

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** Potassium Hydroxide, in Ethanol

**Other means of identification**

**Product No.:** 5645, 5644

**Recommended use and restriction on use**

**Recommended use:** Not available.

**Restrictions on use:** Not known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company Name:** Avantor Performance Materials, Inc.  
**Address:** 3477 Corporate Parkway, Suite 200  
Center Valley, PA 18034

**Telephone:** Customer Service: 855-282-6867

**Fax:**  
**Contact Person:** Environmental Health & Safety  
**e-mail:** info@avantormaterials.com

**Emergency telephone number:**

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

## 2. Hazard(s) identification

**Hazard classification**

**Physical hazards**

Flammable liquids Category 2

**Health hazards**

Skin corrosion/irritation Category 1A

Serious eye damage/eye irritation Category 1

Carcinogenicity Category 1A

Toxic to reproduction Category 1A

Specific target organ toxicity - single exposure Category 3

**Label elements**

**Hazard symbol:**



**Signal word:** Danger

**Hazard statement:** Highly flammable liquid and vapor.  
Causes severe skin burns and eye damage.  
May cause drowsiness or dizziness.  
May cause cancer.  
May damage the unborn child.

**Precautionary statement**

**Prevention:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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. Do not breathe dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling.

**Response:** In case of fire: Use water spray, foam, dry powder or carbon dioxide for extinction. IF exposed or concerned: Get medical advice/attention. IF ON SKIN (or hair): 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. Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. 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/doctor. Specific treatment (see this label).

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

**Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Other hazards which do not result in GHS classification:** Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

**3. Composition/information on ingredients**

**Mixtures**

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
ETHANOL		64-17-5	>94%
POTASSIUM HYDROXIDE		1310-58-3	<6%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**4. First-aid measures**

**General information:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

<b>Ingestion:</b>	Call a physician or poison control center immediately. Rinse mouth. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
<b>Inhalation:</b>	Move to fresh air. If breathing is difficult, give oxygen. Apply artificial respiration if victim is not breathing Call a physician or poison control center immediately.
<b>Skin contact:</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
<b>Eye contact:</b>	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately. In case of irritation from airborne exposure, move to fresh air.

**Most important symptoms/effects, acute and delayed**

**Symptoms:** Causes severe skin and eye burns. Causes digestive tract burns. Mist or vapor extremely irritating to eyes and respiratory tract.

**Indication of immediate medical attention and special treatment needed**

**Treatment:** Treat symptomatically. Symptoms may be delayed.

**5. Fire-fighting measures**

**General fire hazards:** Flammable liquid and vapor.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media:** Water spray, foam, dry powder or carbon dioxide.

**Unsuitable extinguishing media:** Avoid water in straight hose stream; will scatter and spread fire.

**Specific hazards arising from the chemical:** Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. Heat may cause the containers to explode.

**Special protective equipment and precautions for firefighters**

**Special fire fighting procedures:** Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

**Special protective equipment for fire-fighters:** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

**6. Accidental release measures**

**Personal precautions,  
protective equipment and  
emergency procedures:**

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Keep upwind. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. See Section 8 of the MSDS for Personal Protective Equipment.

**Methods and material for  
containment and cleaning  
up:**

Eliminate all ignition sources if safe to do so. Take precautionary measures against static discharges. Stop leak if possible without any risk. Use only non-sparking tools. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

**Notification Procedures:**

Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

**Environmental precautions:**

Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

## 7. Handling and storage

**Precautions for safe handling:**

DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/face protection. Do not get in eyes, on skin, on clothing. Do not taste or swallow. Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Use only with adequate ventilation.

**Conditions for safe storage,  
including any  
incompatibilities:**

Keep away from food, drink and animal feeding stuffs. Keep container tightly closed in a cool, well-ventilated place. Store in corrosive resistant container with a resistant inner liner. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

## 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
ETHANOL	STEL	1,000 ppm	US. ACGIH Threshold Limit Values (2011)
	REL	1,000 ppm 1,900 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	1,000 ppm 1,900 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	1,000 ppm 1,900 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	1,000 ppm 1,900 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	ST ESL	18,800 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	AN ESL	1,880 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	AN ESL	1,000 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	ST ESL	10,000 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	TWA PEL	1,000 ppm 1,900 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)
POTASSIUM HYDROXIDE	Ceiling	2 mg/m3	US. ACGIH Threshold Limit Values (2011)
	REL	2 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	Ceiling	2 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	Ceiling	2 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
POTASSIUM HYDROXIDE - Particulate.	ST ESL	20 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	AN ESL	2 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
POTASSIUM HYDROXIDE	Ceiling	2 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)

#### Appropriate engineering controls

No data available.

#### Individual protection measures, such as personal protective equipment

##### General information:

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

##### Eye/face protection:

Wear safety glasses with side shields (or goggles) and a face shield.

##### Skin protection

##### Hand protection:

Chemical resistant gloves

##### Other:

Wear suitable protective clothing.

**Respiratory protection:** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

**Hygiene measures:** Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Do not get this material in contact with skin. Do not get in eyes.

## 9. Physical and chemical properties

### Appearance

**Physical state:** Liquid  
**Form:** Liquid  
**Color:** Colorless

**Odor:** Pleasant odor

**Odor threshold:** No data available.

**pH:** No data available.

**Melting point/freezing point:** < -114 °C

**Initial boiling point and boiling range:** 79 °C

**Flash Point:** 13 °C (Closed Cup)

**Evaporation rate:** No data available.

**Flammability (solid, gas):** No data available.

### Upper/lower limit on flammability or explosive limits

**Flammability limit - upper (%):** No data available.

**Flammability limit - lower (%):** No data available.

**Explosive limit - upper (%):** No data available.

**Explosive limit - lower (%):** No data available.

**Vapor pressure:** 40 kPa (20 °C)

**Vapor density:** No data available.

**Relative density:** 0.79 (20 °C)

### Solubility(ies)

**Solubility in water:** Completely Soluble

**Solubility (other):** No data available.

**Partition coefficient (n-octanol/water):** No data available.

**Auto-ignition temperature:** 422 °C

**Decomposition temperature:** No data available.

**Viscosity:** No data available.

## 10. Stability and reactivity

**Reactivity:** No dangerous reaction known under conditions of normal use.

**Chemical stability:** Material is stable under normal conditions.

**Possibility of hazardous reactions:** Hazardous polymerization does not occur.

**Conditions to avoid:** Moisture. Heat, sparks, flames. Contact with incompatible materials.

<b>Incompatible materials:</b>	Strong oxidizing agents. Aluminum.
<b>Hazardous decomposition products:</b>	Fire or excessive heat may produce hazardous decomposition products. Oxides of Carbon. Oxides of potassium.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion:</b>	May cause burns of the gastrointestinal tract if swallowed.
<b>Inhalation:</b>	Irritating to respiratory tract.
<b>Skin contact:</b>	Causes severe skin burns.
<b>Eye contact:</b>	Causes serious eye damage.

### Information on toxicological effects

#### Acute toxicity (list all possible routes of exposure)

<b>Oral</b>	
<b>Product:</b>	ATEmix (Rat): 2,032 mg/kg
<b>Dermal</b>	
<b>Product:</b>	No data available.
<b>Inhalation</b>	
<b>Product:</b>	No data available.
<b>Specified substance(s):</b>	
ETHANOL	LC 50 (Rat, 10 h): 20,000 mg/l
<b>Repeated dose toxicity</b>	
<b>Product:</b>	No data available.

#### Skin corrosion/irritation

<b>Product:</b>	Causes severe skin burns.
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#### Serious eye damage/eye irritation

<b>Product:</b>	Causes serious eye damage.
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#### Respiratory or skin sensitization

<b>Product:</b>	Not a skin sensitizer.
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#### Carcinogenicity

<b>Product:</b>	May cause cancer.
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#### IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

ETHANOL	Overall evaluation: 1. Carcinogenic to humans. Overall evaluation: 1. Carcinogenic to humans.
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#### US. National Toxicology Program (NTP) Report on Carcinogens:

ETHANOL	Known To Be Human Carcinogen.
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#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

**Germ cell mutagenicity**

**In vitro**

**Product:** No mutagenic components identified

**In vivo**

**Product:** No mutagenic components identified

**Reproductive toxicity**

**Product:** May damage the unborn child.

**Specific target organ toxicity - single exposure**

**Product:** Narcotic effect.

**Specific target organ toxicity - repeated exposure**

**Product:** No data available.

**Aspiration hazard**

**Product:** Not classified

**Other effects:** None known.

**12. Ecological information**

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Specified substance(s):**

ETHANOL LC 50 (Rainbow trout,donaldson trout (*Oncorhynchus mykiss*), 96 h): 12,000 - 16,000 mg/l Mortality  
LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 13,480 mg/l Mortality  
LC 50 (Carp (*Leuciscus idus melanotus*), 48 h): 8,140 mg/l Mortality

POTASSIUM HYDROXIDE LC 50 (Western mosquitofish (*Gambusia affinis*), 96 h): 80 mg/l Mortality

**Aquatic invertebrates**

**Product:** No data available.

**Specified substance(s):**

ETHANOL EC 50 (Water flea (*Daphnia obtusa*), 48 h): 10,100 - 11,200 mg/l Intoxication  
LC 50 (Brine shrimp (*Artemia franchiscana*), 48 h): 25.5 mg/l Mortality  
LC 50 (Water flea (*Daphnia magna*), 48 h): 7,560 - 12,600 mg/l Mortality

**Chronic hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic invertebrates**

**Product:** No data available.

**Toxicity to Aquatic Plants**

**Product:** No data available.

**Persistence and degradability**

**Biodegradation**

**Product:** There are no data on the degradability of this product.



**BOD/COD ratio**

**Product:** No data available.

**Bioaccumulative potential**

**Bioconcentration factor (BCF)**

**Product:** No data available on bioaccumulation.

**Partition coefficient n-octanol / water (log Kow)**

**Product:** No data available.

**Specified substance(s):**

ETHANOL Log Kow: -0.31

**Mobility in soil:**

The product is water soluble and may spread in water systems.

**Other adverse effects:**

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**13. Disposal considerations**

**Disposal instructions:**

Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Contaminated packaging:**

Since emptied containers retain product residue, follow label warnings even after container is emptied.

**14. Transport information**

**DOT**

UN number: UN 2924  
 UN proper shipping name: Flammable liquids, corrosive, n.o.s.(CONTAINS ETHANOL, POTASSIUM HYDROXIDE)  
 Transport hazard class(es)  
 Class(es): 3, 8  
 Label(s): 3, 8  
 Packing group: II  
 Marine Pollutant: No

**IMDG**

UN number: UN 2924  
 UN proper shipping name: FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CONTAINS ETHANOL, POTASSIUM HYDROXIDE)  
 Transport hazard class(es)  
 Class(es): 3, 8  
 Label(s): 3, 8  
 EmS No.: F-E, S-C  
 Packing group: II  
 Marine Pollutant: No

**IATA**

UN number: UN 2924  
 Proper Shipping Name: Flammable liquid, corrosive, n.o.s.(CONTAINS ETHANOL, POTASSIUM HYDROXIDE)  
 Transport hazard class(es):  
   Class(es): 3, 8  
   Label(s): 3, 8  
 Marine Pollutant: No  
 Packing group: II

**15. Regulatory information**

**US federal regulations**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**  
**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**  
 None present or none present in regulated quantities.

**CERCLA Hazardous Substance List (40 CFR 302.4):**  
 ETHANOL Reportable quantity: 100 lbs.  
 POTASSIUM HYDROXIDE Reportable quantity: 1000 lbs.

**Superfund amendments and reauthorization act of 1986 (SARA)**

**Hazard categories**  
 Not listed.

**SARA 302 Extremely hazardous substance**  
 None present or none present in regulated quantities.

**SARA 304 Emergency release notification**

Chemical identity	RQ
ETHANOL	100 lbs.
POTASSIUM HYDROXIDE	1000 lbs.

**SARA 311/312 Hazardous chemical**

Chemical identity	Threshold Planning Quantity
ETHANOL	500 lbs
POTASSIUM HYDROXIDE	500 lbs

**SARA 313 (TRI reporting)**  
 None present or none present in regulated quantities.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**  
 POTASSIUM HYDROXIDE Reportable quantity: 1000 lbs.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**  
 None present or none present in regulated quantities.

**US state regulations**

**US. California Proposition 65**  
 ETHANOL Carcinogenic.  
 ETHANOL Carcinogenic.  
 ETHANOL Developmental toxin.

**US. New Jersey Worker and Community Right-to-Know Act**

ETHANOL Listed  
POTASSIUM HYDROXIDE Listed

**US. Massachusetts RTK - Substance List**

ETHANOL Listed  
POTASSIUM HYDROXIDE Listed

**US. Pennsylvania RTK - Hazardous Substances**

ETHANOL Listed  
POTASSIUM HYDROXIDE Listed

**US. Rhode Island RTK**

ETHANOL Listed  
POTASSIUM HYDROXIDE Listed

**Inventory Status:**

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EU EINECS List:	On or in compliance with the inventory
EU ELINCS List:	Not in compliance with the inventory.
Japan (ENCS) List:	Not in compliance with the inventory.
EU No Longer Polymers List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

<b>16. Other information, including date of preparation or last revision</b>
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**Issue date:** 04-08-2014

**Revision date:** No data available.

**Version #:** 1.0

**Further information:** No data available.

**Disclaimer:**

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