



Material Safety Data Sheet

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1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name: Marathon Denatured Alcohol
Synonyms: Denatured Alcohol; Ethanol 95%
Chemical Family: Alcoholic solution
Formula: Mixture

Manufacturer:
Marathon Petroleum Company LLC
539 South Main Street
Findlay OH 45840

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Denatured Alcohol is a mixture of ethyl alcohol and natural gasoline that is approved for use as an octane-enhancing blending component in gasoline.

Product information

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Marathon Denatured Alcohol	Mixture	100	=1000 ppm TWA		

Component Information

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Natural Gasoline	8006-61-9	5		= 1500 mg/m ³ STEL = 300 ppm TWA = 500 ppm STEL = 900 mg/m ³ TWA	
Ethyl Alcohol	64-17-5	95	= 1000 ppm TWA	=1000 ppm TWA 1900 mg/m ³ TWA	

Notes: The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DENATURED ALCOHOL IS A CLEAR, COLORLESS LIQUID WITH A HYDROCARBON ODOR. IT CONTAINS 95% ETHYL ALCOHOL. IT IS A VOLATILE AND EXTREMELY FLAMMABLE LIQUID THAT MAY CAUSE FLASH FIRES. KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME. NEVER SIPHON THIS PRODUCT BY MOUTH. IF SWALLOWED, THIS PRODUCT MAY GET SUCKED INTO THE LUNGS (ASPIRATED) AND CAUSE LUNG DAMAGE OR EVEN DEATH.

OSHA WARNING LABEL:

DANGER!

ASPIRATION (INADVERTENT SUCTION) OF LIQUID INTO THE LUNGS CAN PRODUCE CHEMICAL PNEUMONIA OR EVEN DEATH.

CONSUMER WARNING LABEL:

A CONSUMER WARNING LABEL IS NOT APPLICABLE FOR THIS PRODUCT.

Inhalation:

Prolonged breathing of high ethanol vapor concentrations can produce headache, dizziness, nausea, incoordination and impaired vision. Excessive overexposure can cause central nervous system depression, loss of consciousness, liver damage and death resulting from respiratory failure.

Ingestion:

Liquid ingestion can cause inebriation, headache, incoordination, gastrointestinal pain, nausea, and vomiting leading to central nervous system depression. Aspiration (inadvertent suction) of liquid into the lungs must be avoided as even small quantities in the lungs can produce chemical pneumonitis, pulmonary edema/hemorrhage and even death.

Skin contact:

Liquid is practically non-irritating to the skin. Prolonged and repeated liquid contact can cause defatting and drying of the skin and can lead to irritation and/or dermatitis.

Eye contact:

Liquid may cause mild to severe irritation. Splash contact or high vapor concentrations can produce an immediate burning and stinging sensation.

Carcinogenic Evaluation:

Product information

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Marathon Denatured Alcohol Mixture	A1-Human Carcinogen		A4-Non Classifiable	

Notes:

The International Agency for Research on Cancer (IARC) has determined that there is sufficient evidence for the carcinogenicity of alcoholic beverages (ethanol) in humans (Group 1).

Component Information

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Natural Gasoline 8006-61-9	Monograph 45, 1989; (Overall evaluation upgraded from 3 to 2B with supporting evidence from other data relevant to the evaluation of carcinogenicity and its mechanisms)			

Ethyl Alcohol 64-17-5	A2-Possible Human Carcinogen		A4 - Not Classifiable as a Human Carcinogen	
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Notes: The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence for the carcinogenicity of gasoline in humans. IARC determined that limited evidence of carcinogenicity in animals exists. IARC's overall evaluation of gasoline, in spite of limited carcinogenicity evidence, has resulted in the IARC designation of gasoline as possibly carcinogenic to humans (Group 2B) because gasoline contains benzene.

4. FIRST AID MEASURES

Inhalation: If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician. If symptoms or irritation occur with any exposure, call a physician.

Skin contact: Wash with soap and large amounts of water. Remove contaminated clothing. If symptoms or irritation occur, call a physician.

Ingestion: If swallowed, do not induce vomiting and do not give liquids. Immediately call a physician.

Eye contact: Flush eyes with large amounts of tepid water for at least 15 minutes. If symptoms or irritation occur, call a physician.

Medical conditions aggravated by exposure: Pre-existing eye, skin, respiratory disorders and impaired liver function may be aggravated by overexposure to ethanol. Persons on disulfiram (antabuse) therapy should be aware that the ethyl alcohol in the product is hazardous to them just as is alcohol from any source. Disulfiram reactions (vomiting, headache and even collapse) may follow ingestion of small amounts of alcohol.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media: For small fires, Class B fire extinguishing media such as CO2, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFT/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Specific hazards: This product has been determined to be a flammable liquid per the OSHA Hazard Communication Standard, and should be handled accordingly. Vapors may travel along the ground or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback can occur along vapor trail. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 127.

Special protective equipment for firefighters: Flame is invisible in daylight. Avoid using straight water streams. Water may be ineffective in extinguishing low flash point fires, but can be used to cool exposed surfaces. Avoid excessive water spray application. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Keep run-off water out of sewers and water sources.

Flash point: <-5 F

Autoignition temperature: No data available.

Flammable limits in air - lower (%): 3.3
Flammable limits in air - upper (%): 19.0

NFPA rating:

Health: 1
Flammability: 3
Reactivity: 0
Other: -

HMS classification:

Health: 1
Flammability: 3
Reactivity: 0
Special: *See Section 8 for guidance in selection of personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. Advise authorities and National Response Center (800-424-8802) if substance has entered a watercourse or sewer. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids.

7. HANDLING AND STORAGE

Handling:

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues. Avoid skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

For use as a motor fuel only. Product should never be used as a solvent due to its flammable and potentially toxic properties. Siphoning by mouth can result in lung aspiration which can be harmful or fatal.

Portable containers of 12 gallons (45 liters) or less should never be filled while they are in or on a motor vehicle or marine craft. Static electric discharge can ignite fuel vapors when filling non-grounded containers or vehicles on trailers. Containers should be placed on the ground. The nozzle spout must be kept in contact with the container before and during the entire filling operation. Use only approved containers. A buildup of static electricity can occur upon re-entry into a vehicle during fueling especially in cold or dry climate conditions. The charge is generated by the action of dissimilar fabrics (i.e., clothing and upholstery) rubbing across each other as a person enters/exits the vehicle. A flash fire can result from this discharge if sufficient flammable vapors are present. Therefore, do not get back in your vehicle while refueling. Cellular phones and other electronic devices may have the potential to emit electrical charges (sparks). Sparks in potentially explosive atmospheres (including fueling areas such as gas stations) could cause an explosion if sufficient flammable vapors are present. Therefore, turn off cellular phones and other electronic devices when working in potentially explosive atmospheres or keep devices inside your vehicle during refueling.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Engineering measures:

Local or general exhaust required in an enclosed area or when there is inadequate ventilation.

Respiratory protection:

Approved organic vapor chemical cartridge or supplied air respirators should be worn when significant vapors are generated. Observe respirator protection factor criteria cited in ANSI Z88.2. Self-contained breathing apparatus should be used for fire fighting.

Skin and body protection:

Use nitrile rubber, viton or PVA gloves for repeated or prolonged skin exposure.

Eye protection:

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

Hygiene measures:

No special protective clothing is normally required. Select protective clothing depending on industrial operations. Use mechanical ventilation equipment that is explosion-proof.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Colorless Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Clear
Odor:	Very faint. Alcoholic
Molecular weight:	45
pH:	Neutral
Boiling point/range (5-95%):	165-175 F
Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.
Specific gravity:	0.79
Density:	6.6 lbs/gal
Bulk density:	No data available.
Vapor density:	1.6
Vapor pressure:	43-47 mm Hg
Evaporation rate:	No data available.
Solubility:	Not determined
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	100%
VOC content(%):	No data available.
Viscosity:	No data available.

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Carbon monoxide and carbon dioxide
Materials to avoid:	Strong oxidizers such as nitrates, chlorates, peroxides.
Conditions to avoid:	Excessive heat, sources of ignition and open flames.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:**Product information**

Name	CAS Number	Inhalation:	Dermal:	Oral:
Marathon Denatured Alcohol	Mixture	16,000-45,000 ppm 4-8 hr [Rat]	No data available	6-18 gm/kg [Rat]

Intentional abuse, misuse or other massive exposure to ethanol may result in multiple organ damage and/or death. Chronic ingestion of large amounts of ethanol can cause cancer and damage to the liver, kidney, heart, brain, nervous system and stomach. Ethyl alcohol ingestion during pregnancy can adversely affect the unborn child. Studies in laboratory animals involving prolonged and repeated exposures have resulted in such effects as embryotoxicity, immunotoxicity and teratogenicity. Mutagenic effects have been reported in both in vitro and in vivo systems but usually at high dosages.

This product may contain natural gasoline at a level of >1.0%. Repeated dermal application has produced severe irritation and systemic toxicity in subacute toxicity studies. Some components of this product, i.e., paraffins and olefins, have been shown to produce a species specific sex hormonal dependent kidney lesion in male rats from repeated oral or inhalation exposure. Subsequent research has shown that the kidney damage develops via the formation of alpha-2u-globulin, a mechanism unique to the male rat. Humans do not form alpha-2u-globulin, therefore, the kidney effects resulting from this mechanism are not relevant in humans. Some components were found to be positive in a few mutagenicity tests while negative in the majority of others. The exact relationship between these results and human health is not known.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects: No data available.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations: This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "characteristic" hazardous waste. This product could also contain benzene at >0.5 ppm and could exhibit the characteristics of "toxicity" as determined by the toxicity characteristic leaching procedure (TCLP). This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:

DOT:
Transport Information: This material when transported via US commerce would be regulated by DOT Regulations.

Proper shipping name:	Alcohols, N.O.S.
UN/Identification No:	UN 1987
Hazard Class:	3
Packing group:	II
DOT reportable quantity (lbs):	Not applicable.

TDG (Canada):

Proper shipping name:	Alcohols, N.O.S.
UN/Identification No:	UN 1987
Hazard Class:	3
Packing group:	II
Regulated substances:	Not applicable.

15. REGULATORY INFORMATION

Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard: This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Natural Gasoline	NA
Ethyl Alcohol	NA

SARA Section 304: This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Natural Gasoline	NA
Ethyl Alcohol	NA

SARA Section 311/312: The following EPA hazard categories apply to this product:

Acute Health Hazard
Chronic Health Hazard
Fire Hazard

SARA Section 313: This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Natural Gasoline	None
Ethyl Alcohol	None

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Natural Gasoline

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 0957
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree

New Jersey - Environmental Hazardous Substances List:	SN 0957
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Ethyl Alcohol	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	developmental toxicity (when in alcoholic beverages); initial date 10/1/87
New Jersey Right-To-Know:	sn 0844
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To Know:	Teratogen
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Canadian Regulatory Information:

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or the Non Domestic Substance List (NDSL).

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Natural Gasoline	B2; D2A	1% (English Item 793, French Item 802)
Ethyl Alcohol	B2; D2B	0.1% (English Item 684, French Item 805)

16. OTHER INFORMATION

Additional Information: No data available.

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End of Safety Data Sheet