melt / Freezing point: Approximately 0°C (32°F) (water)
Boiling point: Approximately 100°C (212°F) (water)
Flash point: Data not available
Evaporation rate (Water = 1): <1
Flammability (solid/gas): Data not available.
Explosion limits: Lower / Upper: Data not available
Vapor pressure (mm Hg): 14 (water)
Vapor density (Air = 1): 0.7 (water)
Relative density (Specific gravity): Approximately 1.0 (water)
Solubility(ies): Complete in water.
Partition coefficient: Data not available
Auto-ignition temperature: Data not available
Decomposition temperature: Data not available.
Viscosity: Data not available.
Molecular formula: Mixture
Molecular weight: Mixture

Section 10  Stability & Reactivity

Chemical stability: Stable
Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition. Contact with combustible materials may result in spontaneous combustion.

Incompatible materials: Acids, bases, metals, metal salts, reducing agents, organic materials, alkalies, dust and dirt contaminants, flammable substances, oxidizable materials.

Hazardous decomposition products: Oxygen, which will promote the combustion of flammable material.

Section 11  Toxicological Information

Acute toxicity: Oral-rat LD50: 800 mg/kg [50% hydrogen peroxide]
Skin corrosion/irritation: Data not available.
Serious eye damage/irritation: Data not available.
Respiratory or skin sensitization: Data not available
Germ cell mutagenicity: Data not available
Carcinogenicity: Data not available
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
IARC classified: Group 3: Not classifiable as to its carcinogenicity to humans.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available
STOT-single exposure: Data not available.
STOT-repeated exposure: Data not available
Aspiration hazard: Data not available
Potential health effects:
Inhalation: May be harmful if inhaled.
Ingestion: May be harmful if swallowed.
Skin: May cause irritation.
Eyes: May cause irritation.

Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: MX0900000 [Hydrogen peroxide]

Section 12  Ecological Information

Toxicity to fish: Gambusia affinis (fish, fresh water), NOEC = 2.38 - 9.86 mg/l [Hydrogen peroxide]
Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea), EC50 = 7.7 mg/l/24 hours [Hydrogen peroxide]
Toxicity to algae: Chlorella vulgaris (Algae), EC50 = 2.5 mg/l/growth rate [Hydrogen peroxide]
Partition coefficient: Data not available
Bioaccumulative potential: Data not available
Mobility in soil: No data available
PBT and vPvB assessment: No data available
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13  Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14  Transport Information (US DOT / CANADA TDG)

UN/NA number: Not applicable
Hazard class: Not applicable
Exceptions: Not applicable
Shipping name: Not Regulated
Packing group: Not applicable
Reportable Quantity: No
Marine pollutant: No

Section 15  Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>CERCLA (RQ)</th>
<th>RCRA code</th>
<th>DSL</th>
<th>NDSL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>Listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Section 16  Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Revision Date: December 6, 2016
Supercedes: May 24, 2016
Section 1  Chemical Product and Company Identification

Product: PHENOLPHTHALEIN 2% (IN 20% POTASSIUM HYDROXIDE SOLUTION)

Synonyms: Kastle-Meyer Reagent

Section 2  Hazards Identification

Signal word: DANGER
Pictograms: GHS05 / GHS07 / GHS08
Target organs: None known.

GHS Classification:
Acute tox. (Category 4)
Skin corr. (Category 1A)
Muta. (Category 2)
Carc. (Category 1B)
Repr. (Category 2)

GHS Label information: Hazard statement:
H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H341: Suspected of causing genetic defects.
H350: May cause cancer.
H361F: May damage fertility.

Precautionary statement:
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P260: Do not breathe mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P335: IF ON SKIN: Take off immediately all contaminated clothing, Rinse skin with water/shower.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P363: Wash contaminated clothing before reuse.
P372: Use safety glasses or goggles and face shield.
P381: Use appropriate PPE (eye protection) if the vapors may be encountered.
P405: Store locked up.
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Section 3  Composition / Information on Ingredients

Chemical Name | CAS #     | %  | EINECS   |
---------------|-----------|----|----------|
Water          | 7732-18-5 | 78%| 231-791-2|
Potassium hydroxide | 1310-58-3 | 20%| 215-181-3|
Phenolphthalein | 77-09-8   | 2% | 201-004-7|

Section 4  First Aid Measures

INGESTION: HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE DAMAGE. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SKIN BURNS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5  Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6  Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.
Section 7  Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8  Exposure Limits / Personal Protection

Exposure Limits:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH (TLV)</th>
<th>OSHA (PEL)</th>
<th>NIOSH (REL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium hydroxide</td>
<td>STEL: C 2mg/m³</td>
<td>None established</td>
<td>STEL: C 2mg/m³</td>
</tr>
</tbody>
</table>

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9  Physical & Chemical Properties

Appearance: Clear, colorless liquid.

Odor: No odor.

Odor threshold: Data not available.

pH: Data not available.

Melting / Freezing point: ~0°C (32°F) (water)

Boiling point: ~100°C (212°F) (water)

Flash point: Data not available.

Evaporation rate (Water = 1): <1

Flammability (solid/gas): Data not available.

Explosion limits: Lower / Upper: Data not available.

Vapor pressure (mm Hg): 14 (water)

Vapor density (Air = 1): 0.7 (water)

Relative density (Specific gravity): Approximately 1.1

Solubility(ies): Complete in water.

Partition coefficient: (n-octanol / water): Data not available.

Auto-ignition temperature: Data not available.

Decomposition temperature: Data not available.

Viscosity: Data not available.

Molecular formula: Mixture

Molecular weight: Mixture

Section 10  Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures which cause evaporation.

Incompatible materials: Strong oxidizers, acids, aluminum, halogens, nitro compounds, organic materials, acid chlorides, acid anhydrides, magnesium, copper, tin and zinc.

Hazardous decomposition products: Hydrogen gas in contact with metals. Carbon oxides.

Section 11  Toxicological Information

Acute toxicity: Oral-rat LD50: 365 mg/kg (IUCLID dataset) [Potassium hydroxide]

Skin corrosion/irritation: Skin-rabbit - Corrosive [Potassium hydroxide]

Serious eye damage/irritation: Eyes-rabbit - Corrosive [Potassium hydroxide]

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: This product contains a chemical reasonably anticipated to be a human carcinogen. [Phenolphthalein]

IARC classified: Group 2B: Possibly carcinogenic to humans. [Phenolphthalein]

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May be harmful by inhalation.

Ingestion: Harmful by ingestion.

Skin: Contact with skin causes burns.

Eyes: Contact causes damage.

Signs and symptoms of exposure: Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: TTZ100000 [Potassium hydroxide]

Section 12  Ecological Information

Toxicity to fish: Gambusia affinis (fish, fresh water), LC50 = 85 mg/l/24 hours [Potassium hydroxide]

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: Data not available Bioaccumulative potential: No data available

Mobility in soil: No data available PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13  Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14  Transport Information (US DOT / CANADA TDG)

UN/NA number: UN1814

Shipping name: Potassium hydroxide, solution

Hazard class: 8

Packing group: II

Reportable Quantity: 1,000 lbs (454 kg)

Marine pollutant: No

Exceptions: Limited quantity equal to or less than 1 L 2016 ERG Guide # 154

Section 15  Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

<table>
<thead>
<tr>
<th>Component</th>
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<th>CERLCA (RQ)</th>
<th>RCRA code</th>
<th>DSL</th>
<th>NDSL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium hydroxide</td>
<td>Listed</td>
<td>Listed</td>
<td>D002, D003</td>
<td>Listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Section 16  Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

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