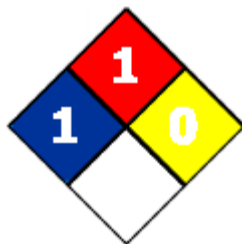


SAFETY DATA SHEET



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 CO2, 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.

Ingestion	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.
Self-protection of the first aider	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

Suitable Extinguishing Media	Dry chemical. Carbon dioxide (CO ₂). Water spray. Alcohol resistant foam.
Small Fire	Any extinguisher suitable for Class B fires, dry chemical, CO ₂ , foam (AFFF/ATC), or water spray can be used.
Large Fire	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.
Unsuitable extinguishing media	CAUTION: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	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.
Hazardous combustion products	Smoke, CO, and other products of incomplete combustion.
Explosion data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	Yes.
Special protective equipment for fire-fighters	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.
Further information	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.
NFPA	Health hazards 1 Flammability 1 Stability 0 Physical and chemical properties -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	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 ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m ³
Pentane 109-66-0	TWA: 1000 ppm	TWA: 1000 ppm TWA: 2950 mg/m ³ (vacated) TWA: 600 ppm (vacated) TWA: 1800 mg/m ³ (vacated) STEL: 750 ppm (vacated) STEL: 2250 mg/m ³
Toluene 108-88-3	TWA: 20 ppm	TWA: 200 ppm (vacated) TWA: 100 ppm (vacated) TWA: 375 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 560 mg/m ³

		Ceiling: 300 ppm
Butane 106-97-8	STEL: 1000 ppm	(vacated) TWA: 800 ppm (vacated) TWA: 1900 mg/m ³
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

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

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

Melting point / freezing point	-101 °C / -150 °F	
Boiling range	74 °C	
Flash point	10 to 13 °C / °F	
Evaporation rate	3	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air %		
Upper flammability limit:	7.6	
Lower flammability limit:	3.3	
Vapor pressure	345	
Vapor density	1.6	Approximately
Relative density	0.8	
Water solubility	Miscible in water	
Solubility in other solvents	No data available	
Partition coefficient	2 to 7	
Autoignition temperature	250 °C / 482 °F	Approximately
Decomposition temperature	No data available	
Kinematic viscosity	No data available	
Dynamic viscosity	No data available	
Explosive properties	No data available	
Oxidizing properties	No data available	
Minimum Ignition Energy (mJ)	No data available	
K_{st} (bar.m/s)	No data available	
Softening point	No data available	
VOC Content (%)	No data available	
Density	No data available	
Bulk density	Not applicable	
Conductivity	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

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

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

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

Information on toxicological effects

Symptoms	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 ³ (Rat) 5 min
Pentane 109-66-0	> 2000 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	= 364 g/m ³ (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 ³ (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/m³); 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.

Disclaimer

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