



Material Safety Data Sheet

MSDS ID NO.: 0257MAR019
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1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name: Marathon Dilute Naphthalene Oil
Synonym: Dilute Naphthalene Oil; DNO
Chemical Family: Aromatic Hydrocarbon
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

Dilute Naphthalene is a mixture of naphthalene and indene derived from the fractionation of coal tar light oil.

Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Marathon Dilute Naphthalene Oil	Mixture	100			

Component Information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Naphthalene	91-20-3	62-82	Skin - potential significant contribution to overall exposure by the cutaneous route = 10 ppm TWA = 15 ppm STEL	= 10 ppm TWA = 50 mg/m ³ TWA = 15 ppm STEL = 75 mg/m ³ STEL	
Indene	95-13-6	2-25	= 10 ppm TWA	= 10 ppm TWA = 45 mg/m ³ TWA	
2-methylnaphthalene	91-57-6	1.5-3			

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

DILUTE NAPHTHALENE OIL (DNO) IS A DARK BROWN HYDROCARBON LIQUID WITH A DISTINCTIVE MOTH BALL ODOR. DNO IS HEATED DURING SHIPMENT TO PREVENT SOLIDIFICATION, AND THEREFORE, HAS THE POTENTIAL TO CAUSE SKIN BURNS. THIS PRODUCT IS CONSIDERED TO BE A COMBUSTIBLE LIQUID PER THE OSHA HAZARD COMMUNICATION STANDARD AND SHOULD BE KEPT AWAY FROM HEAT, FLAME AND SOURCES OF IGNITION. DNO LIQUID AND VAPORS ARE IRRITATING TO THE EYE, SKIN AND MUCOUS MEMBRANES. NAPHTHALENE EXPOSURE CAN ADVERSELY AFFECT THE BLOOD IN CERTAIN SUSCEPTIBLE INDIVIDUALS. ASPIRATION (INADVERTENT SUCTION) OF LIQUID INTO THE LUNGS CAN PRODUCE CHEMICAL PNEUMONIA OR EVEN DEATH.

OSHA WARNING LABEL:

**WARNING.
COMBUSTIBLE LIQUID.
CONTACT WITH HEATED MATERIAL MAY CAUSE SEVERE BURNS.
LIQUID AND VAPOR CAN IRRITATE EYES, SKIN AND MUCOUS MEMBRANES.
EXPOSURE CAN ADVERSELY AFFECT THE BLOOD IN CERTAIN SUSCEPTIBLE INDIVIDUALS.
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:

Inhalation of naphthalene vapors above the TLV can cause respiratory irritation, profuse perspiration, headache, malaise, loss of appetite and nausea. Gross overexposure can cause respiratory failure and pulmonary edema.

Ingestion:

Liquid ingestion causes severe gastrointestinal pain, abdominal cramps, nausea, vomiting, narcosis and central nervous system depression. Ingestion of large quantities of this product has been reported to cause hemolytic anemia and liver and kidney damage (see section 11 for additional toxicological information). 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:

Hot product causes severe burns. Direct liquid contact can produce irritation and possibly skin burns. Prolonged and repeated liquid contact can cause defatting and drying of the skin and can lead to irritation and/or dermatitis.

Eye contact:

This material is an eye irritant. Eye irritation or a burning sensation may result from contact with the liquid or exposure to vapor at concentrations above the TLV. Contact with solid material may result in conjunctivitis, superficial injury to the cornea, diminished visual acuity, cataract formation and other effects.

Carcinogenic Evaluation:

Product information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Marathon Dilute Naphthalene Oil Mixture	NE			

Notes:

The International Agency for Research on Cancer and the National Toxicology Program have determined naphthalene could be a possible human carcinogen.

Component Information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Naphthalene 91-20-3	Monograph 82, 2002	Reasonably Anticipated To Be A Carcinogen Listed	A4 - Not Classifiable as a Human Carcinogen	Present
Indene 95-13-6		Reasonably Anticipated To Be A Carcinogen		

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.
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.
Notes to physician:	Naphthalene ingestion or inhalation can result in massive hemolysis in glucose-6-phosphate deficient individuals. Hemolysis in normal individuals occurs only with exposure to very high levels.
Medical conditions aggravated by exposure:	Preexisting skin, eye and respiratory disorders may be aggravated by exposure to components of this product.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:	For small fires, Class B fire extinguishing media such as CO ₂ , 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 combustible liquid per the OSHA Hazard Communication Standard and should be handled accordingly. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128.
Special protective equipment for firefighters:	Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Use water spray to cool exposed surfaces from as far a distance as possible. Keep run-off water out of sewers and water sources.
Flash point:	150-180 F
Autoignition temperature:	No data available.
Flammable limits in air - lower (%):	0.9
Flammable limits in air - upper (%):	5.9

NFPA rating:

Health: 2
Flammability: 2
Reactivity: 1
Other: -

HMIS classification:

Health: 2
Flammability: 2
Reactivity: 1
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. Notify local health and pollution control agencies, if appropriate. 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.

Never siphon this product by mouth. Avoid repeated and prolonged skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

Hydrocarbons are basically non-conductors of electricity and can become electrostatically charged during mixing, filtering, pumping at high flow rates or loading and transfer operations. If this charge reaches a sufficiently high level, sparks can form that may ignite the vapors of flammable liquids. Sudden release of hot organic chemical vapors or mists from process equipment operating under elevated temperature and pressure, or sudden ingress of air into vacuum equipment may result in ignitions without the presence of obvious ignition sources. Nozzle spouts must be kept in contact with the containers or tank during the entire filling operation.

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:

Use approved organic vapor chemical cartridge or supplied air respirators when material produces vapors that exceed permissible limits or excessive 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:

Polyvinyl alcohol (PVA) or viton gloves to prevent skin contact.

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:	Brown Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Dark brown
Odor:	Moth Ball odor
Molecular weight:	116-128
pH:	Neutral
Boiling point/range (5-95%):	No data available.
Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.
Specific gravity:	Not determined
Density:	7.9-8.5 lbs/gal
Bulk density:	No data available.
Vapor density:	No data available.
Vapor pressure:	Not determined.
Evaporation rate:	No data available.
Solubility:	Not determined
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	No data available.
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
Materials to avoid:	Strong oxidizers such as nitrates, chlorates, peroxides.
Conditions to avoid:	Sources of heat or ignition.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information:

Name	CAS Number	Inhalation:	Dermal:	Oral:
Marathon Dilute Naphthalene Oil	Mixture	No data available	Naphthalene LD50 is >2,500 gm/kg [Rat]	Naphthalene LD50 = 2,200 mg/kg [Rat]

Exposure to naphthalene at 30 ppm for two years caused lung tumors in female mice. Male mice with the same exposure did not develop tumors. Exposure to 10-60 ppm naphthalene for 2 years caused tumors in the tissue lining of the nose and respiratory tract in male and female rats.

Oral administration of 133-267 mg/kg/day of naphthalene in mice for up to 90 days did not produce mortality, systemic toxicity, adversely affect organ or body weight or produce changes in blood. Repeated oral administration of naphthalene produced an anemia in dogs. Repeated intraperitoneal doses of naphthalene produced lung damage in mice. Repeated high doses of naphthalene has caused the formation of cataracts and retinotoxicity in the eyes of rats and rabbits due to accumulation of 1,2-naphthoquinone, a toxic metabolite. Effects in human eyes is uncertain and not well documented.

Pregnant rats administered intraperitoneal doses of naphthalene during gestation gave birth to offspring that had delayed heart and bone development. Pregnant mice given near lethal doses of naphthalene showed no significant maternal toxicity and a reduction in the number of pups per litter, but no gross abnormalities in offspring. Suppressed spermatogenesis and progeny development have been reported in mice, rats and guinea pigs after exposure to high concentrations of naphthalene in their drinking water.

Certain groups or individuals, i.e., infants, Semites, Arabs, Asians and Blacks, with a certain blood enzyme deficiency (glucose-6-phosphate dehydrogenase) are particularly susceptible to hemolytic agents and can rapidly develop hemolytic anemia and systemic poisoning from ingestion or inhalation of naphthalene.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects: The 96 hour TLM for naphthalene is 1-10 ppm.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations: This material as supplied is specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 260-271). The waste number is U165. However, when discarded and disposed of, it may meet the criteria of a hazardous waste. 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:	Hot Flammable Liquids, N. O. S. (Contains Naphthalene)
UN/Identification No:	UN 1993
Hazard Class:	3
Packing group:	III
DOT reportable quantity (lbs):	100 pounds.

TDG (Canada):

Proper shipping name:	Hot Flammable Liquids, N. O. S. (Contains Naphthalene)
UN/Identification No:	UN 1993
Hazard Class:	3
Packing group:	III
Regulated substances:	100 pounds.

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
Naphthalene	NA
Indene	NA
2-methylnaphthalene	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
Naphthalene	= 0.454 kg final RQ = 1 lb final RQ = 100 lb final RQ = 45.4 kg final RQ
Indene	NA
2-methylnaphthalene	NA

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

Acute 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:
Naphthalene	= 0.1 % de minimis concentration
Indene	None
2-methylnaphthalene	None

State and Community Right-To-Know Regulations:

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

Naphthalene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Listed
New Jersey Right-To-Know:	Listed
Pennsylvania Right-To-Know:	Listed
Massachusetts Right-To Know:	Listed
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Listed
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:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Listed
Illinois - Toxic Air Contaminants	Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Listed

Indene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1023
Pennsylvania Right-To-Know:	[present]
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic
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:	Not Listed
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

2-methylnaphthalene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
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:	Not Listed
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 are exempt.

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Naphthalene	B4, D2A	1 %
Indene	B3	1% (English Item 870, French Item 1016)
2-methylnaphthalene	Uncontrolled product according to WHMIS classification criteria.	

16. OTHER INFORMATION

Additional Information: No data available.

Prepared by: Craig M. Parker Manager, Toxicology and Product Safety

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End of Safety Data Sheet