



Material Safety Data Sheet

Series 2000 Octane Boost

Section 1. Product and company identification

Product name

Series 2000 Octane Boost

Material uses

Fuel additive.

Supplier/Manufacturer

AMSOIL INC.
925 Tower Avenue
Superior, WI 54880

Code

AOB

MSDS authored by

AMSOIL INC.

In case of emergency

CHEMTREC: (800) 424-9300

Section 2. Hazards identification

Emergency overview

- Color** : Amber. [Light]
- Physical state** : Liquid. [Clear.]
- Odor** : Characteristic Petroleum.
- Signal word** : WARNING!
- Hazard statements** : COMBUSTIBLE LIQUID AND VAPOR. HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CAUSES EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
- Precautions** : Keep away from heat, sparks and flame. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
- OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Potential acute health effects

- Inhalation** : No known significant effects or critical hazards.
- Ingestion** : Harmful if swallowed.
- Skin** : Harmful if absorbed through the skin. Irritating to skin.
- Eyes** : May cause eye irritation.

Potential chronic health effects

- Chronic effects** : Contains material that may cause target organ damage, based on animal data.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.
- Target organs** : Contains material which may cause damage to the following organs: blood, kidneys, liver, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Over-exposure signs/symptoms

- Inhalation** : No specific data.
- Ingestion** : No specific data.

- Skin** : Adverse symptoms may include the following:
irritation
redness
- Eyes** : No specific data.
- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
- See toxicological information (Section 11)

Section 3. Composition/information on ingredients

United States

Name	CAS number	%
Kerosene	8008-20-6	60 - 100
Distillates (petroleum), solvent-refined heavy paraffinic	64741-88-4	1 - 5
Tricarbonyl(methylcyclopentadienyl)manganese	12108-13-3	0.1 - 1

Canada

Name	CAS number	%
Kerosene	8008-20-6	60 - 100
Distillates (petroleum), solvent-refined heavy paraffinic	64741-88-4	1 - 5
Tricarbonyl(methylcyclopentadienyl)manganese	12108-13-3	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 20 minutes. After contact with skin, wash immediately with plenty of soap and water. Call medical doctor or poison control center immediately. Get medical attention if symptoms occur.
- Inhalation** : Move exposed person to fresh air. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call medical doctor or poison control center immediately.
- Protection of first-aiders** : If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Section 5. Fire-fighting measures

- Flammability of the product** : Combustible liquid. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
- Extinguishing media**
- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.

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- | | |
|---|---|
| Not suitable | : Do not use water jet. |
| Special exposure hazards | : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. |
| Hazardous decomposition products | : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide |
| Special protective equipment for fire-fighters | : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |

Section 6. Accidental release measures

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|----------------------------------|---|
| Personal precautions | : Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8). |
| Environmental precautions | : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |
- Methods for cleaning up**
- | | |
|--------------------|---|
| Small spill | : Stop leak if without risk. Absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. |
| Large spill | : Stop leak if without risk. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal. |

Section 7. Handling and storage

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|-----------------|---|
| Handling | : Put on appropriate personal protective equipment (see Section 8). Avoid contact with used product. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Keep away from heat, sparks and flame. Do not reuse container. |
| Storage | : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. |

Section 8. Exposure controls/personal protection

United States

Ingredient	Exposure limits
Kerosene	NIOSH REL (United States, 6/2009). TWA: 100 mg/m ³ 10 hour(s).
Distillates (petroleum), solvent-refined heavy paraffinic	ACGIH TLV (United States, 1/2009). Absorbed through skin. TWA: 200 mg/m ³ 8 hour(s).
Tricarbonyl(methylcyclopentadienyl)manganese	NIOSH REL (United States, 6/2009). STEL: 10 mg/m ³ 15 minute(s). Form: Mist TWA: 5 mg/m ³ 10 hour(s). Form: Mist ACGIH TLV (United States, 1/2009). Absorbed through skin. TWA: 0.2 mg/m ³ , (as Mn) 8 hour(s). NIOSH REL (United States, 6/2009). Absorbed through skin. TWA: 0.2 mg/m ³ , (as Mn) 10 hour(s). OSHA PEL (United States, 11/2006). CEIL: 5 mg/m ³ , (as Mn)

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			Notations	
Ingredient	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other		
Kerosene	US ACGIH 1/2009	-	200	-	-	-	-	-	-	-	[1]	
Kerosene, as total hydrocarbon vapour	AB 4/2009	-	200	-	-	-	-	-	-	-	[1]	
Kerosene, as total hydrocarbon	BC 10/2009	-	200	-	-	-	-	-	-	-	[1]	
	ON 8/2008	-	200	-	-	-	-	-	-	-	[1] [a]	
Tricarbonyl(methylcyclopentadienyl)manganese, as Mn	US ACGIH 1/2009	-	0.2	-	-	-	-	-	-	-	[1]	
	AB 4/2009	-	0.2	-	-	-	-	-	-	-	[1]	
	BC 10/2009	-	0.2	-	-	-	-	-	-	-	[1]	
Tricarbonyl(methylcyclopentadienyl)manganese, as manganese	ON 8/2008	-	0.2	-	-	-	-	-	-	-	[1]	
	QC 6/2008	-	0.2	-	-	-	-	-	-	-	[1]	
Tricarbonyl(methylcyclopentadienyl)manganese, as Mn	QC 6/2008	-	0.2	-	-	-	-	-	-	-	[1]	
	Distillates (petroleum), solvent-refined heavy paraffinic	AB 4/2009	-	5	-	-	10	-	-	-	-	[b]
		ON 8/2008	-	5	-	-	10	-	-	-	-	[b]
	QC 6/2008	-	5	-	-	10	-	-	-	-	[b]	

[1]Absorbed through skin.

Form: [a]vapour [b]Mist

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
- Engineering measures** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Use explosion-proof ventilation equipment.
- Hygiene measures** : Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
- Respiratory** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Not required under normal conditions of use. Wear an appropriate NIOSH approved respirator if concentration levels exceed the safe exposure limits.
- Hands** : Use gloves appropriate for work or task being performed. Not required under normal conditions of use. Recommended: Natural rubber (latex).
- Eyes** : Safety eyewear should be used when there is a likelihood of exposure. Not required under normal conditions of use. Recommended: Safety glasses with side shields.

- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. No special protective clothing is required. Recommended: Coveralls.
- Environmental exposure controls** : In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Section 9. Physical and chemical properties

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|-------------------------|---|----------------------------------|-----------------------------------|
| Physical state | : Liquid. [Clear.] | Odor | : Characteristic Petroleum. |
| Color | : Amber. [Light] | pH | : Not available. |
| Flash point | : Open cup: 52°C (125.6°F) [Cleveland.] | Auto-ignition temperature | : Not available. |
| Flammable limits | : Not available. | Melting point/Pour point | : Not available. |
| Boiling point | : 150 to 570°C (302 to 1058°F) | Vapor pressure | : 0.13 to 1.3 kPa (1 to 10 mm Hg) |
| Relative density | : Not available. | Vapor density | : 4.5 [Air = 1] |
| Volatility | : Not available. | Evaporation rate | : Not available. |
| Viscosity | : Not available. | Solubility | : Negligible. |

Section 10. Stability and reactivity

- Chemical stability** : The product is stable.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
- Materials to avoid** : Reactive or incompatible with the following materials: oxidizing materials.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Kerosene Tricarbonyl(methylcyclopentadienyl)manganese	LD50 Oral	Rat	15 g/kg	-
	LC50 Inhalation Vapor	Rat	76 mg/m ³	4 hours
	LD50 Dermal	Rabbit	140 mg/kg	-
	LD50 Dermal	Rat	665 mg/kg	-
	LD50 Oral	Rat	8 mg/kg	-

Chronic toxicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Kerosene	A3	-	-	-	-	-

Section 12. Ecological information

Environmental effects : Not established





Section 13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1268	PETROLEUM DISTILLATES, N.O.S. (Kerosene, Distillates (petroleum), solvent-refined heavy paraffinic)	3	III		-
TDG Classification	UN1268	PETROLEUM DISTILLATES, N.O.S. (Kerosene, Distillates (petroleum), solvent-refined heavy paraffinic)	3	III		-
IMDG Class	UN1268	PETROLEUM DISTILLATES, N.O.S. (Kerosene, Distillates (petroleum), solvent-refined heavy paraffinic)	3	III		-
IATA-DGR Class	UN1268	PETROLEUM DISTILLATES, N.O.S. (Kerosene, Distillates (petroleum), solvent-refined heavy paraffinic)	3	III		-

PG* : Packing group

Exemption to the above classification may apply.

AERG : 128

Section 15. Regulatory information

United States

HCS Classification : Combustible liquid
Toxic material
Irritating material
Target organ effects

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances:

Tricarbonyl(methylcyclopentadienyl)manganese

SARA 302/304 emergency planning and notification:

Tricarbonyl(methylcyclopentadienyl)manganese

SARA 302/304/311/312 hazardous chemicals: Kerosene;

Tricarbonyl(methylcyclopentadienyl)manganese

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

Kerosene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Tricarbonyl(methylcyclopentadienyl)manganese: Immediate (acute) health hazard

Clean Water Act (CWA) 307: No products were found.**Clean Water Act (CWA) 311:** No products were found.**Clean Air Act (CAA) 112 accidental release prevention:** No products were found.**Clean Air Act (CAA) 112 regulated flammable substances:** No products were found.**Clean Air Act (CAA) 112 regulated toxic substances:** No products were found.**SARA 313**

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
Form R - Reporting requirements	: Tricarbonyl(methylcyclopentadienyl)manganese	12108-13-3	0.1 - 1
Supplier notification	: Tricarbonyl(methylcyclopentadienyl)manganese	12108-13-3	0.1 - 1

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

Massachusetts	: The following components are listed: Kerosene; Tricarbonyl(methylcyclopentadienyl)manganese
New York	: The following components are listed: Tricarbonyl(methylcyclopentadienyl)manganese
New Jersey	: The following components are listed: Kerosene; Tricarbonyl(methylcyclopentadienyl)manganese
Pennsylvania	: The following components are listed: Kerosene; Tricarbonyl(methylcyclopentadienyl)manganese

California Prop. 65

No products were found.

Canada

WHMIS (Canada)	: Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). Class D-1B: Material causing immediate and serious toxic effects (Toxic). Class D-2B: Material causing other toxic effects (Toxic).
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Canadian lists	: CEPA Toxic substances: None of the components are listed. Canadian ARET: None of the components are listed. Canadian NPRI: The following components are listed: Tricarbonyl(methylcyclopentadienyl)manganese Alberta Designated Substances: None of the components are listed. Ontario Designated Substances: None of the components are listed. Quebec Designated Substances: None of the components are listed.
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Canada inventory	: All components are listed or exempted.
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International regulations

- International lists** :
- Australia inventory (AICS):** All components are listed or exempted.
 - China inventory (IECSC):** All components are listed or exempted.
 - Japan inventory:** Not determined.
 - Korea inventory:** All components are listed or exempted.
 - New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.
 - Philippines inventory (PICCS):** All components are listed or exempted.

Section 16. Other information

United States

- Label requirements** :
- COMBUSTIBLE LIQUID AND VAPOR. HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CAUSES EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

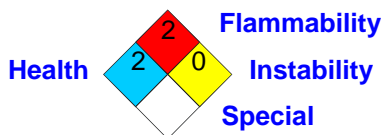
Hazardous Material Information System (U.S.A.)

Health	*	2
Flammability		2
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



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- Date of previous issue** : 11/01/2010
- Version** : 2

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.