

SAFETY DATA SHEET

Preparation Date: 7/31/15

Revision Date: 4/24/2018

Revision Number: G2

1. IDENTIFICATION

Product identifier

Product code: P-266
Product Name: POTASSIUM HYDROXIDE, HALF-NORMAL (0.5 N) IN ALCOHOL

Other means of identification

Synonyms: No information available
CAS #: Mixture
RTECS # Not available
Cl#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

| | |
|--|-------------|
| Skin corrosion/irritation | Category 1 |
| Serious eye damage/eye irritation | Category 1 |
| Reproductive toxicity | Category 1A |
| Specific target organ toxicity (single exposure) | Category 3 |
| Specific target organ toxicity (repeated exposure) | Category 1 |
| Flammable liquids | Category 2 |

Label elements

Danger

Hazard statements

Causes severe skin burns and eye damage
 May damage fertility or the unborn child

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May cause respiratory irritation. May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
Highly flammable liquid and vapor



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Can burn with an invisible flame

Precautionary Statements - Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/.../equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
In case of fire: Use CO₂, dry chemical, or foam to extinguish.
IF IN EYES: 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.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

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| Components | CAS-No. | Weight % |
|-------------------------|-----------|----------|
| Ethyl Alcohol 200 proof | 64-17-5 | 88 |
| Water | 7732-18-5 | 8 |
| Potassium Hydroxide | 1310-58-3 | 4 |

4. FIRST AID MEASURES

First aid measures

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.
- Skin Contact:** Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.
- Eye Contact:** Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.
- Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

- Symptoms**
- Severe skin and eye irritation or burns
 - Irritating to respiratory system
 - May cause coughing and shortness of breath
 - Dyspnea (Difficulty breathing and shortness of breath)
 - Central nervous system effects
 - May cause drowsiness or dizziness
 - Headache
 - Ataxia
 - Staggering gait
 - May affect eyes/vision
 - Diplopia
 - Causes digestive (gastrointestinal) tract irritation
 - May cause gastrointestinal (digestive) tract burns
 - May cause nausea and vomiting
 - May cause diarrhea
 - It may affect the kidneys
 - May affect the liver
 - May affect the cardiovascular system
 - May cause hypotension
 - Hypertension
 - Weak, rapid pulse or rapid heart rate (Tachycardia)
 - Cardiac arrhythmias

Indication of any immediate medical attention and special treatment needed

- Notes to Physician:** Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:

Dry chemical. Carbon dioxide (CO₂). Water spray mist or foam.

Unsuitable Extinguishing Media:

Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous Combustion Products:

No information available.

Specific hazards:

Highly flammable. Material can burn with invisible flame. May be ignited by heat, sparks or flames. Vapor may travel considerable distance to source of ignition and flash back. May form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Fire may produce irritating, corrosive and/or toxic gases.

Special Protective Actions for Firefighters

Specific Methods:

Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal; do not scatter the material.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Use personal protective equipment. All equipment used when handling the product must be grounded. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Neutralize with a dilute solution of acetic acid. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. Keep away from incompatible materials. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Do not ingest. Do not smoke. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Store in a segregated and approved area. Protect from light. Sensitive to light. Store in light-resistant containers.

Incompatible Materials:

Oxidizing agents
Acids
Metals
Bases
Acid chlorides
Acid anhydrides
Alkali Metals
Halogens
isocyanates

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

| Components | CAS-No. | OSHA | NIOSH | ACGIH | AIHA WEEL |
|-------------------------|-----------|--|--|-----------------------------|-----------|
| Ethyl Alcohol 200 proof | 64-17-5 | 1000 ppm TWA 1900 mg/m ³ TWA | 1000 ppm TWA 1900 mg/m ³ TWA | 1000 ppm STEL | None |
| Water | 7732-18-5 | None | None | None | None |
| Potassium Hydroxide | 1310-58-3 | None | 2 mg/m ³ Ceiling | 2 mg/m ³ Ceiling | None |

Canada

| Components | CAS-No. | Canada - Alberta | Canada - British Columbia | Canada - Ontario | Canada - Quebec |
|-------------------------|-----------|--|-----------------------------|-----------------------------|-----------------------------|
| Ethyl Alcohol 200 proof | 64-17-5 | 1000 ppm TWA 1880 mg/m ³ TWA | 1000 ppm STEL | 1000 ppm STEL | None |
| Water | 7732-18-5 | None | None | None | None |
| Potassium Hydroxide | 1310-58-3 | 2 mg/m ³ Ceiling | 2 mg/m ³ Ceiling | 2 mg/m ³ Ceiling | 2 mg/m ³ Ceiling |

Australia and Mexico

| Components | CAS-No. | Australia | Mexico |
|-------------------------|-----------|--|--|
| Ethyl Alcohol 200 proof | 64-17-5 | 1000 ppm TWA 1880 mg/m ³ TWA | 1000 ppm TWA 1900 mg/m ³ TWA |
| Water | 7732-18-5 | None | None |
| Potassium Hydroxide | 1310-58-3 | None | None |

Appropriate engineering controls

Engineering measures to reduce exposure:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Face-shield

Skin and body protection: Chemical resistant apron
Long sleeved clothing
Gloves
If working with large quantities:
Chemical resistant protective suit
Boots

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|--|
| Physical state: Liquid | Appearance: No information available. | Color: Colorless. |
| Odor: Alcohol like. | Taste No information available. | Formula: No information available |
| Molecular/Formula weight: No information available | Flammability: Highly flammable | Flashpoint (°C/°F): 12.78°C (55°F) 17.78°C (64°F) (for Ethyl alcohol) |
| Flash Point Tested according to: Closed cup Open cup | Autoignition Temperature (°C/°F): 363°C (685.4°F) [ethyl alcohol 200 proof] | Lower Explosion Limit (%): 3.3 (for Ethyl alcohol) |
| Upper Explosion Limit (%): 19 (for Ethyl alcohol) | Melting point/range(°C/°F): No information available | Decomposition temperature(°C/°F): No information available |
| Boiling point/range(°C/°F): 78.5°C (173.3°F) [ethyl alcohol 200 Proof] 79.98°C (176°F) [weighted average] | Bulk density: No information available | Density (g/cm3): No information available |
| Specific gravity: 0.82-0.84 (weighted average) | pH: No information available | Vapor pressure @ 20°C (kPa): 5.7 [ethyl alcohol 200 proof] 5.47 [weighted average] |
| Evaporation rate: No information available | Vapor density: 1.59 [ethyl alcohol 200 proof] 1.52 [weighted average] | VOC content (g/L): No information available |
| Odor threshold (ppm): 100 [ethyl alcohol 200 proof] | Partition coefficient (n-octanol/water): No information available | Viscosity: No information available |
| Miscibility: No information available | Solubility: Easily soluble in hot water Soluble in cold water Soluble in Methanol Soluble in diethyl ether Soluble in Acetone | |

10. STABILITY AND REACTIVITY

Reactivity

For Ethyl alcohol:

Ethyl Alcohol reacts vigorously with acetyl chloride.

When Ethanol comes in contact with Sodium, it liberates flammable hydrogen gas

It can react vigorously or explosively with acid hydrides or acid chlorides

It reacts with alkali metals to liberate flammable hydrogen gas

It reacts with acetyl bromide to evolve hydrogen bromide

It reacts with ammonia + silver nitrate to form silver nitride and silver fulminate

Ethyl alcohol reacts with silver (I) oxide + ammonia or hydrazine to form silver nitride and silver fulminate

Ethanol ignites and then explodes on contact with the following compounds: acetic anhydride + sodium hydrosulfate, disulfuric acid + nitric acid, phosphorus (III) oxide, platinum, potassium tert-butoxide + acids

Can react vigorously/explosively with oxidizers. Ethanol can react vigorously/explosively with the following: ammonium hydroxide & silver oxide, chlorine or chlorine oxides, perchlorates (barium perchlorate, chloryl perchlorate, magnesium perchlorate (forms ethyl perchlorate), nitrosyl perchlorate, potassium perchlorate, silver perchlorate, uranyl perchlorate), acetic anhydride, acetyl bromide (evolves hydrogen bromide), acetyl chloride, aluminum sesquibromide ethylate, bromine pentafluoride, calcium hypochlorite, chromic anhydride, chromium trioxide, chromyl chloride, cyanuric acid + water, dichloromethane + sulfuric acid + nitrate (or) nitrite, manganese perchlorate + 2,2-dimethoxy propane, dioxygen difluoride, disulfuryl difluoride, fluorine nitrate, hydrogen peroxide, iodine heptafluoride, manganese heptoxide, iodine + methanol + mercuric oxide, iodine + Phosphorus (forms

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ethane iodide), mercuric nitrate, nitric acid, perchloric acid, permanganic acid, peroxodisulfuric acid, platinum black, potassium dioxide, potassium permanganate, potassium superoxide, potassium tert-butoxide, ruthenium(VIII) oxide, silver +nitric acid (forms silver fulminate), silver nitrate (forms ethyl nitrate), silver peroxide, sodium hydrazide, hydrogen peroxide + sulfuric acid, sulfuric acid + permanganates, uranium hexafluoride, sulfuric acid + sodium dichromate, tetrachlorosilane + water, silver & nitric acid, tetraphosphorus hexaoxide

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Exposure to light.

Incompatible Materials: Oxidizing agents
Acids
Metals
Bases
Acid chlorides
Acid anhydrides
Alkali Metals
Halogens
isocyanates

Hazardous decomposition products: No information available.

Other Information

Corrosivity: Non-corrosive in presence of glass.
Non-corrosive in presence of stainless steel (316)
Highly corrosive in the presence of aluminum, of zinc
Severe corrosive effect on Brass
Severe corrosive effect on Bronze

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Inhalation. Ingestion. Skin. Eyes.

Acute Toxicity

Component Information

Ethyl Alcohol 200 proof

CAS-No. 64-17-5

LD50/oral/rat = 7060 mg/kg Oral LD50 Rat

LD50/oral/mouse = 3450 mg/kg Oral LD50 Mouse

LD50/dermal/rabbit = No information available

LD50/dermal/rat = No information available

LC50/inhalation/rat = 124.7 mg/L Inhalation LC50 Rat 4 h

LC50/inhalation/mouse = 39000 mg/m³ 4 h

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Other LD50 or LC50 information = >60000 ppm Inhalation LC50 Mouse 1 h
5900 mg/m³ Inhalation LC50 Rat 6 h
20000 ppm Inhalation LC50 Rat 10 h
5560 mg/kg Oral LD50 Guinea Pig
6300 mg/kg Oral LD50 Rabbit

| | |
|---------|-----------|
| Water | |
| CAS-No. | 7732-18-5 |

LD50/oral/rat = > 90 mL/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

| | |
|---------------------|-----------|
| Potassium Hydroxide | |
| CAS-No. | 1310-58-3 |

LD50/oral/rat = 284 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Causes severe irritation and burns. If absorbed through skin it may cause systemic effects.

Eye Contact: Causes severe eye irritation and possible burns. Symptoms may include burning and stinging of the eyes. May cause damage to the cornea and conjunctiva.

Inhalation Irritating to respiratory system. Exposure to high concentrations may affect

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behavior/central nervous system and cause central nervous system depression. Symptoms may include headache, drowsiness, nausea, sleepiness, lack of concentration, narcosis, and other symptoms similar to ingestion. Inhalation of high concentrations of vapors may cause dizziness or suffocation. Inhalation of high concentrations of vapor may cause anesthetic effects.

Ingestion

Causes gastrointestinal tract irritation with nausea, vomiting, diarrhea, alterations in gastric secretions, and possible burns if ingested in large amounts. May affect behavior/central nervous system (central nervous system depression - amnesia, headache, muscular incoordination, excitation, mild euphoria, slurred speech, drowsiness, staggering gait, fatigue, changes in mood/personality, excessive talking, dizziness, ataxia, somnolence, coma/narcosis, hallucinations, distorted perceptions, general anesthetic), peripheral nervous system (spastic paralysis) vision (diplopia). Moderately toxic and narcotic in high concentrations. May also affect metabolism, blood, liver, respiration (dyspnea), and endocrine system. May affect urinary system (kidneys). May affect the cardiovascular system (hypotension or hypertension, tachycardia, dysrhythmias).

Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Repeated or prolonged skin contact may cause dryness and cracking of the skin. Prolonged or repeated ingestion may affect behavior/central nervous system. Chronic exposure may affect the liver and kidneys. Prolonged or repeated ingestion may affect the cardiovascular system. Prolonged or repeated ingestion may affect the heart (cardiac dysfunction, cardiomyopathy).

Sensitization: No information available.

Mutagenic Effects: For Ethyl alcohol:
Experiments with bacteria and/or yeast have shown mutagenic effects

Carcinogenic effects: Not considered carcinogenic.

| Components | CAS-No. | IARC | ACGIH - Carcinogens | NTP | OSHA HCS - Carcinogens | Australia - Notifiable Carcinogenic Substances | Australia - Prohibited Carcinogenic Substances |
|-------------------------|-----------|---|---|------------|------------------------|--|--|
| Ethyl Alcohol 200 proof | 64-17-5 | Group 1 - Monograph 100E [2012] in alcoholic beverages Monograph 96 [2010] in alcoholic beverages | A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans | Not listed | Present | Not listed | Not listed |
| Water | 7732-18-5 | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |
| Potassium Hydroxide | 1310-58-3 | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity May damage fertility or the unborn child

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Reproductive Effects: For Ethyl alcohol:
Causes adverse reproductive effects

Developmental Effects: May cause harm to the unborn child
May cause adverse developmental effects

Teratogenic Effects: Causes birth defects (teratogenic effects)

Specific Target Organ Toxicity

STOT - single exposure Respiratory system. central nervous system.
STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.
Target Organs: Central nervous system. Nervous system. Heart. Liver. Skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Ethyl Alcohol 200 proof - 64-17-5
Freshwater Fish Species Data: 12.0 - 16.0 mL/L LC50 Oncorhynchus mykiss 96 h static 1 100 mg/L LC50 Pimephales promelas 96 h static 1 13400 - 15100 mg/L LC50 Pimephales promelas 96 h flow-through 1

Water Flea Data: 9268 - 14221 mg/L LC50 Daphnia magna 48 h 2 mg/L EC50 Daphnia magna 48 h 10800 mg/L EC50 Daphnia magna 24 h

Potassium Hydroxide - 1310-58-3
Freshwater Fish Species Data: 80 mg/L LC50 Gambusia affinis 96 h static 1

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

| Components | CAS-No. | RCRA - F Series Wastes | RCRA - K Series Wastes | RCRA - P Series Wastes | RCRA - U Series Wastes |
|-------------------------|-----------|------------------------|------------------------|------------------------|------------------------|
| Ethyl Alcohol 200 proof | 64-17-5 | None | None | None | None |
| Water | 7732-18-5 | None | None | None | None |
| Potassium Hydroxide | 1310-58-3 | None | None | None | None |

14. TRANSPORT INFORMATION

DOT

UN-No: UN2924

Proper Shipping Name: Flammable liquids, corrosive, n.o.s. (ethanol, potassium hydroxide solution)

Hazard Class: 3

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Subsidiary Class 8
Packing group: II
Emergency Response Guide Number 132
Marine Pollutant Severe Marine Pollutant
DOT RQ (lbs): No information available
Special Provisions IB2, T11, TP2, TP27
Symbol(s): [DOT]: (G) - Identifies proper shipping names for which one or more technical names of the hazardous material must be entered in parentheses, in association with the basic description.
Description: UN2924, Flammable liquids, corrosive, n.o.s. (Ethyl Alcohol 200 proof, Potassium Hydroxide), 3 (8), II

TDG (Canada)

UN-No: UN2924
Proper Shipping Name: Flammable liquid, corrosive, n.o.s.
Hazard Class: 3
Subsidiary Risk: (8)
Packing Group: II
Marine Pollutant No Information available
Description: UN2924, Flammable liquid, corrosive, n.o.s. (Ethyl Alcohol 200 proof, Potassium Hydroxide), 3 (8), II

ADR

UN-No: UN2924
Proper Shipping Name: Flammable liquid, corrosive, n.o.s.
Hazard Class: 3
Packing Group: II
Subsidiary Risk: 8
Special Provisions 274
Description: UN2924, Flammable liquid, corrosive, n.o.s. (Ethyl Alcohol 200 proof, Potassium Hydroxide), 3 (8), II

IMO / IMDG

UN-No: UN2924
Proper Shipping Name: Flammable liquids, corrosive, n.o.s. (ethanol, potassium hydroxide solution)
Hazard Class: 3
Subsidiary Risk: 8
Packing Group: II
Marine Pollutant No information available
EMS: F-E
Special Provisions 274
Description UN2924, Flammable liquid, corrosive, n.o.s. (Ethyl Alcohol 200 proof, Potassium Hydroxide), 3 (8), II

RID

UN-No: UN2924
Proper Shipping Name: Flammable liquid, corrosive, n.o.s.
Hazard Class: 3
Subsidiary Risk: 8
Packing Group: II
Special Provisions 274
Description: UN2924, Flammable liquid, corrosive, n.o.s. (Ethyl Alcohol 200 proof, Potassium Hydroxide), 3 (8), II

ICAO

UN-No: UN2924
Proper Shipping Name: Flammable liquid, corrosive, n.o.s.

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Hazard Class: 3
Subsidiary Risk: 8
Packing Group: II
Description: UN2924, Flammable liquid, corrosive, n.o.s. (Ethyl Alcohol 200 proof, Potassium Hydroxide), 3 (8), II
Special Provisions A3

IATA

UN-No: UN2924
Proper Shipping Name: Flammable liquid, corrosive, n.o.s.
Hazard Class: 3
Subsidiary Risk: 8
Packing Group: II
ERG Code: 3CH
Special Provisions No information available
Description: UN2924, Flammable liquid, corrosive, n.o.s. (Ethyl Alcohol 200 proof, Potassium Hydroxide), 3 (8), II

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|-----------------------------------|
| 15. REGULATORY INFORMATION |
|-----------------------------------|

International Inventories

| Components | CAS-No. | U.S. TSCA | KOREA KECL | Philippines (PICCS) | Japan ENCS | CHINA | Australia (AICS) | EINECS-No. |
|--------------------------------|-----------|-----------------|------------------|---------------------|-----------------|---------|------------------|-------------------|
| <i>Ethyl Alcohol 200 proof</i> | 64-17-5 | Present(ACTIVE) | KE-13217 | Present | (2)-202 | Present | Present | Present 200-578-6 |
| <i>Water</i> | 7732-18-5 | Present(ACTIVE) | Present KE-35400 | Present | Not present | Present | Present | Present 231-791-2 |
| <i>Potassium Hydroxide</i> | 1310-58-3 | Present(ACTIVE) | Present KE-29139 | Present | Present (1)-369 | Present | Present | Present 215-181-3 |

U.S. Regulations

Ethyl Alcohol 200 proof

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 0844
Pennsylvania RTK: Present
Minnesota - Hazardous Substance List: Present
Louisiana Reportable Quantity List for Pollutants: Present (listed as Volatile Organic Compounds)
California Directors List of Hazardous Substances: Present
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1293

FDA - 21 CFR - Total Food Additives 169.175, 169.176, 169.177, 169.181, 172.340, 172.560, 172.580, 175.105, 176.180, 176.200, 177.1200, 177.1650, 178.1010, 184.1293, 73.30, 73.345, 73.615

Potassium Hydroxide

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 1571
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Minnesota - Hazardous Substance List: Present
New York Release Reporting - List of Hazardous Substances:
 1000 lb RQ
 100 lb RQ
Louisiana Reportable Quantity List for Pollutants: 1000lbfinal RQ
 454kgfinal RQ
California Directors List of Hazardous Substances: Present
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1631

FDA - 21 CFR - Total Food Additives 163.110, 163.111, 163.112, 172.841, 175.210, 176.180, 176.210, 177.1600, 177.2800, 184.1631, 73.85

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

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Chemicals Known to the State of California to Cause Cancer:

⚠️ WARNING: This product can expose you to chemicals including (see table below) which is (are) known to the State of California to cause cancer. For more information go to www.p65warnings.ca.gov.

Chemicals Known to the State of California to Cause Reproductive Toxicity:

⚠️ WARNING: This product can expose you to chemicals including (see table below) which is (are) known to the State of California to cause birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

| Components | CAS-No. | Carcinogen | Developmental Toxicity | Male Reproductive Toxicity | Female Reproductive Toxicity: |
|-------------------------|-----------|---|---|----------------------------|-------------------------------|
| Ethyl Alcohol 200 proof | 64-17-5 | carcinogen (Ethanol in alcoholic beverages) | developmental toxicity (Ethyl alcohol in alcoholic beverages) | Not Listed | Not Listed |
| Water | 7732-18-5 | Not Listed | Not Listed | Not Listed | Not Listed |
| Potassium Hydroxide | 1310-58-3 | Not Listed | Not Listed | Not Listed | Not Listed |

CERCLA/SARA

| Components | CAS-No. | CERCLA - Hazardous Substances and their Reportable Quantities | Section 302 Extremely Hazardous Substances and TPQs | Section 302 Extremely Hazardous Substances and RQs | Section 313 - Chemical Category | Section 313 - Reporting de minimis |
|--------------------------------|-----------|---|---|--|---------------------------------|------------------------------------|
| <i>Ethyl Alcohol 200 proof</i> | 64-17-5 | None | None | None | None | None |
| <i>Water</i> | 7732-18-5 | None | None | None | None | None |
| <i>Potassium Hydroxide</i> | 1310-58-3 | 1000 lb final RQ 454 kg final RQ | None | None | None | None |

U.S. TSCA

| Components | CAS-No. | TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS) | TSCA 8(d) - Health and Safety Reporting |
|-------------------------|-----------|---|---|
| Ethyl Alcohol 200 proof | 64-17-5 | Not Applicable | Not Applicable |
| Water | 7732-18-5 | Not Applicable | Not Applicable |
| Potassium Hydroxide | 1310-58-3 | Not Applicable | Not Applicable |

Canada**WHMIS 2015 - GHS Classifications**

WHMIS 2015 Hazard Classification Information:

Component
Ethyl Alcohol 200 proof
64-17-5 (88)

Water
7732-18-5 (8)
Potassium Hydroxide
1310-58-3 (4)

WHMIS 2015 Hazard Classification
Flammable liquids - Category 2: H225 Highly flammable liquid and vapour.; Serious Eye Damage/Eye Irritation - Category 2B: H320 Causes eye irritation.
Not a dangerous product according to HPR classification criteria

Corrosive to Metals - Category 1: H290 May be corrosive to metals. (2.5% in aqueous solution; potentially corrosive to metals; the supplier should be contacted for more information); Acute toxicity - Oral - Category 3: H301 Toxic if swallowed.; Acute toxicity - Oral - Category 4: H302 Harmful if swallowed. (25% aqueous solution); Health Hazard Not Otherwise Classified - Category 1: Causes severe damage to the respiratory tract; Skin corrosion/irritation - Category 1: H314 Causes severe skin burns and eye damage.; Serious Eye Damage/Eye Irritation - Category 1: H318 Causes serious eye damage.

Canada Hazardous Products Regulation

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This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

WHMIS 1988 Hazard Class

B2 Flammable liquid
E Corrosive material

Components

Ethyl Alcohol 200 proof
Water

Potassium Hydroxide

WHMIS 1988

B2,D2B

Uncontrolled product according to WHMIS classification criteria

D1B,E

E 0.056% in aqueous solution, 0.11%, 0.56% in aqueous solution, 2.5%, 2.8%, 5.6% in aqueous solution, 25%, 28%, 33.3%, 40%, 50% in aqueous solution

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

| Components | WHMIS Ingredient Disclosure List - |
|-------------------------|------------------------------------|
| Ethyl Alcohol 200 proof | 0.1 % |
| Potassium Hydroxide | 1 % |

Inventory

| Components | CAS-No. | Canada (DSL) | Canada (NDSL) |
|-------------------------|-----------|--------------|---------------|
| Ethyl Alcohol 200 proof | 64-17-5 | Present | Not Listed |
| Water | 7732-18-5 | Present | Not Listed |
| Potassium Hydroxide | 1310-58-3 | Present | Not Listed |

| Components | CAS-No. | CEPA Schedule I - Toxic Substances |
|-------------------------|-----------|---|
| Ethyl Alcohol 200 proof | 64-17-5 | Not listed |
| Water | 7732-18-5 | Not listed |
| Potassium Hydroxide | 1310-58-3 | Not listed |
| Components | CAS-No. | CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting |
| Ethyl Alcohol 200 proof | 64-17-5 | Not listed |
| Water | 7732-18-5 | Not listed |
| Potassium Hydroxide | 1310-58-3 | Not listed |

EU Classification

EU GHS - SV - CLP 1272/2008

| Components | CAS-No. | EU GHS - SV - CLP (1272/2008) |
|-------------------------|-----------|--|
| Ethyl Alcohol 200 proof | 64-17-5 | Flammable liquids - Flam. Liq. 2: H225 Highly flammable liquid and vapour.603-002-00-5 |
| Water | 7732-18-5 | |
| Potassium Hydroxide | 1310-58-3 | Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification); Skin corrosion/irritation - Skin Corr. 1A: H314 Causes severe skin burns and eye damage. (C >= 5 %)019-002-00-8 Skin corrosion/irritation - Skin Corr. 1A: H314 Causes severe skin burns and eye damage. (C >= 5 %); Skin corrosion/irritation - Skin Corr. 1B: H314 Causes severe skin burns and eye damage. (2 % <= C <5 %); Skin corrosion/irritation - Skin Irrit. 2: H315 |

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| | | |
|--|--|--|
| | | Causes skin irritation. (0.5 % <= C <2 %); Serious Eye Damage/Eye Irritation - Eye Irrit. 2: H319 Causes serious eye irritation. (0.5 % <= C <2 %)019-002-00-8 |
|--|--|--|

EU - CLP (1272/2008)

R-phrase(s)

R11 - Highly flammable.
R34 - Causes burns.

S -phrase(s)

S 2 - Keep out of the reach of children.
S 7 - Keep container tightly closed.
S16 - Keep away from sources of ignition - No smoking.
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

| Components | CAS-No. | Classification | Concentration Limits: | Safety Phrases |
|-------------------------|-----------|-------------------|---|---------------------------|
| Ethyl Alcohol 200 proof | 64-17-5 | F; R11 | No information | S(2) S7 S16 |
| Water | 7732-18-5 | | No information | |
| Potassium Hydroxide | 1310-58-3 | Xn; R22 C; R35 | 5%<=C C; R35 2%<=C<5% C; R34 0.5%<=C<2% Xi; R36/38 | S1/2 S26 S36/37/39 S45 |

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

F - Highly flammable.
C - Corrosive.



16. OTHER INFORMATION

Preparation Date: 7/31/15
Revision Date: 4/24/2018
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular

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End of Safety Data Sheet