



Material Safety Data Sheet

Engine Fogging Oil

Section 1. Product and company identification

Product name	Engine Fogging Oil	Code	FOG
Material uses	Rust Preventative Fluid.	MSDS authored by	AMSOIL INC.
Supplier/Manufacturer	AMSOIL INC. 925 Tower Avenue Superior, WI 54880	In case of emergency	CHEMTREC: (800) 424-9300

Section 2. Hazards identification

Emergency overview

Color	: Yellow. [Dark]
Physical state	: Liquid. [Fluid spray.]
Odor	: Mild hydrocarbon.
Signal word	: DANGER!
Hazard statements	: 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. COMBUSTIBLE LIQUID AND VAPOR.
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).

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, eyes, central nervous system (CNS).

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 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	%
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.

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. 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.

Section 5. Fire-fighting measures

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, CO₂ 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.

Section 6. Accidental release measures

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 of 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 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

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	NIOSH REL (United States, 6/2009). TWA: 5 mg/m ³ 10 hour(s). Form: Mist STEL: 10 mg/m ³ 15 minute(s). Form: Mist
2-Butoxyethanol	ACGIH TLV (United States, 1/2009). TWA: 20 ppm 8 hour(s). NIOSH REL (United States, 6/2009). Absorbed through skin. TWA: 24 mg/m ³ 10 hour(s). TWA: 5 ppm 10 hour(s). OSHA PEL (United States, 11/2006). Absorbed through skin. TWA: 240 mg/m ³ 8 hour(s). TWA: 50 ppm 8 hour(s).
Carbon dioxide	ACGIH TLV (United States, 1/2009). STEL: 54000 mg/m ³ 15 minute(s). STEL: 30000 ppm 15 minute(s). TWA: 9000 mg/m ³ 8 hour(s). TWA: 5000 ppm 8 hour(s). NIOSH REL (United States, 6/2008). STEL: 54000 mg/m ³ 15 minute(s). STEL: 30000 ppm 15 minute(s). TWA: 9000 mg/m ³ 10 hour(s). TWA: 5000 ppm 10 hour(s). OSHA PEL (United States, 11/2006). TWA: 9000 mg/m ³ 8 hour(s). TWA: 5000 ppm 8 hour(s).

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	
2-Butoxyethanol	US ACGIH 1/2009	20	-	-	-	-	-	-	-	-	[3] [1]
	AB 4/2009	20	97	-	-	-	-	-	-	-	
	BC 10/2009	20	-	-	-	-	-	-	-	-	
	ON 8/2008	20	-	-	-	-	-	-	-	-	
	QC 6/2008	20	97	-	-	-	-	-	-	-	
Carbon dioxide	US ACGIH 1/2009	5000	9000	-	30000	54000	-	-	-	-	
	AB 6/2008	5000	9000	-	30000	54000	-	-	-	-	
	BC 6/2008	5000	-	-	15000	-	-	-	-	-	
	ON 6/2008	5000	9000	-	30000	54000	-	-	-	-	

Distillates (petroleum), solvent-dewaxed heavy naphthenic	QC 6/2008	5000	9000	-	30000	54000	-	-	-	-	[a]
	ON 8/2008	-	5	-	-	10	-	-	-	-	[a]
	QC 6/2008	-	5	-	-	10	-	-	-	-	[a]

[1]Absorbed through skin. [3]Skin sensitization

Form: [a]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. Recommended: Wear an appropriate NIOSH approved respirator if concentration levels exceed the safe exposure limits. Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product.
- 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

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

Classification

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

Section 12. Ecological information

Environmental effects : Not established

Aquatic ecotoxicity

Product/ingredient name	Result	Species
2-Butoxyethanol	Acute EC50 >1000 mg/L Fresh water	Daphnia - Daphnia magna - <24 hours 48 hours
	Acute LC50 800000 to 1000000 ug/L Marine water	Crustaceans - Crangon crangon 48 hours
	Acute LC50 1250000 ug/L Marine water	Fish - Menidia beryllina - 40 to 100 mm 96 hours
	Chronic NOEC 1000 mg/L Fresh water	Daphnia - Daphnia magna - <24 hours 48 hours


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

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1950	Aerosols, flammable, N.O.S. (each not exceeding 1 L capacity) (Solvent naphtha (petroleum), medium aliphatic, Carbon dioxide)	2.1	-		Remarks May be classed as Consumer Commodity, ORM-D

TDG Classification	UN1950	Aerosols, flammable, N.O.S. (each not exceeding 1 L capacity) (Solvent naphtha (petroleum), medium aliphatic, Carbon dioxide)	2.1	-		-
IMDG Class	UN1950	Aerosols, flammable, N.O.S. (each not exceeding 1 L capacity) (Solvent naphtha (petroleum), medium aliphatic, Carbon dioxide)	2.1	-		Emergency schedules (EmS) F-D, S-U
IATA-DGR Class	UN1950	Aerosols, flammable, N.O.S. (each not exceeding 1 L capacity) (Solvent naphtha (petroleum), medium aliphatic, Carbon dioxide)	2.1	-		-

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 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: 2-Butoxyethanol; Carbon dioxide
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: 2-Butoxyethanol: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Carbon dioxide: Sudden release of pressure, Immediate (acute) health hazard, Delayed (chronic) 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	: 2-Butoxyethanol	111-76-2	1 - 5
Supplier notification	: 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: Solvent naphtha (petroleum), medium aliphatic; 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 : **CEPA Toxic substances**: The following components are listed: 2-Butoxyethanol; Carbon dioxide
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed: Solvent naphtha (petroleum), medium aliphatic; 2-Butoxyethanol
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.

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.

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 : 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. COMBUSTIBLE LIQUID AND VAPOR.

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.) :



Date of issue : 09/01/2010
Version : 1

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.