

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: E-85 Ethanol Fuel

1.2. Intended Use of the Product No additional information available

1.3. Name, Address, and Telephone of the Responsible Party

Company

Countrymark Refining and Logistics, LLC

1200 Refinery Road

Mt. Vernon, Indiana 47620

(812) 838-8165

CountryMark.com

1.4. Emergency Telephone Number

Emergency Number : Countrymark: (812) 838-8165 (CHEMTREC) (800) 424-9300

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Flam. Liq. 1 H224

Skin Irrit. 2 H315

Eye Irrit. 2A H319

Muta. 1B H340

Carc. 1A H350

Repr. 2 H361

STOT SE 3 H336

STOT RE 2 H373

Asp. Tox. 1 H304

Aquatic Acute 2 H401

Aquatic Chronic 3 H412

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

- : H224 - Extremely flammable liquid and vapor.
- H304 - May be fatal if swallowed and enters airways.
- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.
- H336 - May cause drowsiness or dizziness.
- H340 - May cause genetic defects.
- H350 - May cause cancer.
- H361 - Suspected of damaging fertility or the unborn child.
- H373 - May cause damage to organs through prolonged or repeated exposure.
- H401 - Toxic to aquatic life.
- H412 - Harmful to aquatic life with long lasting effects.

Precautionary Statements (GHS-US)

- : P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P210 - Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. No smoking.
- P233 - Keep container tightly closed.
- P240 - Ground/bond container and receiving equipment.
- P241 - Use explosion-proof electrical, ventilating, and lighting equipment.
- P242 - Use only non-sparking tools.

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P243 - Take precautionary measures against static discharge.
P260 - Do not breathe vapors, mist, or spray.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye protection.
P301+P310 - If swallowed: Immediately call a poison center or doctor.
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 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.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see section 4 on this SDS).
P331 - Do NOT induce vomiting.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use appropriate media (see section 5) to extinguish.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

E-85 Ethanol Fuel Blend is a mixture of ethyl alcohol (ethanol) and gasoline that is approved for use in specifically designed alternate fueled motor vehicles. Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. This material or its emissions may defat skin, cause contact dermatitis, or aggravate existing skin disease. Flammable vapors can accumulate in head space of closed systems, use caution when opening sealed containers. Product contains < 1% Benzene, < 1% Cyclohexane, < 1% Ethylbenzene, < 5% Toluene, and < 5% Xylenes.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%	Classification (GHS-US)
Ethyl, 1-hydroxy-	(CAS No) 2348-46-1	85	Flam. Liq. 2, H225 Eye Irrit. 2A, H319
Gasoline, natural	(CAS No) 8006-61-9	15	Flam. Liq. 1, H224 Skin Irrit. 2, H315 Muta. 1B, H340 Carc. 1B, H350 Repr. 2, H361 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

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Toluene	(CAS No) 108-88-3	< 5	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412
Xylenes (o-, m-, p- isomers)	(CAS No) 1330-20-7	< 5	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:vapor), H332 Skin Irrit. 2, H315 Asp. Tox. 1, H304 Aquatic Acute 2, H401
Benzene	(CAS No) 71-43-2	< 1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Muta. 1B, H340 Carc. 1A, H350 STOT RE 1, H372 Asp. Tox. 1, H304 Aquatic Chronic 3, H412
Cyclohexane	(CAS No) 110-82-7	< 1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Ethylbenzene	(CAS No) 100-41-4	< 1	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapor), H332 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid Measures After Inhalation: Remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Keep person warm, quiet, and get medical attention.

First-aid Measures After Skin Contact: Thoroughly wash exposed area with soap and water. Remove contaminated clothing. Launder contaminated clothing before wearing. If skin irritation occurs: Get medical advice/attention.

First-aid Measures After Eye Contact: Flush with large amounts of water, lifting upper and lower lids occasionally. Remove contact lenses, if present and easy to do. Get medical attention.

First-aid Measures After Ingestion: DO NOT INDUCE VOMITING. Do not give liquids. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Keep person warm, quiet and get medical attention. Aspiration of material into the lungs due to vomiting can cause chemical pneumonia which can be fatal.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Causes serious eye irritation. Causes skin irritation. May cause drowsiness or dizziness. May be fatal if swallowed and enters airways. May cause cancer. May cause genetic defects. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

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Symptoms/Injuries After Inhalation: May cause drowsiness or dizziness. In high concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea, loss of co-ordination, possible unconsciousness, and asphyxiation.

Symptoms/Injuries After Skin Contact: Causes skin irritation. Repeated or prolonged skin contact may cause dermatitis and defatting.

Symptoms/Injuries After Eye Contact: Causes serious eye irritation. Redness, pain, swelling, itching, burning, tearing, and blurred vision.

Symptoms/Injuries After Ingestion: The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death. May cause gastrointestinal irritation, nausea, vomiting and diarrhea. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

Chronic Symptoms: May cause cancer. May cause genetic defects. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Alcohol-resistant foam, carbon dioxide (CO₂), dry chemical, water spray, fog.

Unsuitable Extinguishing Media: Do not use a heavy water stream. A heavy water stream may spread burning liquid. Water may be ineffective because it may not cool the material below its flash point.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Extremely flammable liquid and vapor.

Explosion Hazard: May form flammable/explosive vapor-air mixture. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

Reactivity: Reacts with strong oxidants causing fire and explosion hazard. Hazardous reactions may occur on contact with certain chemicals. Refer to incompatible materials.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Extinguish/cool from behind cover/unmanned monitors. Remove containers from fire area if this can be done without risk. Do not breathe fumes from fires or vapors from decomposition. Do not allow run-off from firefighting to enter drains or water courses.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Alcohols burn with a pale blue flame that is difficult to see under normal lighting conditions. Vapors are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Remove ignition sources. Use special care to avoid static electric charges. Keep away from heat, sparks, open flames, hot surfaces. No smoking. Avoid breathing (vapor, mist, spray). Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Eliminate ignition sources. Stop leak if safe to do so. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Ethanol portion of blend is miscible with water.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Eliminate all ignition sources. Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as: saw dust or cellulosic material. Use water spray to disperse vapors. If spilled directly onto the ground, remove sufficient soil to ensure material is fully recovered. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

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SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors are flammable.

Precautions for Safe Handling: Do not handle until all safety precautions have been read and understood. Take precautionary measures against static discharge. Use only non-sparking tools. Keep away from heat, sparks, open flames, hot surfaces. No smoking. Avoid all eye and skin contact and do not breathe vapor and mist. Use only outdoors or in a well-ventilated area. Use appropriate personal protection equipment (PPE). Never use welding or cutting torch on or near drum (even empty) because product and its residue can ignite explosively. Material is highly volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from materials handling point.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Wash hands and exposed areas thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Ground/bond container and receiving equipment. Use explosion-proof electrical, lighting, ventilating equipment. Container remains hazardous when empty. Continue to observe all precautions. Ensure all national/local regulations are observed.

Storage Conditions: Store containers in an upright position. Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep in fireproof place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers. Chlorine. Permanganates. Chromates.

Incompatible Materials: Heat sources.

7.3. Specific End Use(s) No use is specified

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

Ethyl, 1-hydroxy- (2348-46-1)		
USA ACGIH	ACGIH STEL (ppm)	1000 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1900 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm
USA IDLH	US IDLH (ppm)	3300 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1900 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
Benzene (71-43-2)		
USA ACGIH	ACGIH TWA (ppm)	0.5 ppm
USA ACGIH	ACGIH STEL (ppm)	2.5 ppm
USA ACGIH	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Human Carcinogen
USA NIOSH	NIOSH REL (TWA) (ppm)	0.1 ppm
USA NIOSH	NIOSH REL (STEL) (ppm)	1 ppm
USA IDLH	US IDLH (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	10 ppm 1 ppm
USA OSHA	OSHA PEL (STEL) (ppm)	5 ppm (see 29 CFR 1910.1028)
USA OSHA	OSHA PEL (Ceiling) (ppm)	25 ppm
Cyclohexane (110-82-7)		
USA ACGIH	ACGIH TWA (ppm)	100 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1050 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	300 ppm
USA IDLH	US IDLH (ppm)	1300 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1050 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	300 ppm
Ethylbenzene (100-41-4)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm

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USA ACGIH	ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	435 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	100 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	545 mg/m ³
USA NIOSH	NIOSH REL (STEL) (ppm)	125 ppm
USA IDLH	US IDLH (ppm)	800 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	435 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm
Toluene (108-88-3)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	375 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	100 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	560 mg/m ³
USA NIOSH	NIOSH REL (STEL) (ppm)	150 ppm
USA IDLH	US IDLH (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	300 ppm
Xylenes (o-, m-, p- isomers) (1330-20-7)		
USA ACGIH	ACGIH TWA (ppm)	100 ppm
USA ACGIH	ACGIH STEL (ppm)	150 ppm
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	435 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm

8.2. Exposure Controls

Appropriate Engineering Controls

: Use explosion-proof equipment. Proper grounding procedures to avoid static electricity should be followed. Gas detectors should be used when flammable gases/vapors may be released. Ensure adequate ventilation, especially in confined areas. Have written confined space and tank entry procedures. Never allow tank entry without checking OXYGEN AND VAPOR levels. Use safety harness and safety line on person entering a tank. Stand-by person required with protective equipment available. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

: Chemically and fire/flame resistant/retardant materials and fabrics.

Hand Protection

: Wear chemically resistant protective gloves such as neoprene or nitrile.

Eye Protection

: No special eye protection is normally required. Where splashing is possible, wear safety glasses with sideshields.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Thermal Hazard Protection

: When working with hot material, use suitable thermally protective clothing.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State

: Liquid

Appearance

: Clear mobile liquid. Gasoline is colored with dye for recognition of type.

Odor

: Characteristic odor recognizable at about 10 PPM in air.

Odor Threshold

: No data available

pH

: No data available

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Evaporation Rate	: Slower than ether
Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: 21.11 - 223.89 °C (70 - 435 °F)
Flash Point	: -40 - -45.56 °C (-40 - -50 °F) TCC
Auto-ignition Temperature	: ~ 495 °F (~ 257.22 °C)
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: 8 - 15 (Reid Vapor Pressure at 100 °F)
Relative Vapor Density at 20 °C	: 3 - 4 (air=1)
Relative Density	: No data available
Specific Gravity at 60 °F	: 0.7 - 0.78 (water=1)
Solubility	: Water: Ethanol is soluble in water. Gasoline is insoluble.
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available
Explosive Properties	: Product is not explosive, however, formation of explosive air-vapor mixture is possible.
Lower Flammable Limit	: 1.4 %
Upper Flammable Limit	: 19 %
Percent Volatile By Volume (%)	: 100%

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Reacts with strong oxidants causing fire and explosion hazard. Hazardous reactions may occur on contact with certain chemicals. Refer to incompatible materials.
- 10.2. Chemical Stability:** Extremely flammable liquid and vapor. May form flammable/explosive vapor-air mixture.
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Sources of ignition. Incompatible materials.
- 10.5. Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Chlorine. Permanganates. Chromates.
- 10.6. Hazardous Decomposition Products:** Thermal decomposition generates: May release flammable gases. Carbon oxides (CO, CO₂). Hydrocarbons.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Gasoline, natural (8006-61-9)	
LC50 Inhalation Rat	300 g/m ³ (Exposure time: 5 min)
Ethyl, 1-hydroxy- (2348-46-1)	
LD50 Oral Rat	10470 mg/kg
LD50 Dermal Rat	20 ml/kg
LC50 Inhalation Rat	124.7 mg/l/4h
Benzene (71-43-2)	
LD50 Oral Rat	3306 mg/kg
LD50 Dermal Rabbit	> 8200 mg/kg
LC50 Inhalation Rat	44.66 mg/l/4h
Cyclohexane (110-82-7)	
LD50 Oral Rat	12705 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LC50 Inhalation Rat	13.9 mg/l/4h
Ethylbenzene (100-41-4)	
LD50 Oral Rat	3500 mg/kg
LD50 Dermal Rabbit	15400 mg/kg
LC50 Inhalation Rat	17.2 mg/l/4h (Exposure time: 4 h)

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Toluene (108-88-3)	
LD50 Oral Rat	5580 mg/kg
LD50 Dermal Rabbit	12000 mg/kg
LC50 Inhalation Rat	12.5 mg/l/4h
ATE (Vapors)	25.70 mg/l/4h
Xylenes (o-, m-, p- isomers) (1330-20-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 4350 mg/kg
LC50 Inhalation Rat	29.08 mg/l/4h
LC50 Inhalation Rat	6247 ppm/4h (species: Sprague-Dawley)
ATE (Dermal)	1,100.00 mg/kg body weight
ATE (Vapors)	11.00 mg/l/4h

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: May cause genetic defects.

Carcinogenicity: May cause cancer.

Ethyl, 1-hydroxy- (2348-46-1)	
IARC group	1
Benzene (71-43-2)	
IARC group	1
National Toxicology Program (NTP) Status	Evidence of Carcinogenicity, Known Human Carcinogens.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
OSHA Specifically Regulated Carcinogen List	In OSHA Specifically Regulated Carcinogen list.
Ethylbenzene (100-41-4)	
IARC group	2B
National Toxicology Program (NTP) Status	Evidence of Carcinogenicity.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
Toluene (108-88-3)	
IARC group	3
Xylenes (o-, m-, p- isomers) (1330-20-7)	
IARC group	3

Reproductive Toxicity: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure): May cause drowsiness or dizziness.

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: May be fatal if swallowed and enters airways.

Symptoms/Injuries After Inhalation: May cause drowsiness or dizziness. In high concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea, loss of co-ordination, possible unconsciousness, and asphyxiation.

Symptoms/Injuries After Skin Contact: Causes skin irritation. Repeated or prolonged skin contact may cause dermatitis and defatting.

Symptoms/Injuries After Eye Contact: Causes serious eye irritation. Redness, pain, swelling, itching, burning, tearing, and blurred vision.

Symptoms/Injuries After Ingestion: The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death. May cause gastrointestinal irritation, nausea, vomiting and diarrhea. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

Chronic Symptoms: May cause cancer. May cause genetic defects. Suspected of damaging fertility or the unborn child.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Gasoline, natural (8006-61-9)	
LC50 Fish 1	56 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
Ethyl, 1-hydroxy- (2348-46-1)	
EC50 Daphnia 1	9268 - 14221 mg/l (Exposure time: 48 h - Species: Daphnia magna)

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LC 50 Fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
ErC50 (algae)	1000 mg/l
Benzene (71-43-2)	
LC50 Fish 1	10.7 - 14.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	8.76 - 15.6 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC 50 Fish 2	5.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 Daphnia 2	10 mg/l (Exposure time: 48 h - Species: Daphnia magna)
Cyclohexane (110-82-7)	
LC50 Fish 1	3.96 - 5.18 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	0.9 mg/l
LC 50 Fish 2	23.03 - 42.07 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
Ethylbenzene (100-41-4)	
LC50 Fish 1	11.0 - 18.0 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 1	1.8 - 2.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
Toluene (108-88-3)	
LC50 Fish 1	15.22 (15.22 - 19.05) mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	5.46 (5.46 - 9.83) mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC 50 Fish 2	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
NOEC chronic crustacea	0.74 mg/l (Ceriodaphnia dubia)
Xylenes (o-, m-, p- isomers) (1330-20-7)	
LC50 Fish 1	3.3 mg/l
EC50 Daphnia 1	3.82 mg/l (Exposure time: 48 h - Species: water flea)
LC 50 Fish 2	2.661 (2.661 - 4.093) mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 2	0.6 mg/l (Exposure time: 48 h - Species: Gammarus lacustris)
12.2. Persistence and Degradability	
E-85 Ethanol Fuel	
Persistence and Degradability	Not established.
Ethyl, 1-hydroxy- (2348-46-1)	
Persistence and Degradability	Not established.
12.3. Bioaccumulative Potential	
E-85 Ethanol Fuel	
Bioaccumulative Potential	Not established.
Gasoline, natural (8006-61-9)	
Log Pow	2.1 - 6.0
Ethyl, 1-hydroxy- (2348-46-1)	
Log Pow	-0.32
Bioaccumulative Potential	Not established.
Benzene (71-43-2)	
BCF fish 1	3.5 - 4.4
Log Pow	1.83
Cyclohexane (110-82-7)	
Log Pow	3.44
Ethylbenzene (100-41-4)	
BCF fish 1	15
Log Pow	3.118
Toluene (108-88-3)	
Log Pow	2.65
Xylenes (o-, m-, p- isomers) (1330-20-7)	
BCF fish 1	0.6 (0.6 - 15)

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Log Pow	2.77 - 3.15
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12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Sewage Disposal Recommendations: Do not empty into drains; dispose of this material and its container in a safe way.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

Additional Information: Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Ecology – Waste Materials: Hazardous waste due to toxicity.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : ETHANOL AND GASOLINE MIXTURE with more than 10% ethanol
Hazard Class : 3
Identification Number : UN3475
Label Codes : 3
Packing Group : II
ERG Number : 127



14.2. In Accordance with IMDG

Proper Shipping Name : ETHANOL AND GASOLINE MIXTURE with more than 10% ethanol
Hazard Class : 3
Identification Number : UN3475
Packing Group : II
Label Codes : 3
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-E



14.3. In Accordance with IATA

Proper Shipping Name : ETHANOL AND GASOLINE MIXTURE with more than 10% ethanol
Packing Group : II
Identification Number : UN3475
Hazard Class : 3
Label Codes : 3
ERG Code (IATA) : 3L



SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

E-85 Ethanol Fuel	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard
Gasoline, natural (8006-61-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Ethyl, 1-hydroxy- (2348-46-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Benzene (71-43-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	10 lb

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SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	0.1 %
Cyclohexane (110-82-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
SARA Section 313 - Emission Reporting	1.0 %
Ethylbenzene (100-41-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 313 - Emission Reporting	0.1 %
Toluene (108-88-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 313 - Emission Reporting	1.0 %
Xylenes (o-, m-, p- isomers) (1330-20-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	1.0 %
15.2 US State Regulations	
Ethyl, 1-hydroxy- (2348-46-1)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.
U.S. - California - Proposition 65 - Developmental Toxicity	WARNING: This product contains chemicals known to the State of California to cause birth defects.
Benzene (71-43-2)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.
U.S. - California - Proposition 65 - Developmental Toxicity	WARNING: This product contains chemicals known to the State of California to cause birth defects.
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	WARNING: This product contains chemicals known to the State of California to cause (Male) reproductive harm.
Ethylbenzene (100-41-4)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.
Toluene (108-88-3)	
U.S. - California - Proposition 65 - Developmental Toxicity	WARNING: This product contains chemicals known to the State of California to cause birth defects.
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	WARNING: This product contains chemicals known to the State of California to cause (Female) reproductive harm.
Gasoline, natural (8006-61-9)	
U.S. - Massachusetts - Right To Know List	
Ethyl, 1-hydroxy- (2348-46-1)	

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U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
Benzene (71-43-2) U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List
Cyclohexane (110-82-7) U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List
Ethylbenzene (100-41-4) U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List
Toluene (108-88-3) U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List
Xylenes (o-, m-, p- isomers) (1330-20-7) U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date	: 06/15/2015
Other Information	: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation:vapor)	Acute toxicity (inhalation:vapor) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 1A	Carcinogenicity Category 1A
Carc. 1B	Carcinogenicity Category 1B
Carc. 2	Carcinogenicity Category 2
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 1	Flammable liquids Category 1
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 3	Flammable liquids Category 3
Muta. 1B	Germ cell mutagenicity Category 1B

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Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H340	May cause genetic defects
H350	May cause cancer
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

NFPA Health Hazard

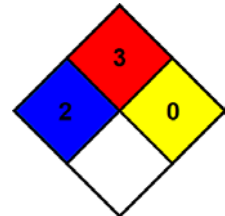
: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA Fire Hazard

: 3 - Liquids and solids that can be ignited under almost all ambient conditions.

NFPA Reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability

: 3 Serious Hazard

Physical

: 0 Minimal Hazard

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)