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SAFETY DATA SHEET

Revision Date 14-Jul-2022

Version 4

1. IDENTIFICATION

Product Name Ethyl Alcohol, Denatured, Anhydrous
Product Code 4085
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
Carcinogenicity	Category 1A
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. May cause cancer. Causes damage to organs. Extremely flammable liquid and vapor.



Precautionary Statements - Prevention

Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Ground and bond container and receiving equipment. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting/equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Do not eat, drink or smoke when using this product. Wash face, hands and any exposed skin thoroughly after handling. Keep container tightly closed. 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 CO₂, dry chemical, or foam to extinguish. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

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	85-90
Isopropyl alcohol	67-63-0	8-10
Methyl alcohol	67-56-1	4-6
Methylisobutyl ketone	108-10-1	>1

4. FIRST AID MEASURES

Description of first aid measures

Eye contact	Immediately flush with plenty of water for at least 15 minutes, separating eyelids occasionally. Remove contact lenses if present. Get immediate medical attention.
Skin contact	Wash thoroughly with soap and water while removing contaminated garments. Get medical attention if irritation develops.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.
Ingestion	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

Symptoms	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) CO₂, dry chemical, dry sand, alcohol-resistant foam.

Small Fire	Dry chemical or CO ₂ . Fire blanket.
Large Fire	In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use CO ₂ , dry chemical, or foam to extinguish.

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. Dike to collect large liquid spills. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

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 ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m ³	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m ³
Isopropyl alcohol 67-63-0	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 980 mg/m ³ (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m ³ (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m ³	IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m ³ STEL: 500 ppm STEL: 1225 mg/m ³
Methyl alcohol 67-56-1	STEL: 250 ppm TWA: 200 ppm Skin	TWA: 200 ppm TWA: 260 mg/m ³ (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m ³ (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m ³ (vacated) Skin	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m ³ STEL: 250 ppm STEL: 325 mg/m ³
Methylisobutyl ketone 108-10-1	STEL: 75 ppm TWA: 20 ppm	TWA: 100 ppm TWA: 410 mg/m ³ (vacated) TWA: 50 ppm (vacated) TWA: 205 mg/m ³ (vacated) STEL: 75 ppm (vacated) STEL: 300 mg/m ³	IDLH: 500 ppm TWA: 50 ppm TWA: 205 mg/m ³ STEL: 75 ppm STEL: 300 mg/m ³

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.

Skin and body protection Wear protective gloves and protective clothing. Wear fire/flammable resistant/retardant clothing.

Respiratory protection 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.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear, colorless
Odor	Odor of grain alcohol
Odor threshold	No Data Available
pH	No Data Available
Melting point / freezing point	No Data Available
Boiling point / boiling range	~78 C
Flash point	13 C
Evaporation rate	3.3 (BuAc=1)
Flammability (solid, gas)	No Data Available
Flammability Limit in Air	
Upper flammability limit:	19%
Lower flammability limit:	3.3%
Vapor pressure	No Data Available
Vapor density	1.6
Relative density	0.79
Water solubility	Miscible with water
Solubility in other solvents	No Data Available
Partition coefficient	No Data Available
Autoignition temperature	422 C
Decomposition temperature	No Data Available
Kinematic viscosity	No Data Available

10. STABILITY AND REACTIVITY

Stability Stable under recommended storage conditions.

Possibility of Hazardous Reactions None under normal processing.

Conditions to avoid Extremes of temperature and direct sunlight.

Incompatible materials None known based on information supplied.

Hazardous Decomposition Products Carbon monoxide. Carbon dioxide (CO₂).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	No data available.
Eye contact	No data available.
Skin contact	No data available.
Ingestion	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
Isopropyl alcohol 67-63-0	= 1870 mg/kg (Rat)	= 4059 mg/kg (Rabbit)	= 72600 mg/m ³ (Rat) 4 h
Methyl alcohol 67-56-1	= 6200 mg/kg (Rat)	= 15800 mg/kg (Rabbit) = 15840 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 h = 64000 ppm (Rat) 4 h
Methylisobutyl ketone 108-10-1	= 2080 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	2000 - 4000 ppm (Rat) 4 h

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

Sensitization No Data Available.

Germ cell mutagenicity No Data Available.

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

Chemical Name	ACGIH	IARC	NTP	OSHA
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	-	100: 96 h Pimephales promelas mg/L LC50 static 12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through	2: 48 h Daphnia magna mg/L EC50 Static 10800: 24 h Daphnia magna mg/L EC50 9268 - 14221: 48 h Daphnia magna mg/L LC50
Isopropyl alcohol 67-63-0	1000: 96 h Desmodemus subspicatus mg/L EC50 1000: 72 h Desmodemus subspicatus mg/L EC50	9640: 96 h Pimephales promelas mg/L LC50 flow-through 1400000: 96 h Lepomis macrochirus µg/L LC50 11130: 96 h Pimephales promelas mg/L LC50 static	13299: 48 h Daphnia magna mg/L EC50
Methyl alcohol 67-56-1	-	19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 28200: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static	-

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
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Persistence and degradability

No Data Available.

Bioaccumulation

No Data Available.

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

Other adverse effects

No Data 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
Isopropyl alcohol 67-63-0	Toxic Ignitable
Methyl alcohol 67-56-1	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 %
Isopropyl alcohol - 67-63-0	1.0
Methyl alcohol - 67-56-1	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 contains the following substances which are regulated 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
Isopropyl alcohol 67-63-0	X	X	X
Methyl alcohol 67-56-1	X	X	X
Methylisobutyl ketone 108-10-1	X	X	X

16. OTHER INFORMATION

Prepared By

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

Revision Date 14-Jul-2022

Disclaimer

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End of Safety Data Sheet