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# SAFETY DATA SHEET

Revision Date 29-Aug-2016

Version 3

## 1. IDENTIFICATION

**Product Name** Ethyl Alcohol, Denatured, 70%  
**Product Code** 4089  
**Recommended Use** For laboratory, scientific, R&D or manufacturing use.  
**Company** E K Industries, Inc.  
1403 Herkimer St.  
Joliet, IL 60432  
Tel. (800) 283-4244  
**Emergency Telephone** Call CHEMTREC 1-800-424-9300 (EKI CCN 7453)

## 2. HAZARDS IDENTIFICATION

### Classification

#### OSHA Regulatory Status

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

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2
Specific target organ toxicity (single exposure)	Category 1
Flammable liquids	Category 2

### Label elements

#### Signal word

Danger

#### Hazard statements

Harmful if swallowed. Causes serious eye irritation. Causes damage to organs.  
Highly flammable liquid and vapor.



#### Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. 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.

#### Precautionary Statements - Response

IF exposed: Call a POISON CENTER or doctor/physician.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction.

#### Precautionary Statements - Storage

Store locked up. 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

Chemical Name	CAS No.	Weight-%
Ethyl alcohol	64-17-5	55-75
Water	7732-18-5	30
Methyl alcohol	67-56-1	2-4
Isopropyl alcohol	67-63-0	4-7
Methylisobutyl ketone	108-10-1	>1

### 4. FIRST AID MEASURES

#### Description of first aid measures

<b>Eye contact</b>	Immediately flush with plenty of water for at least 15 minutes, separating eyelids occasionally. Remove contact lenses if present. Get immediate medical attention.
<b>Skin contact</b>	Wash thoroughly with soap and water while removing contaminated garments. Get medical attention if irritation develops.
<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.
<b>Ingestion</b>	Do NOT induce vomiting unless instructed to do so by medical personnel. If conscious, rinse mouth and give several glasses of water to drink. Never give anything by mouth to an unconscious person. Get immediate medical attention.

#### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	If swallowed or inhaled, causes irritation. Intoxicant. May cause headache, drowsiness, nausea, vomiting, blurred vision, blindness, coma, and death.
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### 5. FIRE-FIGHTING MEASURES

#### Suitable extinguishing media

Water spray (fog) CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam

#### Specific hazards arising from the chemical

Vapors may spread long distances and ignite.

#### Protective equipment and precautions for firefighters

Firefighters should wear self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.

**NFPA**                      **Health hazards** 2                      **Flammability** 3                      **Instability** 0                      **Physical and Chemical Properties** -

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal precautions**                      Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental precautions**                      Prevent entry into waterways, sewers, basements or confined areas.

### Methods and material for containment and cleaning up

**Methods for containment**                      Prevent material from entering drains.

**Methods for cleaning up**                      Absorb spill with inert material, scoop up and containerize for disposal.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**                      Use personal protective equipment as required  
Handle in accordance with good industrial hygiene and safety practice.

**Storage Conditions**                      Keep container tightly closed in a dry and well-ventilated place. Store in an approved Flammable Liquids storage area.

**Incompatible materials**                      None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Occupational exposure limits

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethyl alcohol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup> (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m <sup>3</sup>	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>
Methyl alcohol 67-56-1	STEL: 250 ppm TWA: 200 ppm Skin	TWA: 200 ppm TWA: 260 mg/m <sup>3</sup> (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m <sup>3</sup> (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m <sup>3</sup> (vacated) Skin	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m <sup>3</sup> STEL: 250 ppm STEL: 325 mg/m <sup>3</sup>
Isopropyl alcohol 67-63-0	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 980 mg/m <sup>3</sup> (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m <sup>3</sup> (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m <sup>3</sup>	IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1225 mg/m <sup>3</sup>
Methylisobutyl ketone 108-10-1	STEL: 75 ppm TWA: 20 ppm	TWA: 100 ppm TWA: 410 mg/m <sup>3</sup> (vacated) TWA: 50 ppm (vacated) TWA: 205 mg/m <sup>3</sup> (vacated) STEL: 75 ppm (vacated) STEL: 300 mg/m <sup>3</sup>	IDLH: 500 ppm TWA: 50 ppm TWA: 205 mg/m <sup>3</sup> STEL: 75 ppm STEL: 300 mg/m <sup>3</sup>

### Appropriate engineering controls

**Engineering Controls**                      Emergency showers, eyewash stations, ventilation systems.

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

**Eye/face protection**                      Tight sealing safety goggles.

<b>Skin and body protection</b>	Wear protective gloves and protective clothing. Wear fire/flamm resistant/retardant clothing.
<b>Respiratory protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>General Hygiene Considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	Clear, colorless
<b>Odor</b>	Odor of grain alcohol
<b>Odor threshold</b>	No information available
<b>pH</b>	No information available
<b>Melting point / freezing point</b>	No information available
<b>Boiling point / boiling range</b>	~81 C
<b>Flash point</b>	~21 C
<b>Evaporation rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Flammability Limit in Air</b>	
<b>Upper flammability limit:</b>	No information available
<b>Lower flammability limit:</b>	No information available
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Relative density</b>	No information available
<b>Water solubility</b>	Miscible with water
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available
<b>Kinematic viscosity</b>	No information available

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storage conditions.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	Extremes of temperature and direct sunlight.
<b>Incompatible materials</b>	None known based on information supplied.
<b>Hazardous Decomposition Products</b>	Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ).

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Inhalation</b>	No data available.
<b>Eye contact</b>	No data available.
<b>Skin contact</b>	No data available.
<b>Ingestion</b>	No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ethyl alcohol 64-17-5	= 7060 mg/kg ( Rat )	-	= 124.7 mg/L ( Rat ) 4 h
Water 7732-18-5	> 90 mL/kg ( Rat )	-	-
Methyl alcohol 67-56-1	= 6200 mg/kg ( Rat )	= 15800 mg/kg ( Rabbit )	= 22500 ppm ( Rat ) 8 h = 64000 ppm ( Rat ) 4 h
Isopropyl alcohol 67-63-0	= 1870 mg/kg ( Rat )	= 4059 mg/kg ( Rabbit )	= 72600 mg/m <sup>3</sup> ( Rat ) 4 h
Methylisobutyl ketone 108-10-1	= 2080 mg/kg ( Rat )	= 3000 mg/kg ( Rabbit )	= 8.2 mg/L ( Rat ) 4 h

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

#### Sensitization

No information available.

#### Germ cell mutagenicity

No information available.

#### Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen

Chemical Name	ACGIH	IARC	NTP	OSHA
Isopropyl alcohol 67-63-0	-	Group 3	-	X
Methylisobutyl ketone 108-10-1	A3	Group 2B	-	X

#### Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not classifiable as to carcinogenicity in humans

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

X - Present

#### STOT - single exposure

- Liver  
- Central nervous system

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Ethyl alcohol 64-17-5	-	12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static	9268 - 14221: 48 h Daphnia magna mg/L LC50 10800: 24 h Daphnia magna mg/L EC50 2: 48 h Daphnia magna mg/L EC50 Static
Methyl alcohol 67-56-1	-	13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 28200: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static	-
Isopropyl alcohol 67-63-0	1000: 72 h Desmodesmus subspicatus mg/L EC50 1000: 96 h Desmodesmus subspicatus mg/L EC50	11130: 96 h Pimephales promelas mg/L LC50 static 9640: 96 h Pimephales promelas mg/L LC50 flow-through 1400000: 96 h Lepomis macrochirus µg/L LC50	13299: 48 h Daphnia magna mg/L EC50
Methylisobutyl ketone 108-10-1	400: 96 h Pseudokirchneriella subcapitata mg/L EC50	496 - 514: 96 h Pimephales promelas mg/L LC50 flow-through	170: 48 h Daphnia magna mg/L EC50

### Persistence and degradability

No information available.

**Bioaccumulation**

No information available.

Chemical Name	Partition coefficient
Ethyl alcohol 64-17-5	-0.32
Methyl alcohol 67-56-1	-0.77
Isopropyl alcohol 67-63-0	0.05
Methylisobutyl ketone 108-10-1	1.19

**Other adverse effects**

No information available

### 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods****Disposal of wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging**

Do not reuse container. Emptied containers may contain residue. Continue to follow label warnings after container is emptied.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Methyl alcohol 67-56-1	-	Included in waste stream: F039	-	U154
Methylisobutyl ketone 108-10-1	-	Included in waste stream: F039	-	U161

Chemical Name	California Hazardous Waste Status
Ethyl alcohol 64-17-5	Toxic Ignitable
Methyl alcohol 67-56-1	Toxic Ignitable
Isopropyl alcohol 67-63-0	Toxic Ignitable

### 14. TRANSPORT INFORMATION

Transportation information is provided as a general reference only and may not be applicable in all situations. This information applies to non-bulk shipments only. Per 49 CFR §173.22, it is the shipper's responsibility to ensure that all materials are properly packaged, classified and labeled prior to shipment.

**DOT**

UN/ID no. 1170  
 Proper shipping name Ethanol solutions  
 Hazard Class 3  
 Packing Group II

**IATA**

UN/ID no. 1170  
 Proper shipping name Ethanol solutions  
 Hazard Class 3  
 Packing Group II

### 15. REGULATORY INFORMATION

**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Methyl alcohol - 67-56-1	1.0
Isopropyl alcohol - 67-63-0	1.0
Methylisobutyl ketone - 108-10-1	1.0

**SARA 311/312 Hazard Categories**

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Methyl alcohol 67-56-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
Methylisobutyl ketone 108-10-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

**US State Regulations****California Proposition 65**

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Ethyl alcohol - 64-17-5	Carcinogen Developmental
Methyl alcohol - 67-56-1	Developmental
Methylisobutyl ketone - 108-10-1	Carcinogen Developmental

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Ethyl alcohol 64-17-5	X	X	X
Water 7732-18-5	-	-	X
Methyl alcohol 67-56-1	X	X	X
Isopropyl alcohol 67-63-0	X	X	X
Methylisobutyl ketone 108-10-1	X	X	X

**16. OTHER INFORMATION**

Prepared By  
Revision Date  
Disclaimer

EKI Regulatory Affairs (Email: reg@eki-chem.com)  
29-Aug-2016

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**End of Safety Data Sheet**