



## Material Safety Data Sheet

### Engine Fogging Oil

**Date** : 09/15/2013  
**Version** : 4

## Section 1. Product and company identification

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**Product name**

Engine Fogging Oil

**Material uses**

Rust Preventative Fluid.

**Supplier/Manufacturer**

AMSOIL INC.  
925 Tower Avenue  
Superior, WI 54880

**Code**

FOG

**MSDS authored by**

AMSOIL INC.

**In case of emergency**

CHEMTREC, U.S. : 1-800-424-9300  
International: +1-703-527-3887

## Section 2. Hazards identification

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**Emergency overview**

- Color** : Yellow. [Dark]
- Physical state** : Liquid. [Fluid spray.]
- Odor** : Mild hydrocarbon.
- Signal word** : DANGER!
- Hazard statements** : FLAMMABLE. MAY BE FATAL IF INHALED. HARMFUL IF ABSORBED THROUGH SKIN. CAUSES EYE AND SKIN IRRITATION. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.
- Precautions** : Do not ingest. Do not get on skin or clothing. Avoid contact with eyes. 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).
- Routes of entry** : Dermal contact. Eye contact. Inhalation. Ingestion.
- Potential acute health effects**
- Inhalation** : May be fatal if inhaled.
- Ingestion** : Harmful or fatal if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.
- Skin** : Harmful if absorbed through the skin. Irritating to skin.
- Eyes** : Irritating to eyes.
- Potential chronic health effects**
- Chronic effects** : Contains material that can cause target organ damage.
- 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, lymphatic system, cardiovascular system, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

#### Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting
- Skin** : Adverse symptoms may include the following:  
irritation  
redness
- Eyes** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Medical conditions aggravated by overexposure** : 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	%
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	60 - 100
Distillates (petroleum), solvent-dewaxed heavy naphthenic	64742-63-8	10 - 30
2-Butoxyethanol	111-76-2	1 - 5
Carbon dioxide	124-38-9	1 - 5

### Canada

Name	CAS number	%
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	60 - 100
Distillates (petroleum), solvent-dewaxed heavy naphthenic	64742-63-8	10 - 30
2-Butoxyethanol	111-76-2	1 - 5
Carbon dioxide	124-38-9	1 - 5

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.

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## Section 4. First aid measures

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- Eye contact** : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Call medical doctor or poison control center immediately. Get medical attention if symptoms occur.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Call medical doctor or poison control center immediately. Get medical attention immediately.
- 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.

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## Section 5. Fire-fighting measures

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- Flammability of the product** : Flammable material. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.
- Extinguishing media**
- Suitable** : Use dry chemical, CO<sub>2</sub> or foam.
- Not suitable** : None known.
- 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.

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## Section 6. Accidental release measures

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- Personal precautions** : In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. 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 via a licensed waste disposal contractor.
- Large spill** : Immediately contact emergency personnel. Stop leak if without risk. Prevent entry into sewers, water courses, basements or confined areas. Use spark-proof tools and explosion-proof equipment. Dispose 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.

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## Section 7. Handling and storage

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- Handling** : Put on appropriate personal protective equipment (see Section 8). 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. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Empty containers retain product residue and can be hazardous. Keep away from heat, sparks and flame.
- Storage** : Store in accordance with local regulations. Store in a segregated and approved area. Store away 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. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### United States

Ingredient	Exposure limits
Distillates (petroleum), solvent-dewaxed heavy naphthenic	<p><b>ACGIH TLV (United States, 3/2012).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Inhalable fraction</p> <p><b>NIOSH REL (United States, 6/2009).</b> TWA: 5 mg/m<sup>3</sup> 10 hours. Form: Mist STEL: 10 mg/m<sup>3</sup> 15 minutes. Form: Mist</p> <p><b>OSHA PEL (United States, 6/2010).</b> TWA: 5 mg/m<sup>3</sup> 8 hours.</p>
2-Butoxyethanol	<p><b>ACGIH TLV (United States, 3/2012).</b> TWA: 20 ppm 8 hours.</p> <p><b>NIOSH REL (United States, 6/2009). Absorbed through skin.</b> TWA: 24 mg/m<sup>3</sup> 10 hours. TWA: 5 ppm 10 hours.</p> <p><b>OSHA PEL (United States, 6/2010). Absorbed through skin.</b> TWA: 240 mg/m<sup>3</sup> 8 hours. TWA: 50 ppm 8 hours.</p>
Carbon dioxide	<p><b>ACGIH TLV (United States, 3/2012). Oxygen Depletion [Asphyxiant].</b> STEL: 54000 mg/m<sup>3</sup> 15 minutes. STEL: 30000 ppm 15 minutes. TWA: 9000 mg/m<sup>3</sup> 8 hours. TWA: 5000 ppm 8 hours.</p> <p><b>NIOSH REL (United States, 6/2009).</b> STEL: 54000 mg/m<sup>3</sup> 15 minutes. STEL: 30000 ppm 15 minutes. TWA: 9000 mg/m<sup>3</sup> 10 hours. TWA: 5000 ppm 10 hours.</p> <p><b>OSHA PEL (United States, 6/2010).</b> TWA: 9000 mg/m<sup>3</sup> 8 hours. TWA: 5000 ppm 8 hours.</p>

### Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	Notations
2-Butoxyethanol	US ACGIH 3/2012	20	-	-	-	-	-	-	-	-	
	AB 4/2009	20	97	-	-	-	-	-	-	-	[3]
	BC 9/2011	20	-	-	-	-	-	-	-	-	
	ON 7/2010	20	-	-	-	-	-	-	-	-	[1]
	QC 9/2011	20	97	-	-	-	-	-	-	-	
Carbon dioxide	US ACGIH 3/2012	5000	9000	-	30000	54000	-	-	-	-	[2]
	AB 4/2009	5000	9000	-	30000	54000	-	-	-	-	
	BC 4/2012	5000	-	-	15000	-	-	-	-	-	
	ON 7/2010	5000	9000	-	30000	54000	-	-	-	-	
	QC 9/2011	5000	9000	-	30000	54000	-	-	-	-	
Distillates (petroleum), solvent-dewaxed heavy naphthenic	US ACGIH 3/2012	-	5	-	-	-	-	-	-	-	[a]
	AB 4/2009	-	5	-	-	10	-	-	-	-	[b]
	ON 7/2010	-	5	-	-	10	-	-	-	-	[b]
	QC 9/2011	-	5	-	-	10	-	-	-	-	[b]

[1]Absorbed through skin. [2]Oxygen Depletion [Asphyxiant] [3]Skin sensitization

Form: [a]Inhalable fraction [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** : Not required under normal conditions of use. 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. Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product. Ensure a MSHA/NIOSH-approved respirator or equivalent is used.
- Hands** : Use gloves appropriate for work or task being performed. Recommended: Natural rubber (latex).
- Eyes** : Safety eyewear should be used when there is a likelihood of exposure. 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

<b>Physical state</b>	: Liquid. [Fluid spray.]	<b>Odor</b>	: Mild hydrocarbon.
<b>Color</b>	: Yellow. [Dark]	<b>pH</b>	: Not available.
<b>Flash point</b>	: Closed cup: 43.889°C (111°F) [Pensky-Martens.]	<b>Auto-ignition temperature</b>	: Not available.
<b>Flammable limits</b>	: Lower: 1% Upper: 10.6%	<b>Melting point/ Pour point</b>	: Not available.
<b>Boiling point</b>	: -18 to 201°C (-0.4 to 393.8°F)	<b>Vapor pressure</b>	: Not available.
<b>Relative density</b>	: 0.8	<b>Vapor density</b>	: >1 [Air = 1]
<b>Volatility</b>	: 87% (v/v), 82.56% (w/w)	<b>Evaporation rate</b>	: >1 (ether (anhydrous) = 1)
<b>Viscosity</b>	: Not available.	<b>Solubility</b>	: Not available.

## Section 10. Stability and reactivity

- Chemical stability** : The product is stable.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame).
- 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
2-Butoxyethanol	LC50 Inhalation Vapor	Rat	450 ppm	4 hours
	LD50 Dermal	Rabbit	220 mg/kg	-
	LD50 Oral	Rat	250 mg/kg	-

### Chronic toxicity

There is no data available.

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-Butoxyethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-

### Sensitizer

**Skin** : There is no data available.

**Respiratory** : There is no data available.

### Carcinogenicity

#### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
2-Butoxyethanol	A3	3	-	-	-	-

### Mutagenicity

There is no data available.

### Teratogenicity

There is no data available.

### Reproductive toxicity

There is no data available.

## Section 12. Ecological information

**Ecotoxicity** : No known significant effects or critical hazards.

**Aquatic ecotoxicity**

Product/ingredient name	Result	Species	Exposure
2-Butoxyethanol	Acute EC50 >1000 mg/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000 mg/L Marine water	Crustaceans - Chaetogammarus marinus - Young	48 hours
	Acute LC50 1250000 µg/l Marine water	Fish - Menidia beryllina	96 hours

**Persistence/degradability**

There is no data available.

## 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. Do not puncture or incinerate container. 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

**North America**

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
<b>DOT Classification</b>	UN1950	Aerosols, flammable (each not exceeding 1 L capacity)	2.1	-		<b>Remarks</b> May be classed as Consumer Commodity, ORM-D
<b>TDG Classification</b>	UN1950	Aerosols, flammable (each not exceeding 1 L capacity)	2.1	-		-
<b>IMDG Class</b>	UN1950	Aerosols, flammable (each not exceeding 1 L capacity)	2.1	-		<b>Emergency schedules (EmS)</b> F-D, S-U



<b>IATA-DGR Class</b>	UN1950	Aerosols, flammable (each not exceeding 1 L capacity)	2.1	-		-
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PG\* : Packing group

Exemption to the above classification may apply.

**AERG** : 126

## Section 15. Regulatory information

### United States

**HCS Classification** : Highly 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**: No products were found.  
**SARA 311/312 Hazards identification**: Immediate (acute) health hazard, Delayed (chronic) health hazard

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 313

	Product name	CAS number	Concentration
<b>Form R - Reporting requirements</b>	2-Butoxyethanol	111-76-2	1 - 5
<b>Supplier notification</b>	2-Butoxyethanol	111-76-2	1 - 5

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: 2-Butoxyethanol; Carbon dioxide

**New York** : None of the components are listed.

**New Jersey** : The following components are listed: Distillates (petroleum), solvent-dewaxed heavy naphthenic; 2-Butoxyethanol; Carbon dioxide

**Pennsylvania** : The following components are listed: 2-Butoxyethanol; Carbon dioxide

**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 B-5: Flammable aerosol.  
 Class D-1A: Material causing immediate and serious toxic effects (Very toxic).  
 Class D-2B: Material causing other toxic effects (Toxic).

**Canadian lists**

- Canadian NPRI** : The following components are listed: Solvent naphtha (petroleum), medium aliphatic; 2-Butoxyethanol
- CEPA Toxic substances** : The following components are listed: 2-Butoxyethanol; Carbon dioxide
- Canada inventory** : All components are listed or exempted.

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.

## Section 16. Other information

**United States**

- Label requirements** : FLAMMABLE. MAY BE FATAL IF INHALED. HARMFUL IF ABSORBED THROUGH SKIN. CAUSES EYE AND SKIN IRRITATION. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

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

<b>Health</b>	*	2
<b>Flammability</b>		2
<b>Physical hazards</b>		0
<b> </b>		

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.)** :



- Date of issue** : 09/15/2013
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**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.