Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: **METHANOL**

Distributor Information:

Sunoco LP
3801 West Chester Pike
Newtown Square, Pennsylvania, 19073
performanceproducts@sunocoinc.com Sunoco Race Fuels Technical Department
http://www.racefuels.com
1-800-722-3427

Product Use: Fuel

Emergency Phone Numbers:

Chemtrec	(800) 424-9300	24 Hours
Sunoco LP	(800) 964-8861	24 Hours

SDS Information:

Product Safety Information	(888) 567-3066
Email	sunocomsds@sunocoinc.com

2. HAZARDS IDENTIFICATION

2.1 GHS Classification

Flammable liquid 2	H225
Acute toxicity 3 (Inhalation)	H331
Acute toxicity 3 (Dermal)	H311
Acute toxicity 3 (Oral)	H301
Specific target organ toxicity (single exposure 1)	H373

2.2 Label Elements

Signal Word: Danger

Highly flammable liquid and vapor. Toxic if inhaled. Toxic if in contact with skin. Toxic if swallowed. Cause damages to organs: central nervous system and eyes.

Precautionary Statements:
P201- Keep away from heat/sparks/open flames/hot surfaces-No smoking.
P280- Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310- IF SWALLOWED: Immediately call a POISON CONTROL CENTER or doctor/physician.

P303+P361+P353- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Hazard Pictograms:

- **OTHER HAZARDS**

  Vapors may cause flash fire or explosion. Static accumulator. May form an ignitable vapor/air mixture. Burns with a clean, clear flame which is almost invisible in daylight, or a light blue flame. May be fatal if inhaled. May be fatal or cause blindness if swallowed. Keep out of reach of children.

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

	Health	Fire	Reactivity	PPI
NFPA	2	3	0	
HMIS	2	3	0	X

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Amount (Vol%)
METHYL ALCOHOL	67-56-1	99.0 - 100

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**
  Remove contaminated clothing. Wash with soap and water for 20 minutes. Get medical attention if irritation develops or persists. Wash clothing before reuse. Destroy contaminated shoes and other leather products.
- **EYES**
  Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. If eye irritation persists, obtain medical treatment.
- **INGESTION**
  Get medical attention immediately.

5. FIRE FIGHTING MEASURES

- **EXTINGUISHING MEDIA**
  Water spray; Alcohol resistant foam; Dry chemical; Carbon dioxide;
- **FIRE FIGHTING INSTRUCTIONS**
  Use water spray to cool fire exposed tanks and containers. Water may not be effective for extinguishing a fire because it will not cool methanol below its flash point. Wear structural fire fighting gear. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

  FLAMMABLE PROPERTIES
  Highly flammable.
  Vapors can form explosive mixtures with air.
  Vapors are heavier than air and may spread along floors.

Vapors can travel considerable distances to a source of ignition where they can ignite, flash back, or explode.
The pressure in sealed containers can increase under the influence of heat
Burns with a clean, clear flame which is almost invisible in daylight, or a light blue flame.

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. 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. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Vacuum or sweep up material and place in a disposal container.

7. HANDLING AND STORAGE

- **HANDLING**
  Use only in a well-ventilated area. STATIC ACCUMULATOR. This liquid may form an ignitable vapor-air mixture in closed tanks or containers. This liquid may accumulate static electricity even when transferred into properly grounded containers. Bonding and grounding may be insufficient to remove static electricity. Static electricity accumulation may be significantly increased by the presence of small quantities of water. Always bond receiving container to the fill pipe before and during loading, following NFPA-77 and/or API RP 2003 requirements. Automatic gauging devices and other floats in vessels or tanks which contain static accumulating liquids should be electrically bonded to the shell. Bonding and grounding alone may be inadequate to eliminate fire and explosion hazards associated with electrostatic charges. In addition to bonding and grounding, efforts to mitigate the hazards of an electrostatic discharge may include, but are not limited to, ventilation, inerting and/or reduction of transfer velocities. Always keep the nozzle in contact with the container throughout the loading process. Do not fill any portable containers in or on a vehicle. Special precautions, such as reduced loading rates and increased monitoring, must be observed during "switch loading" operations (i.e. loading this material in tanks or shipping compartments that previously contained middle distillates or similar products). Non-equilibrium conditions may increase the risks associated with static electricity such as tank and container filling, tank cleaning, sampling, gauging, loading, filtering, mixing, agitation, etc. Dissipation of electrostatic charges may be improved with the use of conductivity additives when used with other mitigating efforts, including bonding and grounding. Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated contact with skin. Avoid contact with eyes. Wash thoroughly after handling.
- **STORAGE**
  Keep away from heat, sparks, and flame. Keep container closed when not in use. NFPA class IB storage. Flash point is less than 73 degrees F and boiling point is greater than or equal to 100 degrees F. Consult NFPA and / or OSHA codes for additional information.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Consult With a Health and Safety Professional for Specific Selections

- **ENGINEERING CONTROLS**
  Use with adequate ventilation. Ventilation is normally required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Use explosion-proof ventilation equipment.
- **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. Neoprene; Nitrile; Polyvinyl alcohol; Viton.
  - **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 and boots are required. Polyvinyl alcohol (PVA); The following materials are acceptable for use as protective clothing: Neoprene; Nitrile; Viton. 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.

EXPOSURE GUIDELINES (SEE SECTION 15 FOR ADDITIONAL EXPOSURE LIMITS)

	CAS No.	Governing Body	Exposure Limits		
Limit for the product	67-56-1	ACGIH	STEL	250	ppm
Limit for the product	67-56-1	ACGIH	TWA	200	ppm
Limit for the product	67-56-1	OSHA	TWA	200	ppm
METHYL ALCOHOL	67-56-1	ACGIH	STEL	250	ppm
METHYL ALCOHOL	67-56-1	ACGIH	TWA	200	ppm
METHYL ALCOHOL	67-56-1	OSHA	TWA	200	ppm

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Property	Typical	Units
Appearance	CLR, COLORLESS LQD	N/A
Autoignition Temp	872	F
Boiling Point	149	F
Flash Point	52	F
Freezing Point	-144	F
Partial Coefficient	Log P (oct) = -0.82	
Upper Explosive Limit	36.6	%
Lower Explosive Limit	6	%
Evaporation Rate	4.1	(n-butyl acetate=1)
Vapor Density	1.105	@68F
Specific Gravity	0.79	N/A
Solubility In Water	Complete	wt %
Odor	ALCOHOL ODOR	N/A
Odor Threshold	100	ppm
Vapor Pressure	97.25	mmHg
Viscosity	0.3	cp@77 F
% Volatile	100	wt %

10. STABILITY AND REACTIVITY

- **STABILITY**
  Stable

- **CONDITIONS TO AVOID**
  Follow recommended storage and /or handling temperatures.
- **INCOMPATIBILITY**
  Strong oxidizers
- **HAZARDOUS DECOMPOSITION PRODUCTS**
  Combustion may produce carbon monoxide, carbon dioxide and other asphyxiants.
- **HAZARDOUS POLYMERIZATION**
  Will not polymerize.

11. TOXICOLOGY INFORMATION

Single Exposure Health Effects

Oral:

LD50 (g/kg):	5.6

Dermal:

LD50 (mg/kg):	20000

Inhalation:

LC50 (mg/l):	no data
LC50 (mg/m3):	83592
LC50 (ppm):	64000

- **POTENTIAL HEALTH EFFECTS**

  - **INHALATION**
    Toxic if inhaled. Can cause severe central nervous system depression (including unconsciousness). May cause headaches, dizziness, nausea, vomiting, incoordination and an appearance of drunkenness. Metalbolic acidois And severe visual effects can occur following an 8-24 hour latency period. Coma and death, usually due to respiratory failure may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness.

  - **SKIN**
    Toxic in contact with skin. May be absorbed through the skin in harmful amounts as described in inhalation effects. Moderately irritating to the skin. Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

  - **EYES**
    Contact with the eye may cause moderate to severe irritation.

  - **INGESTION**
    Toxic if ingested. This material may be harmful or fatal if swallowed. This product cannot be made non-poisonous. May produce central nervous system effects, which includes dizziness, loss of balance and coordination, unconsciousness, coma and even death. Ingestion of this material may cause blindness. Ingestion of this material may cause kidney damage. Ingestion of this material may cause liver damage.

  - **PRE-EXISTING MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE**
    The following diseases or disorders may be aggravated by exposure to this product: skin, eye, nervous system, respiratory system, lung (asthma-like conditions).

    Specific target organ toxicity (single exposure): Causes damage to organs. Target organs: eye, central nervous system.

12. ECOLOGICAL INFORMATION

Toxicity

LC50 Fish (96h)	15400 28200 mg/l
EC50 Daphia (48h)	>10000 mg/l
EC50 (72h, algae)	22000 mg/l Selenastrum carpricomutum

Persistence and degradability:
Readily biodegradable.
Bioaccumulation:
Does not bioaccumulate. Partition coefficient: n-octanol/water 0.77. The substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).
Mobility in Soil:
Mobile in soils.
Terrestial Fate:
The mobility of methanol in the subsurface will not be significantly limited by adsorption. Sorption of methanol to organic carbon in soil will be minor, and methanol will tend to remain in soil pore water.
Aquatic Fate:
Methanol is completely miscible in water. Accordingly, its mobility in the subsurface will not be limited by solubility. Methanol has been shown to undergo rapid biodegradation in a variety of screening studies using sewage seed and activated sludge inoculum, which suggests that biodegradation will occur in aquatic environments where the concentration does not inhibit bacterial activity.
Atmospheric Fate:
Methanol has a vapor pressure of 127 mm Hg at 25C and is expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase methanol is degraded in the atmosphere by reaction with photo chemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 17 days.

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

Governing Body	Mode	Proper Shipping Name
DOT	Ground	Methanol

Governing Body	Mode	Hazard Class	UN/NA No.	Label
DOT	Ground	3 (Flammable liquid)	1230	Flammable Liquid
DOT	Ground	3 (Flammable liquid)	1230	Placard: Flammable Liquid

15. REGULATORY INFORMATION

Regulatory List	Component	CAS No.
ACGIH - Occupational Exposure Limits - TWAs	METHANOL	67-56-1
ACGIH - Short Term Exposure Limits	METHANOL	67-56-1
ACGIH - Skin Absorption Designation	METHANOL	67-56-1
CAA (Clean Air Act) - HON Rule - Organic HAPs	METHANOL	67-56-1
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	METHANOL	67-56-1
CAA - 1990 Hazardous Air Pollutants	METHANOL	67-56-1
CERCLA/SARA - Haz Substances and their RQs	METHANOL	67-56-1
CERCLA/SARA - Section 313 - Emission Reporting	METHANOL	67-56-1
Inventory - Australia (AICS)	METHANOL	67-56-1
Inventory - Canada - Domestic Substances List	METHANOL	67-56-1
Inventory - China	METHANOL	67-56-1

Inventory - European EINECS Inventory	METHANOL	67-56-1
Inventory - Japan - (ENCS)	METHANOL	67-56-1
Inventory - Korea - Existing and Evaluated	METHANOL	67-56-1
Inventory - Philippines Inventory (PICCS)	METHANOL	67-56-1
Inventory - TSCA - Sect. 8(b) Inventory	METHANOL	67-56-1
Massachusetts - Right To Know List	METHANOL	67-56-1
New Jersey - Department of Health RTK List	METHANOL	67-56-1
New Jersey - Env Hazardous Substances List	METHANOL	67-56-1
New Jersey - Special Hazardous Substances	METHANOL	67-56-1
OSHA - Final PELs - Skin Notations	METHANOL	67-56-1
OSHA - Final PELs - Time Weighted Averages	METHANOL	67-56-1
Pennsylvania - RTK (Right to Know) List	METHANOL	67-56-1
ACGIH - Occupational Exposure Limits - TWAs	METHYL ALCOHOL	67-56-1
ACGIH - Short Term Exposure Limits	METHYL ALCOHOL	67-56-1
ACGIH - Skin Absorption Designation	METHYL ALCOHOL	67-56-1
CAA (Clean Air Act) - HON Rule - Organic HAPs	METHYL ALCOHOL	67-56-1
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	METHYL ALCOHOL	67-56-1
CAA - 1990 Hazardous Air Pollutants	METHYL ALCOHOL	67-56-1
CERCLA/SARA - Haz Substances and their RQs	METHYL ALCOHOL	67-56-1
CERCLA/SARA - Section 313 - Emission Reporting	METHYL ALCOHOL	67-56-1
Inventory - Australia (AICS)	METHYL ALCOHOL	67-56-1
Inventory - Canada - Domestic Substances List	METHYL ALCOHOL	67-56-1
Inventory - China	METHYL ALCOHOL	67-56-1
Inventory - European EINECS Inventory	METHYL ALCOHOL	67-56-1
Inventory - Japan - (ENCS)	METHYL ALCOHOL	67-56-1
Inventory - Korea - Existing and Evaluated	METHYL ALCOHOL	67-56-1
Inventory - Philippines Inventory (PICCS)	METHYL ALCOHOL	67-56-1
Inventory - TSCA - Sect. 8(b) Inventory	METHYL ALCOHOL	67-56-1
Massachusetts - Right To Know List	METHYL ALCOHOL	67-56-1
New Jersey - Department of Health RTK List	METHYL ALCOHOL	67-56-1
New Jersey - Env Hazardous Substances List	METHYL ALCOHOL	67-56-1
New Jersey - Special Hazardous Substances	METHYL ALCOHOL	67-56-1
OSHA - Final PELs - Skin Notations	METHYL ALCOHOL	67-56-1
OSHA - Final PELs - Time Weighted Averages	METHYL ALCOHOL	67-56-1
Pennsylvania - RTK (Right to Know) List	METHYL ALCOHOL	67-56-1

Title III Classifications Sections 311,312:

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

16. OTHER INFORMATION

This product contains methanol. Poison. Flammable. Methanol is poisonous and can cause blindness if swallowed. Cannot be made non-poisonous. Follow all MSDS/label precautions even after container is emptied because it may retain product residue. Keep out of reach of children.