



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: SUNOCO MAXNOS

Manufacturer Information:

Sunoco, Inc. (R&M)
1735 Market Street LL

Philadelphia, Pennsylvania, 19103-7583

Product Use:

Racing fuel
Off-Road Use

Emergency Phone Numbers:

Chemtrec (800) 424-9300
Sunoco Inc. (800) 964-8861

Information:

Product Safety Information (610) 859-1120

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Amount (Vol%)
ALKYLATE	64741-66-8	60 - 65
ISOOCTANE	540-84-1	20 - 30
ISOPENTANE	78-78-4	20 - 25
TOLUENE	108-88-3	10 - 20
BUTANE	106-97-8	4 - 5
TETRAETHYL LEAD	78-00-2	0.5 - 0.25

EXPOSURE GUIDELINES (SEE SECTION 15 FOR ADDITIONAL EXPOSURE LIMITS)

	CAS No.	Governing Body	Exposure Limits		
ALKYLATE	64741-66-8	Sunoco	TWA	100	ppm
BUTANE	106-97-8	ACGIH	TWA	1000	ppm
ISOPENTANE	78-78-4	Sunoco	STEL	750	ppm
ISOPENTANE	78-78-4	ACGIH	TWA	600	ppm
ISOPENTANE	78-78-4	Sunoco	TWA	600	ppm
TOLUENE	108-88-3	NIOSH	STEL	150	ppm
TOLUENE	108-88-3	ACGIH	TWA	50	ppm
TOLUENE	108-88-3	OSHA	TWA	200	ppm
TETRAETHYL LEAD	78-00-2	ACGIH	TWA	0.1	mg/m3
TETRAETHYL LEAD	78-00-2	OSHA	TWA	0.075	mg/m3

3. HAZARDS IDENTIFICATION

- **EMERGENCY OVERVIEW**

Danger! Extremely flammable liquid and vapor. Vapors may cause flash fire or explosion. Excessive exposure to mists or vapors generated by heat may cause irritation to eyes, nose, throat, lungs and respiratory tract. Harmful or fatal if swallowed. Pulmonary aspiration hazard. After ingestion, may enter lungs and produce damage. Harmful if inhaled. Overexposure may lead to serious disturbances of heart rhythm and nervous system effects, including drowsiness, dizziness, nausea, headaches, paralysis, loss of consciousness and even death. May be absorbed through the skin causing systemic effects. May cause skin irritation. May cause eye irritation. Contains material or materials that can cause cancer. May cause target organ or system damage to the following: central nervous system, eye, kidney, liver, respiratory system, skin, blood, cardiovascular system, heart, reproductive system, peripheral nervous system, bone marrow,

Hazards Ratings:

Key: 0 = least, 1 = slight, 2 = moderate, 3 = high, 4 = extreme

	<u>Health</u>	<u>Fire</u>	<u>Reactivity</u>	<u>PPI</u>
NFPA	1	3	0	
HMIS	2	3	0	X

- **POTENTIAL HEALTH EFFECTS**

- **PRE-EXISTING MEDICAL CONDITIONS**

The following diseases or disorders may be aggravated by exposure to this product: skin, eye, blood forming organs, nervous system, respiratory system, lung (asthma-like conditions), cardiovascular system, liver, kidney,

- **INHALATION**

High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis and loss of consciousness and even death). May cause serious disturbances of heart rhythm. Excessive exposure to mists or vapors generated by heat may cause irritation to eyes, nose, throat, lungs and respiratory tract. Solvent "huffing/sniffing" (abuse) or intentional prolonged overexposure to high levels of vapors can produce abnormal behavior, convulsions, hallucinations, delirium, nervous system damage, serious disturbances of heart rhythm and sudden death. Repeated excessive exposures may cause blood disorders such as anemia and leukemia. Contains a material that has been related to cancer in humans.

LC50 (mg/l): no data

LC50 (mg/m3): no data

LC50 (ppm): no data

- **SKIN**

Moderately irritating to the skin. May be absorbed through the skin causing systemic effects. This product contains an organic lead compound which may be absorbed dermally. Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

Draize Skin Score: no data Out of 8.0

LD50 (mg/kg): no data

- **EYES**

Moderately irritating to the eyes. Contact with the eye may cause redness, burning, tearing and/or blurred vision.

- **INGESTION**

Product may be harmful or fatal if swallowed. Pulmonary aspiration hazard. After ingestion, may enter lungs and produce damage. Irritating to mouth, throat, and stomach. May produce central nervous system effects, which may include dizziness, loss of balance and coordination, unconsciousness, coma and even death.

LD50 (g/kg): no data

4. FIRST AID MEASURES

- **INHALATION**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen and continue to monitor. Get immediate medical attention.

- **SKIN**
Immediately flush with large amounts of water for 20 minutes, use soap if available. Remove contaminated clothing, including shoes, after flushing has begun. Get prompt medical attention. Injection injuries may not appear serious at first but within a few hours, without proper treatment, the area will become swollen, discolored and extremely painful. Wash clothing before reuse.
- **EYES**
Flush eye with water for 15 minutes. Get medical attention.
- **INGESTION**
If swallowed, immediately contact a physician or Poison Control Center. Never give anything by mouth to an intoxicated, unconscious or convulsing person. Get immediate medical attention. Do not induce vomiting!

5. FIRE FIGHTING MEASURES

- **EXTINGUISHING MEDIA**
The following media may be used to extinguish a fire involving this material: Water spray; Regular foam; Dry chemical; Carbon dioxide;
- **FIRE FIGHTING INSTRUCTIONS**
Use water spray to cool fire exposed tanks and containers. Wear structural fire fighting gear. The use of fresh air equipment such as Self Contained Breathing Apparatus (SCBA) or Supplied Air Respirators should be worn for fire fighting if exposure or potential exposure to products of combustion is expected.

FLAMMABLE PROPERTIES

	Typical	Minimum	Maximum	Text Result	Units	Method
Flash Point				MINUS 40 EST'D	F	N/A
Autoignition Temperature				853 ESTIMATED	F	N/A
Lower Explosion Limit	1.5				%	N/A
Upper Explosion Limit	7.6				%	N/A

6. ACCIDENTAL RELEASE MEASURES

Prevent ignition, stop leak and ventilate the area. Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Do not use spark-generating metals for sweeping up spilled material. Avoid runoff into storm sewers and ditches which lead to waterways. Vapor can be controlled using a water fog. Water streams should not be directed to the liquid as this will cause the liquid to boil and generate more vapor. Keep personnel upwind from leak. Use appropriate personal protective equipment as stated in Section 8 of this MSDS. Advise the Environmental Protection Agency (EPA) and appropriate state agencies, if required.

7. HANDLING AND STORAGE

- **HANDLING**
Follow all MSDS/label precautions even after container is emptied because it may retain product residue. Use only in a well-ventilated area. Ground and bond containers when transferring material. Avoid breathing (dust, vapor, mist, gas). Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Never siphon by mouth. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioned, or properly disposed of. A static electrical discharge can accumulate when this material is flowing through pipes, nozzles or filters or when it is agitated. A static spark discharge can ignite accumulated vapors particularly during dry weather. Always bond receiving containers to the fill pipe before and during loading. Always keep nozzle in contact with the container throughout the loading process. Do not fill any portable container in or on the vehicle.

- **STORAGE**

Keep away from heat, sparks, and flame. Keep container closed when not in use. Store in a cool dry place. Consult NFPA and / or OSHA codes for additional information. NFPA class IB storage. Flash point is less than 73 degrees F and boiling point is greater than or equal to 100 degrees F. Outside or detached storage is preferred.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Consult With a Health and Safety Professional for Specific Selections

- **ENGINEERING CONTROLS**

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use with adequate ventilation. Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product. Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

- **PERSONAL PROTECTION**

- **EYE PROTECTION**

Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent).

- **GLOVES or HAND PROTECTION**

The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Protective gloves are recommended to protect against contact with product. Nitrile; Viton; Teflon;

- **RESPIRATORY PROTECTION**

Concentration in air determines the level of respiratory protection needed. Use only NIOSH certified respiratory equipment. Half-mask air purifying respirator with organic vapor cartridges is acceptable for exposures to ten (10) times the exposure limit. Full-face air purifying respirator with organic vapor cartridges is acceptable for exposures to fifty (50) times the exposure limit. Exposure should not exceed the cartridge limit of 1000 ppm. Protection by air purifying respirators is limited. Use a positive pressure-demand full-face supplied air respirator or SCBA for exposures greater than fifty (50) times the exposure limit. If exposure is above the IDLH (Immediately Dangerous to Life and Health) or there is the possibility of an uncontrolled release, or exposure levels are unknown, then use a positive pressure-demand full-face supplied air respirator with escape bottle or SCBA. Wear a NIOSH-approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

- **OTHER**

Where splashing is possible, full chemically resistant protective clothing (e.g., acid suit) and boots are required. The following materials are acceptable for use as protective clothing: Nitrile; Viton; Teflon; Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Remove contaminated clothing and wash before reuse. For non-fire emergencies, positive pressure SCBA and structural firefighter's protective clothing will provide only limited protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Property	Typical	Units	Text Result	Reference
Appearance		N/A	YELLOW LIQ	
Boiling Point		F	100-257	
Bulk Density		lb/gal	no data	
Melting Point		F	no data	
Molecular Weight		g/mole	no data	
Octanol/Water Coefficient		N/A	no data	
pH		N/A	no data	
Specific Gravity	0.71	N/A		
Solubility In Water		wt %	NIL TO 15%	

Odor		N/A	GASOLINE ODOR.	
Odor Threshold		ppm	< 1	
Vapor Pressure		psia	5 - 16	
Viscosity (F)		SUS	no data	
Viscosity (C)		CsT	no data	
% Volatile	100	wt %		

10. STABILITY AND REACTIVITY

- **STABILITY**

Stable

- **CONDITIONS TO AVOID**

Avoid heat, sparks and open flame. Avoid static discharge.

- **INCOMPATIBILITY**

The following materials are incompatible with this product: Strong oxidizers Alkaline materials; Acids; Chlorine; Concentrated oxygen; Halogens and halogenated compounds; Hydrogen peroxide;

- **HAZARDOUS DECOMPOSITION PRODUCTS**

Combustion may produce carbon monoxide, carbon dioxide and other asphyxiants.

- **HAZARDOUS POLYMERIZATION**

Will not polymerize.

11. ECOLOGICAL INFORMATION

Gasoline spills are toxic to fish and aquatic flora.

12. DISPOSAL CONSIDERATIONS

Follow federal, state and local regulations. This material is a RCRA hazardous waste. Do not flush material to drain or storm sewer. Contract to authorized disposal service.

13. TRANSPORT INFORMATION

<u>Governing Body</u>	<u>Mode</u>	<u>Proper Shipping Name</u>
DOT	Ground	Gasoline

<u>Governing Body</u>	<u>Mode</u>	<u>Hazard Class</u>	<u>UN/NA No.</u>	<u>Label</u>
DOT	Ground	3 (Flammable liquid)	1203	Flammable Liquid

14. REGULATORY INFORMATION

<u>Regulatory List</u>	<u>Component</u>	<u>CAS No.</u>
ACGIH - Occupational Exposure Limits - Carcinogens	TETRAETHYL LEAD	78-00-2
ACGIH - Occupational Exposure Limits - Carcinogens	TOLUENE	108-88-3
ACGIH - Occupational Exposure Limits - TWAs	BUTANE	106-97-8
ACGIH - Occupational Exposure Limits - TWAs	ISOPENTANE	78-78-4
ACGIH - Occupational Exposure Limits - TWAs	TETRAETHYL LEAD	78-00-2
ACGIH - Occupational Exposure Limits - TWAs	TOLUENE	108-88-3
ACGIH - Skin Absorption Designation	TETRAETHYL LEAD	78-00-2
ACGIH - Skin Absorption Designation	TOLUENE	108-88-3
CAA (Clean Air Act) - HON Rule - Organic HAPs	ISOCTANE	540-84-1
CAA (Clean Air Act) - HON Rule - Organic HAPs	TOLUENE	108-88-3
CAA (Clean Air Act) - HON Rule - SOCM Chemicals	ISOCTANE	540-84-1

CAA (Clean Air Act) - HON Rule - SOCOMI Chemicals	TETRAETHYL LEAD	78-00-2
CAA (Clean Air Act) - HON Rule - SOCOMI Chemicals	TOLUENE	108-88-3
CAA - 1990 Hazardous Air Pollutants	ISOOCTANE	540-84-1
CAA - 1990 Hazardous Air Pollutants	TOLUENE	108-88-3
California - Prop. 65 - Developmental Toxicity	TOLUENE	108-88-3
Canada - WHMIS - Ingredient Disclosure	BUTANE	106-97-8
Canada - WHMIS - Ingredient Disclosure	TETRAETHYL LEAD	78-00-2
Canada - WHMIS - Ingredient Disclosure	TOLUENE	108-88-3
CERCLA/SARA - Haz Substances and their RQs	ISOOCTANE	540-84-1
CERCLA/SARA - Haz Substances and their RQs	ISOOCTANE	540-84-1
CERCLA/SARA - Haz Substances and their RQs	ISOOCTANE	540-84-1
CERCLA/SARA - Haz Substances and their RQs	TETRAETHYL LEAD	78-00-2
CERCLA/SARA - Haz Substances and their RQs	TETRAETHYL LEAD	78-00-2
CERCLA/SARA - Haz Substances and their RQs	TETRAETHYL LEAD	78-00-2
CERCLA/SARA - Haz Substances and their RQs	TOLUENE	108-88-3
CERCLA/SARA - Haz Substances and their RQs	TOLUENE	108-88-3
CERCLA/SARA - Haz Substances and their RQs	TOLUENE	108-88-3
CERCLA/SARA - Section 302 EHS and TPQs	TETRAETHYL LEAD	78-00-2
CERCLA/SARA - Section 302 EHS and TPQs	TETRAETHYL LEAD	78-00-2
CERCLA/SARA - Section 302 EHS and TPQs	TETRAETHYL LEAD	78-00-2
CERCLA/SARA - Section 302 EHS EPCRA RQs	TETRAETHYL LEAD	78-00-2
CERCLA/SARA - Section 313 - Emission Reporting	TOLUENE	108-88-3
CWA (Clean Water Act) - Hazardous Substances	TETRAETHYL LEAD	78-00-2
CWA (Clean Water Act) - Hazardous Substances	TOLUENE	108-88-3
CWA (Clean Water Act) - Priority Pollutants	TOLUENE	108-88-3
CWA (Clean Water Act) - Toxic Pollutants	TOLUENE	108-88-3
IARC - Group 3 (not classifiable)	TETRAETHYL LEAD	78-00-2
IARC - Group 3 (not classifiable)	TOLUENE	108-88-3
Inventory - Australia (AICS)	ALKYLATE	64741-66-8
Inventory - Australia (AICS)	BUTANE	106-97-8
Inventory - Australia (AICS)	ISOOCTANE	540-84-1
Inventory - Australia (AICS)	ISOPENTANE	78-78-4
Inventory - Australia (AICS)	TETRAETHYL LEAD	78-00-2
Inventory - Australia (AICS)	TOLUENE	108-88-3
Inventory - Canada - Domestic Substances List	ALKYLATE	64741-66-8
Inventory - Canada - Domestic Substances List	BUTANE	106-97-8
Inventory - Canada - Domestic Substances List	ISOOCTANE	540-84-1
Inventory - Canada - Domestic Substances List	ISOPENTANE	78-78-4
Inventory - Canada - Domestic Substances List	TETRAETHYL LEAD	78-00-2
Inventory - Canada - Domestic Substances List	TOLUENE	108-88-3
Inventory - Canada - Non-Domestic Substances List	ISOOCTANE	540-84-1
Inventory - China	ALKYLATE	64741-66-8
Inventory - China	BUTANE	106-97-8
Inventory - China	ISOOCTANE	540-84-1
Inventory - China	ISOPENTANE	78-78-4
Inventory - China	TETRAETHYL LEAD	78-00-2
Inventory - China	TOLUENE	108-88-3
Inventory - European EINECS Inventory	ALKYLATE	64741-66-8
Inventory - European EINECS Inventory	BUTANE	106-97-8
Inventory - European EINECS Inventory	ISOOCTANE	540-84-1
Inventory - European EINECS Inventory	ISOPENTANE	78-78-4
Inventory - European EINECS Inventory	TETRAETHYL LEAD	78-00-2
Inventory - European EINECS Inventory	TOLUENE	108-88-3
Inventory - Japan - (ENCS)	BUTANE	106-97-8
Inventory - Japan - (ENCS)	ISOOCTANE	540-84-1
Inventory - Japan - (ENCS)	ISOPENTANE	78-78-4
Inventory - Japan - (ENCS)	TOLUENE	108-88-3
Inventory - Korea - Existing and Evaluated	ALKYLATE	64741-66-8
Inventory - Korea - Existing and Evaluated	BUTANE	106-97-8
Inventory - Korea - Existing and Evaluated	ISOOCTANE	540-84-1
Inventory - Korea - Existing and Evaluated	ISOPENTANE	78-78-4

Inventory - Korea - Existing and Evaluated	TETRAETHYL LEAD	78-00-2
Inventory - Korea - Existing and Evaluated	TOLUENE	108-88-3
Inventory - Philippines Inventory (PICCS)	ALKYLATE	64741-66-8
Inventory - Philippines Inventory (PICCS)	BUTANE	106-97-8
Inventory - Philippines Inventory (PICCS)	ISOOCTANE	540-84-1
Inventory - Philippines Inventory (PICCS)	ISOPENTANE	78-78-4
Inventory - Philippines Inventory (PICCS)	TETRAETHYL LEAD	78-00-2
Inventory - Philippines Inventory (PICCS)	TOLUENE	108-88-3
Inventory - TSCA - Sect. 8(b) Inventory	ALKYLATE	64741-66-8
Inventory - TSCA - Sect. 8(b) Inventory	BUTANE	106-97-8
Inventory - TSCA - Sect. 8(b) Inventory	ISOOCTANE	540-84-1
Inventory - TSCA - Sect. 8(b) Inventory	ISOPENTANE	78-78-4
Inventory - TSCA - Sect. 8(b) Inventory	TETRAETHYL LEAD	78-00-2
Inventory - TSCA - Sect. 8(b) Inventory	TOLUENE	108-88-3
Massachusetts - Right To Know List	BUTANE	106-97-8
Massachusetts - Right To Know List	ISOOCTANE	540-84-1
Massachusetts - Right To Know List	ISOPENTANE	78-78-4
Massachusetts - Right To Know List	TETRAETHYL LEAD	78-00-2
Massachusetts - Right To Know List	TOLUENE	108-88-3
New Jersey - Department of Health RTK List	BUTANE	106-97-8
New Jersey - Department of Health RTK List	ISOOCTANE	540-84-1
New Jersey - Department of Health RTK List	ISOPENTANE	78-78-4
New Jersey - Department of Health RTK List	TETRAETHYL LEAD	78-00-2
New Jersey - Department of Health RTK List	TOLUENE	108-88-3
New Jersey - Env Hazardous Substances List	BUTANE	106-97-8
New Jersey - Env Hazardous Substances List	ISOPENTANE	78-78-4
New Jersey - Env Hazardous Substances List	TETRAETHYL LEAD	78-00-2
New Jersey - Env Hazardous Substances List	TOLUENE	108-88-3
New Jersey - Special Hazardous Substances	BUTANE	106-97-8
New Jersey - Special Hazardous Substances	ISOOCTANE	540-84-1
New Jersey - Special Hazardous Substances	ISOPENTANE	78-78-4
New Jersey - Special Hazardous Substances	TETRAETHYL LEAD	78-00-2
New Jersey - Special Hazardous Substances	TOLUENE	108-88-3
OSHA - Final PELs - Ceiling Limits	TOLUENE	108-88-3
OSHA - Final PELs - Skin Notations	TETRAETHYL LEAD	78-00-2
OSHA - Final PELs - Time Weighted Averages	TOLUENE	108-88-3
Pennsylvania - RTK (Right to Know) List	BUTANE	106-97-8
Pennsylvania - RTK (Right to Know) List	ISOOCTANE	540-84-1
Pennsylvania - RTK (Right to Know) List	ISOPENTANE	78-78-4
Pennsylvania - RTK (Right to Know) List	TETRAETHYL LEAD	78-00-2
Pennsylvania - RTK (Right to Know) List	TOLUENE	108-88-3

Title III Classifications Sections 311,312:

- Acute: **YES**
- Chronic: **YES**
- Fire: **YES**
- Reactivity: **NO**
- Sudden Release of Pressure: **NO**

15. OTHER INFORMATION

Precautionary labeling for pumps, portable containers, and drums is required. A "hazardous when empty" pictogram and D.O.T. flammable liquid label are also required for drums. Details available upon request. Because benzene is present in this product above 0.1%, the Osha Standard for benzene is applicable to work locations upstream of final discharge from terminals. Consult 29CFR1910.1028 for details. Prolonged and repeated excessive exposures to benzene can result in blood disorders ranging from anemia to leukemia. Sun recommends that exposures to benzene be kept below 1.0 ppm for 8-hours; 5.0 ppm for 15-min. Normal service station operations are below these values. For use as motor fuel only. Do not use for any other purpose. NOTE TO PHYSICIAN: Catecholamines and similar

adrenergic drugs are generally contraindicated because of potential for increased sensitivity of the heart from hydrocarbon overexposure and subsequent ventricular fibrillation. EKG monitoring may be indicated and bronchodilators should be selected with care. Following injection, prompt debridement of the wound is necessary to minimize necrosis and tissue loss. COMPONENT TOXICITY: Tetraethyl lead is toxic by ingestion, intraperitoneal, intravenous, subcutaneous and parenteral routes. It is moderately toxic by inhalation and skin contact. Teratogenic and reproductive effects have been associated with tetraethyl lead in experimental animals. Lead compounds such as tetraethyl lead, can affect the central nervous system. Initial health effects from overexposure to organic lead compounds could include subtle central nervous system effects such as insomnia or mood changes. These signs could progress to toxic psychosis with delirium, convulsions or coma if exposure is continued or increased. Higher exposure could also cause signs of nonspecific discomfort, such as nausea, headache or weakness. Abnormal liver function as indicated by laboratory test, and pulmonary edema could occur from gross overexposure. Death could result from pulmonary edema or neurological effects. Follow all MSDS/label precautions even after container is emptied because it may retain product residue. Keep out of reach of children.