Material Safety Data Sheet

MSDS ID NO.: 0243MAR019
Revision date: 08/01/2006

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name: Marathon Cumene
Synonym: Cumene; Isopropylbenzene
Chemical Family: Aromatic Hydrocarbon
Formula: C6H5CH(CH3)2

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

Cumene is an aromatic petroleum hydrocarbon. Contains trace amounts of toluene, C9 hydrocarbons and benzene (<50 ppm).

Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Marathon Cumene	98-82-8	100	= 50 ppm TWA	= 245 mg/m³ TWA = 50 ppm TWA Prevent or reduce skin absorption	

Component Information:

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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

CUMENE IS A COLORLESS LIQUID WITH A STRONG HYDROCARBON ODOR. 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. MAY CAUSE SKIN AND EYE BURNS UPON LIQUID CONTACT.

OSHA WARNING LABEL:

DANGER!
FLAMMABLE LIQUID.
MAY CAUSE EYE OR SKIN IRRITATION.
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: Overexposure or prolonged exposure to lower concentrations can cause respiratory irritation. Gross overexposure can cause central nervous system depression, producing symptoms of headache, dizziness, narcosis, and muscular incoordination.

Ingestion: Ingestion or inhalation of high concentrations may cause injuries to gastrointestinal tract, liver, kidneys and central nervous system. 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: Prolonged and repeated liquid contact can cause defatting and drying of the skin and can lead to irritation and/or dermatitis.

Eye contact: Eye irritation may result from contact with the liquid or exposure to the vapor at concentrations above the TLV.

Carcinogenic Evaluation:

Product information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Marathon Cumene 98-82-8	NE			

Notes: The International Agency for Research on Cancer (IARC) has not evaluated cumene for carcinogenicity.

Component Information:

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.

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 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 130.

Special protective equipment for firefighters: 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: 96 F
Autoignition temperature: 795 F
Flammable limits in air - lower (%): 0.9
Flammable limits in air - upper (%): 6.5

NFPA rating:
Health: 2
Flammability: 3
Reactivity: 1
Other: -

HMIS classification:
Health: 2
Flammability: 3
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: Approved organic vapor chemical cartridge or supplied air respirators should be worn for exposures to any components exceeding the TLV or STEL. 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: 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):	Pure
Color:	Colored
Odor:	Aromatic
Molecular weight:	120.2
pH:	Neutral
Boiling point/range (5-95%):	305 F
Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.
Specific gravity:	Not determined
Density:	7.2 lbs/gal
Bulk density:	No data available.
Vapor density:	4.2
Vapor pressure:	10 mm Hg @ 91 F
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, xylene vapors

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 Cumene	98-82-8	LC50 = 8000 ppm for 4 hrs [Rat]	LD 50 = > 10,000 mg/kg [Rabbit]	1.4 - 2.2 gm/kg [Rat]

An early subchronic inhalation study at doses of 1,323 ppm cumene produced no effect in rabbits but showed some evidence of slight damage to lung, liver, kidney, spleen and adrenals in rats. A subsequent study at 1,200 ppm cumene for 13 weeks revealed mild toxicity evidenced by kidney damage in male rats and slight changes in some blood parameters and increases liver, kidney and adrenal weights in the other animals. The kidney damage develops via the formation of alpha-2u-globulin, is unique to the male rat and similar to effects seen with other petroleum hydrocarbons. Since humans do not form alpha-2u-globulin, effects resulting from this mechanism are not relevant in humans.

Rats and mice exposed to up to 1000 ppm cumene, 6 hrs/day, 5 days/wk for up to two years developed nasal and bladder tumors in male rats and lung tumors in male and female mice.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects: The 96 hour EC50 for cumene in aquatic organisms is approximately 1 mg/l. This product does not concentrate or accumulate in the food chain.

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 260-271). However, when discarded, spilled or disposed of, it can become an EPA RCRA hazardous waste. This product could also meet the criteria of an "ignitable" hazardous waste (U055). 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:	Isopropylbenzene
UN/Identification No:	UN 1918
Hazard Class:	3
Packing group:	III
DOT reportable quantity (lbs):	5000 pounds

TDG (Canada):

Proper shipping name:	Isopropylbenzene
UN/Identification No:	UN 1918
Hazard Class:	3
Packing group:	III
Regulated substances:	5000 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
Cumene	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
Cumene	= 2270 kg final RQ = 5000 lb final RQ

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:
Cumene	= 1.0 percent de minimis concentration

State and Community Right-To-Know Regulations:
The following component(s) of this material are identified on the regulatory lists below:

Cumene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed

New Jersey Right-To-Know:	sn 0542
Pennsylvania Right-To-Know:	environmental hazard
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 0542
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb Land/Water RQ = 5,000 lbs Air RQ

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:
Cumene	B2	1% (English Item 909, French Item 1054)

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