

# SAFETY DATA SHEET



Revision Date 06-Jul-2017

SDS Number 888100004475

Revision Number 2

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

**Product Name** Ethanol

**Synonyms** Ethyl Alcohol and Gasoline Mixture, Motor Fuel Ethanol; Denatured (with Gasoline) Ethanol

**Recommended Use** Fuel additive  
**Uses advised against** All others

**Manufacturer**  
Tesoro Refining & Marketing Co.  
19100 Ridgewood Parkway  
San Antonio, TX 78259

**Emergency Telephone** Chemtrec: 1-800-424-9300  
Tesoro Call Center: 1-877-783-7676

**E-mail address** ProductStewardship@TSOCORP.com

## 2. HAZARDS IDENTIFICATION

### Classification

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

Flammable liquids	Category 2
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1A
Reproductive toxicity	Category 2

### Label elements

#### Danger

Highly flammable liquid and vapor  
May cause genetic defects  
May cause cancer  
Suspected of damaging fertility or the unborn child



**Precautionary Statements - Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Wear protective gloves/protective clothing/eye protection/face protection  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
Keep container tightly closed  
Ground/or 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 or concerned: Get medical advice/attention  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

**Precautionary Statements - Storage**

Store in a well-ventilated place. Keep cool

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

Not applicable.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS-No	Percent
Ethanol; Ethyl alcohol	64-17-5	90-95
Gasoline, natural; Low boiling point naphtha	8006-61-9	5-7
Pentane	109-66-0	0-1
Toluene	108-88-3	0-0.75
Butane	106-97-8	0.1-0.75
Benzene	71-43-2	0-0.75

**4. FIRST AID MEASURES****Description of first aid measures****General advice**

Show this safety data sheet to the doctor in attendance. Remove from exposure, lie down. In case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt, seek medical advice. Never give anything by mouth to an unconscious person. Take off all contaminated clothing immediately and thoroughly wash material from skin.

**Inhalation**

Remove from exposure, lie down. If breathing has stopped, give artificial respiration. Get medical attention immediately. If breathing is difficult, administer oxygen. If symptoms persist, call a physician.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.

**Skin contact**

Wash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes.

<b>Ingestion</b>	ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Never give anything by mouth to an unconscious person. Get medical attention immediately if symptoms occur.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information.

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

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

**Note to physicians** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam.
<b>Small Fire</b>	Any extinguisher suitable for Class B fires, dry chemical, CO <sub>2</sub> , foam (AFFF/ATC), or water spray can be used.
<b>Large Fire</b>	Water spray, fog or alcohol-resistant foam. CAUTION: Use of water spray when fighting fire may be inefficient. Cool containers with flooding quantities of water until well after fire is out.
<b>Unsuitable extinguishing media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
<b>Hazardous combustion products</b>	Smoke, CO, and other products of incomplete combustion.
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	Yes.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn.
<b>Further information</b>	ALWAYS stay away from tanks engulfed in fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Do not direct water at source of leak or safety devices; icing may occur. Cool containers with flooding quantities of water until well after fire is out. Do not allow run-off from fire-fighting to enter drains or water courses.
<b>NFPA</b>	<b>Health hazards</b> 1 <b>Flammability</b> 1 <b>Stability</b> 0 <b>Physical and chemical properties</b> -

## 6. ACCIDENTAL RELEASE MEASURES

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

<b>Personal precautions</b>	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.
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**Other Information** Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

**Environmental precautions**

**Environmental precautions** Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

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

**Methods for containment** Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

**Methods for cleaning up** Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling** Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.

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

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Chemical Name	ACGIH TLV	OSHA PEL
Ethanol; 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>
Pentane 109-66-0	TWA: 1000 ppm	TWA: 1000 ppm TWA: 2950 mg/m <sup>3</sup> (vacated) TWA: 600 ppm (vacated) TWA: 1800 mg/m <sup>3</sup> (vacated) STEL: 750 ppm (vacated) STEL: 2250 mg/m <sup>3</sup>
Toluene 108-88-3	TWA: 20 ppm	TWA: 200 ppm (vacated) TWA: 100 ppm (vacated) TWA: 375 mg/m <sup>3</sup> (vacated) STEL: 150 ppm (vacated) STEL: 560 mg/m <sup>3</sup>

		Ceiling: 300 ppm
Butane 106-97-8	STEL: 1000 ppm	(vacated) TWA: 800 ppm (vacated) TWA: 1900 mg/m <sup>3</sup>
Benzene 71-43-2	STEL: 2.5 ppm TWA: 0.5 ppm S*	TWA: 10 ppm applies to industry segments exempt from the benzene standard at 29 CFR 1910.1028 TWA: 1 ppm (vacated) TWA: 10 ppm unless specified in 1910.1028 (vacated) STEL: 50 ppm 10 min unless specified in 1910.1028 (vacated) Ceiling: 25 ppm unless specified in 1910.1028 Ceiling: 25 ppm STEL: 5 ppm see 29 CFR 1910.1028

S\* - Potential exposure by cutaneous route

NOTE: Limits shown for guidance only. For additional information, OSHA's 1989 air contaminants standard exposure limits provided even though the limits were vacated in 1992. State, local or other agencies or advisory groups may have established more stringent limits. Follow applicable regulations.

### **Appropriate engineering controls**

**Engineering controls**                      Showers  
    Eyewash stations  
    Ventilation systems.

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

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

**Hand Protection**                              Wear suitable gloves. Impervious gloves.

**Skin and body protection**                      Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.  
Antistatic boots.

**Respiratory protection**                      When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Use a NIOSH approved respirator when there is a potential for airborne concentrations to exceed occupational exposure limits. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2, NIOSH Respirator Decision Logic, and the respirator manufacturer for additional guidance on respiratory protection selection. A Self-Contained Breathing Apparatus (SCBA) should be used for fire fighting. Use a NIOSH approved positive-pressure supplied air respirator if there is a potential for uncontrolled release, exposure levels are unknown, in oxygen deficient (less than 19.5% oxygen), or any other circumstance where an air-purifying respirator may not provide adequate protection.

**General hygiene considerations**                      Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **Information on basic physical and chemical properties**

<b>Physical State @20°C</b>	Liquid
<b>Appearance</b>	Liquid
<b>Odor</b>	Alcohol
<b>Color</b>	Clear to straw
<b>Odor threshold</b>	0.5 - 1.1

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
pH	Not applicable	

<b>Melting point / freezing point</b>	-101 °C / -150 °F	
<b>Boiling range</b>	74 °C	
<b>Flash point</b>	10 to 13 °C / °F	
<b>Evaporation rate</b>	3	
<b>Flammability (solid, gas)</b>	Not applicable	
<b>Flammability Limit in Air %</b>		
<b>Upper flammability limit:</b>	7.6	
<b>Lower flammability limit:</b>	3.3	
<b>Vapor pressure</b>	345	
<b>Vapor density</b>	1.6	Approximately
<b>Relative density</b>	0.8	
<b>Water solubility</b>	Miscible in water	
<b>Solubility in other solvents</b>	No data available	
<b>Partition coefficient</b>	2 to 7	
<b>Autoignition temperature</b>	250 °C / 482 °F	Approximately
<b>Decomposition temperature</b>	No data available	
<b>Kinematic viscosity</b>	No data available	
<b>Dynamic viscosity</b>	No data available	
<b>Explosive properties</b>	No data available	
<b>Oxidizing properties</b>	No data available	
<b>Minimum Ignition Energy (mJ)</b>	No data available	
<b>K<sub>st</sub> (bar.m/s)</b>	No data available	
<b>Softening point</b>	No data available	
<b>VOC Content (%)</b>	No data available	
<b>Density</b>	No data available	
<b>Bulk density</b>	Not applicable	
<b>Conductivity</b>	Hydrocarbon liquids without static dissipater additive may have conductivity below 1 picoSiemens per meter (pS/m). The highest electro-static ignition risks are associated with "ultra-low conductivities" below 5 pS/m. See Section 7 for sources of information on defining safe loading and handling procedures for low conductivity products	

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	This product is non-reactive under normal conditions.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	Heat, flames and sparks.
<b>Incompatible materials</b>	Oxidizing or reducing agents. Acids. Alkali.
<b>Hazardous decomposition products</b>	None under normal use conditions.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.

### Information on toxicological effects

<b>Symptoms</b>	No information available.
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### Numerical measures of toxicity

## Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 7,166.00 mg/kg

ATEmix (inhalation-dust/mist) 53.00 mg/l

Chemical Name	Oral LD50	LD50/dermal/rat - NO UNITS (Wizards mg/kg)	Inhalation LC50
Ethanol; Ethyl alcohol 64-17-5	= 7060 mg/kg ( Rat )	-	= 124.7 mg/L ( Rat ) 4 h
Gasoline, natural; Low boiling point naphtha 8006-61-9	-	-	= 300 g/m <sup>3</sup> ( Rat ) 5 min
Pentane 109-66-0	> 2000 mg/kg ( Rat )	= 3000 mg/kg ( Rabbit )	= 364 g/m <sup>3</sup> ( Rat ) 4 h
Toluene 108-88-3	= 2600 mg/kg ( Rat )	= 12000 mg/kg ( Rabbit )	= 12.5 mg/L ( Rat ) 4 h
Butane 106-97-8	-	-	= 658 g/m <sup>3</sup> ( Rat ) 4 h
Benzene 71-43-2	= 1800 mg/kg ( Rat ) = 810 mg/kg ( Rat )	> 8200 mg/kg ( Rabbit )	= 44.66 mg/L ( Rat ) 4 h

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

### Chemical Name

#### Ethanol; Ethyl alcohol

Short term (acute) direct contact with liquid ethanol to eyes or skin may cause eye irritation or dry skin. Acute exposure to ethanol by inhalation of high concentrations of vapor may cause irritation of the eyes and respiratory tract. Inhalation studies show that ethanol overexposure can produce incoordination and narcosis (drowsiness or unconsciousness) and ethanol targets the central nervous system. Long term or repeated to high enough levels by skin contact with liquid ethanol can result in defatting of the skin and dermatitis. There is little evidence to suggest that ethanol is genotoxic; it may have a very limited capacity to induce genetic changes in vivo at very high doses achievable in humans by deliberate oral ingestion. Evidence of the carcinogenicity of ethanol in humans is confined to studies assessing the impact of alcoholic beverage consumption. IARC has classified ethanol in alcoholic beverages as carcinogenic to humans (Group 1). Studies in laboratory rats indicate no fertility or developmental effects at inhalation exposures up to 16000 ppm. The potential for reproductive and developmental toxicity exists in humans from deliberate consumption of ethanol. Additional severe acute and chronic effects can be expected with ethanol overconsumption, however, ingestion is not expected to be a significant route of exposure in an occupational setting.

#### Pentane

Pentane may be fatal if it is swallowed and enters the airway. If inhaled, short-term (acute) overexposure can cause drowsiness, disorientation, other narcotic effects, and possibly death. Acute exposure to n-pentane by inhalation and ingestion results in low toxicity in animal studies. Exposure can cause irritation to eyes, skin (including dermatitis), and nose. Sensitization has not been reported. Exposure to high enough levels may also affect the central nervous system (CNS).

#### Butane

If inhaled, short-term overexposure to hydrocarbon gases may cause rapid suffocation. Inhalation of butane at very high concentrations can cause drowsiness, narcosis, asphyxia, and cardiac arrhythmia; butane affects the central nervous system (CNS). As gases, the primary route of exposure is inhalation; compressed gases may exhibit additional hazards. In animal studies, 2-Butene was the most toxic of the C1-4 hydrocarbon gas (C1-4 HCs) evaluated for its short term (acute) toxicity when inhaled for four hours at 10,000 ppm (23.1 g/m<sup>3</sup>); no fatalities were observed, and no LC50 value was established. Repeated dose toxicity has been observed in combination with testing for reproductive and developmental toxicity; the lowest does at which adverse effects were observed (LOAEL) following repeated dose reported to be 5,000 ppm. Adverse effects included lowered body weight, though some changes in blood chemistry were also reported. C1-4 HCs were not mutagenic in several test systems using bacteria or mammalian cells, nor were they

mutagenic in animal studies. No adverse developmental effects were reported for the highest dose tested (NOAEL ≥ 5,000 ppm). Reproductive toxicity was reported for isobutene (LOAEL = 9,000 ppm) as reduced fertility in females and pregnancy loss; caution should be used in interpreting the results of this study due to the small number of animals tested. The carcinogenicity of individual petroleum streams varies due to factors such as source and processing; IARC and ECHA C&L Inventory reports individually on the carcinogenicity of these substances.

**Benzene**

Benzene exposure may occur through inhalation, ingestion, skin absorption or eye contact. Benzene exposure can cause skin, eye and respiratory irritation. The most characteristic systemic effect resulting from high enough intermediate and chronic benzene exposure is arrested development of blood cells. Studies have linked overexposure to benzene to many hematological effects including aplastic anemia, pancytopenia, leukopenia, and myelodysplastic syndrome. In vivo and in vitro data from both humans and animals show that benzene and/or its metabolites are genotoxic. Studies in animals provide supporting evidence for the carcinogenicity of inhaled benzene. Epidemiological studies have reported a causal relationship between occupational benzene exposures and acute myelogenous leukemia. Some studies suggest associations between benzene exposure and non-Hodgkin's lymphoma, multiple myeloma, and other cancers. Benzene has been classified as carcinogenic to humans (Group 1) by IARC, and the ECHA C&L Inventory states it may cause cancer (Carc. 1B). IARC concluded that benzene causes acute myeloid leukemia and a positive association has been observed for acute lymphatic leukemia, chronic lymphatic leukemia, non-hodgkin lymphoma, and multiple myeloma. Human studies suggest that female fertility and menstrual cycles were effected by benzene exposure; however, due to uncertainties in exposure and limited data the studies were considered inconclusive. Developmental effects have been observed in animals including persistent hematopoietic anomalies. It has been suggested that the reported benzene fetotoxicity of decreased weight and skeletal variants is a function of maternal toxicity.

**Health hazard and classification information**

**Skin Corrosion/Irritation Category** No information available.

**Serious eye damage/eye irritation** No information available.  
No information available.

**Germ cell mutagenicity** Classification based on data available for ingredients. Contains a known or suspected mutagen. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as mutagenic.

**Carcinogenicity** Classification based on data available for ingredients. Contains a known or suspected carcinogen.

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

Chemical Name	ACGIH	IARC	NTP	OSHA
Ethanol; Ethyl alcohol 64-17-5	A3	Group 1	Known	X
Toluene 108-88-3	-	Group 3	-	-
Benzene 71-43-2	A1	Group 1	Known	X

**Reproductive toxicity** Classification based on data available for ingredients. Contains a known or suspected reproductive toxin. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

**Target Organ Systemic Toxicant - Single Exposure** No information available.

**Target Organ Systemic Toxicant - Repeated Exposure** No information available.



**Target organ effects** liver, Respiratory system, Eyes, Skin, Central nervous system, blood, Reproductive System.

**Aspiration hazard** No information available.

## 12. ECOLOGICAL INFORMATION

**Additional Ecological Information** Release of this product should be prevented from contaminating soil and water and from entering drainage and sewer systems. U.S.A. regulations require reporting spills of this material that could reach any surface waters. The toll free number to the U.S. Coast Guard National Response Center is (800) 424-8802

**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Ethanol; Ethyl alcohol 64-17-5	-	12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through	-	9268 - 14221: 48 h Daphnia magna mg/L LC50 2: 48 h Daphnia magna mg/L EC50 Static 10800: 24 h Daphnia magna mg/L EC50
Gasoline, natural; Low boiling point naphtha 8006-61-9	4700: 72 h Pseudokirchneriella subcapitata mg/L EC50	56: 96 h Oncorhynchus mykiss mg/L LC50	-	-
Pentane 109-66-0	-	9.99: 96 h Lepomis macrochirus mg/L LC50 9.87: 96 h Oncorhynchus mykiss mg/L LC50 11.59: 96 h Pimephales promelas mg/L LC50	-	9.74: 48 h Daphnia magna mg/L EC50
Toluene 108-88-3	12.5: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 433: 96 h Pseudokirchneriella subcapitata mg/L EC50	12.6: 96 h Pimephales promelas mg/L LC50 static 5.89 - 7.81: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 15.22 - 19.05: 96 h Pimephales promelas mg/L LC50 flow-through 5.8: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 11.0 - 15.0: 96 h Lepomis macrochirus mg/L LC50 static 50.87 - 70.34: 96 h Poecilia reticulata mg/L LC50 static 14.1 - 17.16: 96 h Oncorhynchus mykiss mg/L LC50 static 28.2: 96 h Poecilia reticulata mg/L LC50 semi-static 54: 96 h Oryzias latipes mg/L LC50 static	-	11.5: 48 h Daphnia magna mg/L EC50 5.46 - 9.83: 48 h Daphnia magna mg/L EC50 Static
Benzene 71-43-2	29: 72 h Pseudokirchneriella subcapitata mg/L EC50	10.7 - 14.7: 96 h Pimephales promelas mg/L LC50 flow-through 5.3: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 22.49: 96 h Lepomis macrochirus mg/L LC50 static 28.6: 96	-	10: 48 h Daphnia magna mg/L EC50 8.76 - 15.6: 48 h Daphnia magna mg/L EC50 Static

		h Poecilia reticulata mg/L LC50 static 22330 - 41160: 96 h Pimephales promelas µg/L LC50 static 70000 - 142000: 96 h Lepomis macrochirus µg/L LC50 static		
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**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

**Component Information**

Chemical Name	Partition coefficient
Ethanol; Ethyl alcohol 64-17-5	-0.32
Gasoline, natural; Low boiling point naphtha 8006-61-9	2.1 - 6.0
Pentane 109-66-0	3.39
Toluene 108-88-3	2.7
Butane 106-97-8	2.89
Benzene 71-43-2	2.1

**Other adverse effects** No information available.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Waste from residues/unused products** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**US EPA Waste Number** U019 U220 U239

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Toluene 108-88-3	U220	Included in waste streams: F005, F024, F025, F039, K015, K036, K037, K149, K151	-	U220
Benzene 71-43-2	U019	Included in waste streams: F005, F024, F025, F037, F038, F039, K085, K104, K105, K141, K142, K143, K144, K145, K147, K151, K159, K169, K171, K172	0.5 mg/L regulatory level	U019

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Toluene 108-88-3	-	-	Toxic waste waste number F025 Waste description: Condensed light ends,	-

			spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	
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**California Hazardous Waste Status** This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Ethanol; Ethyl alcohol 64-17-5	Toxic Ignitable
Pentane 109-66-0	Toxic Ignitable
Toluene 108-88-3	Toxic Ignitable
Benzene 71-43-2	Toxic Ignitable

## 14. TRANSPORT INFORMATION

**DOT**

**UN/ID no** UN1987  
**Proper Shipping Name** ALCOHOLS, N.O.S.  
**Hazard Class** 3  
**Packing group** II  
**Reportable Quantity (RQ)** (Benzene: RQ (kg)= 4.54, Xylenes (mixed isomers): RQ (kg)= 45.40)  
**Special Provisions** 172, IB2, T7, TP1, TP8, TP28  
**Description** UN1987, ALCOHOLS, N.O.S., 3, II  
**Emergency Response Guide Number** 127

**TDG**

**UN/ID no** UN1987  
**Proper Shipping Name** ALCOHOLS, N.O.S.  
**Hazard Class** 3  
**Packing group** II  
**Description** UN1987, ALCOHOLS, N.O.S. (ETHANOL; ETHYL ALCOHOL, PENTANE), 3, II

**MEX**

**UN/ID no** UN1987  
**Proper Shipping Name** ALCOHOLS, N.O.S.  
**Hazard Class** 3  
**Special Provisions** 274  
**Packing group** II  
**Description** UN1987, ALCOHOLS, N.O.S. (ETHANOL; ETHYL ALCOHOL, PENTANE), 3, II

**IATA**

**UN/ID no** UN1987  
**Proper Shipping Name** ALCOHOLS, N.O.S.

**Hazard Class** 3  
**Packing group** II  
**ERG Code** 3L  
**Description** UN1987, ALCOHOLS, N.O.S. (ETHANOL; ETHYL ALCOHOL, PENTANE), 3, II

**IMDG**

**UN/ID no** UN1987  
**Proper Shipping Name** ALCOHOLS, N.O.S.  
**Hazard Class** 3  
**Packing group** II  
**EmS No.** F-E, S-D  
**Special Provisions** 274  
**Description** UN1987, ALCOHOLS, N.O.S. (Ethanol; Ethyl alcohol, Pentane), 3, II, (0°C c.c.)

**15. REGULATORY INFORMATION**

**International Inventories**

**TSCA** Listed  
**DSL/NDSL** Listed  
**ENCS** Not Listed  
**IECSC** Listed  
**KECL** Listed  
**PICCS** Listed  
**AICS** Listed

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

**Acute health hazard** No  
**Chronic Health Hazard** Yes  
**Fire hazard** Yes  
**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).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Toluene 108-88-3	1000 lb	X	X	X
Benzene 71-43-2	10 lb	X	X	X

**CERCLA**

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil, fractions of crude oil, and products (both finished and intermediate) from the crude oil refining process and any indigenous components of such from the CERCLA Section 103 reporting requirements. However, other federal reporting requirements, including SARA Section

304, as well as the Clean Water Act may still apply.

### US State Regulations

#### **California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Ethanol; Ethyl alcohol - 64-17-5	Carcinogen Developmental
Benzene - 71-43-2	Carcinogen Developmental Male Reproductive
Toluene - 108-88-3	Developmental

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

#### **US State Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Ethanol; Ethyl alcohol 64-17-5	X	X	X
Gasoline, natural; Low boiling point naphtha 8006-61-9	-	X	-
Pentane 109-66-0	X	X	X
Xylene 1330-20-7	X	X	X
Butane 106-97-8	X	X	X
Toluene 108-88-3	X	X	X
Benzene 71-43-2	X	X	X

## **16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

**Revision Date** 06-Jul-2017

**Revision Note** No information available.

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**End of Safety Data Sheet**