

AMSOIL Material Safety Data Sheet

Date Issued/Revised: May 20, 2009

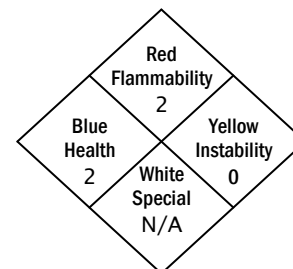
Supersedes: August 29, 2006

Section 1: Product and Company Identification

Manufacturer: AMSOIL, Inc.
925 Tower Avenue
Superior, WI 54880

Telephone:
CHEMTREC (Spill Emergency Only): 1-800-424-9300
Information: 715-392-7101

AMSOIL Product CodeADF
Product Label NameDIESEL CONCENTRATE FUEL ADDITIVE
Product UseDISTILLATE FUEL FLOW IMPROVER

NFPA Rating**Section 2: Composition/Information on Ingredients****OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)**

Comp	CAS No.	Percentage (by wt.)	Exposure Limits						Carcinogen
			OSHA		ACGIH		Others		
			TWA	STEL	TWA	STEL	TWA	STEL	
Petroleum naphtha	64742-94-5	8 – 9.9%	N/E	N/E	N/E	N/E	100 ppm (1)	N/E	N/E
Naphthalene	91-20-3	.9%	10 ppm	15 ppm	10 ppm	15 ppm	N/E	N/E	IARC Suspect Carcinogen
Trimethylbenzene	25551-13-7	.2 – 1.0%	25 ppm	N/E	25 ppm	N/E	N/E	N/E	N/E
1, 2, 4 – Trimethylbenzene	95-63-6	29.1%	N/E	N/E	25 ppm	N/E	N/E	N/E	N/E
1, 3, 5 – Trimethylbenzene	108-67-8	5.6 – 8.8%	N/E	N/E	25 ppm	N/E	N/E	N/E	N/E
Diethylbenzene	25340-17-4	0.8 – 4.0%	N/E	N/E	N/E	N/E	N/E	N/E	N/E
Xylene	1330-20-7	1.2%	N/E	N/E	100 ppm	100 ppm	46 ppm	N/E	N/E
Isopropylbenzene	98-82-8	1.2%	50 ppm	N/E	50 ppm	50 ppm	N/E	N/E	N/E
Ethylbenzene	100-41-4	0 - 0.4%	100 ppm	125 ppm	100 ppm	125 ppm	N/E	N/E	IARC Suspect Carcinogen

Section 3: Hazards Identification**POTENTIAL HEALTH EFFECTS:****WARNING:**

- Harmful or fatal if swallowed
- Harmful if inhaled
- Causes eye irritation
- Causes respiratory tract irritation
- Harmful if absorbed through skin
- Flammable liquid
- May cause skin irritation
- Contains Components which may cause cancer
- May cause chronic health effects

SYMPTOMS OF EXPOSURE: Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: redness of the face and neck, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system excitation (giddiness, liveliness, light-headed feeling) followed by central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, temporary changes in behavior, effects on memory, muscle weakness, mild, temporary changes in the liver, respiratory depression (slowing of the breathing rate), shortness of breath, loss of coordination, confusion, irregular heartbeat, narcosis (dazed or sluggish feeling), respiratory failure, coma

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TARGET ORGAN EFFECTS: This material (or component) has been shown to lower activity of certain immune system cells in experimental animals. The significance of this effect with respect to human health is uncertain. Over-exposure to this material (its components) has been suggested as a cause of the following effects in laboratory animals: blood abnormalities, liver abnormalities, cataracts, kidney damage, effects on hearing. Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: liver abnormalities.

DEVELOPMENTAL INFORMATION: This material (or components) may be harmful to the human fetus based on positive test results with laboratory animals. Cumene (isopropylbenzene) did not cause harm to the unborn pup in laboratory animal studies, even at levels which were harmful to the pregnant animal.

CANCER INFORMATION: Ethylbenzene and naphthalene have been shown to cause cancer in laboratory animals. The relevance of this finding to humans is uncertain. The International Agency for Research on Cancer (IARC) has classified ethylbenzene and naphthalene as a possible human carcinogen.

OTHER HEATH EFFECTS: No Data

PRIMARY ROUTES(S) OF ENTRY: Inhalation, skin absorption, skin contact , eye contact, ingestion.

Section 4: First Aid Measures

EYE: Flush with water for 15-20 minutes. Seek medical attention if irritation develops.

SKIN: Wash immediately with soap and water. Remove contaminated clothing and launder before reuse. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention

INHALATION: Remove exposed person to fresh air. If breathing is labored give oxygen. If breathing has stopped apply artificial respiration. Keep person warm and quiet. Get immediate medical attention.

INGESTION: DO NOT INDUCE VOMITING. If vomiting does occur, keep head below hips to reduce risk of aspiration. If conscious, give 2 glasses of water. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. . Get immediate medical attention.

NOTE TO PHYSICIANS: Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 3 – Swallowing) when deciding whether to induce vomiting. Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: Skin, lung (for example, asthma-like conditions), liver, kidney, blood-forming system, immune system, auditory system, and eye. Individuals with preexisting heart disorders may be more susceptible to arrhythmias (irregular heart beats) if exposed to high concentrations of material.

Section 5: Fire Fighting Measures

FLAMMABILITY PROPERTIES:

Flash Point	117°F(47°C)
Method	PMCC ASTM D-93
LFL/UFL	Not Determined
Auto-ignition Temperature	Not Determined

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, and alcohol foam.

FIRE & EXPLOSION HAZARDS: If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near point of release. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

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FIREFIGHTING EQUIPMENT: Full bunker gear recommended including a positive pressure self-contained breathing apparatus.

Section 6: Accidental Release Measures

SMALL SPILLS: Absorb liquid on vermiculite, floor absorbent, or other absorbent material and transfer to hood.

LARGE SPILL: Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminate absorbent, soil and other materials to containers for disposal. Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required.

Section 7: Handling and Storage

HANDLING: Keep away from potential sources of ignition. Open container in a well ventilated area. Avoid breathing vapors. Keep containers closed when not in use. Do not discharge into drains or the environment, dispose to an authorized waste collection point. Use appropriate containment to avoid environmental contamination. Wash thoroughly after handling. Empty containers retain material residue. Do not cut, weld, braze, drill, grind or expose containers to heat, flame, spark or other sources of ignition.

STORAGE: Keep away from heat, flame, or source of ignition. Store in a cool, dry, ventilated area out of sunlight.

Section 8: Exposure Controls/Personal Protection

VENTILATION: Use adequate general or local exhaust ventilation to keep airborne concentrations below exposure limits.

RESPIRATORY: Use a NIOSH approved respirator when necessary.

SKIN: Use Viton or Nitrile gloves to avoid prolonged or repeated skin contact.

EYE: Use splash goggles or face shield where splashing is expected or can occur.

EXPOSURE LIMITS: The Threshold Limit Value (TLV) of 5 mg/m³ is suggested for oil mist.

Section 9: Physical and Chemical Properties

Physical State	Liquid
Boiling Point	117° F(47°C) Approximate
Freezing/Melting Point	Not Determined
Vapor Pressure	Not Determined
Vapor Density (Air=1).....	Not Determined
Evaporation Rate	Not Determined
Solubility in Water	Insoluble
Specific Gravity (Water=1)	0.8866
Density, lb./gal.....	7.383
Volatility (Volume)	Unknown
VOC.....	Unknown
pH.....	Not Determined
Coefficient of Water/Oil Distribution	Not Determined
Odor	Aromatic, Hydrocarbon Odor
Odor Threshold	Not Determined
Appearance	Clear Brown Liquid
Viscosity, cSt @ 100°C	Not Applicable
Viscosity, cSt @ 40°C	1.38
Viscosity Index	Not Applicable

Section 10: Stability and Reactivity

STABILITY: Stable under moderately elevated temperatures and pressures.

INCOMPATIBILITY: Avoid contact with strong oxidants, concentrated chlorine, sodium hypochlorite or calcium hypochlorite, nitric acid, sulfuric acid.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION OF PRODUCT: Toxic oxides of carbon, aldehydes and other products of incomplete combustion.

Section 11: Toxicological InformationACUTE EXPOSURE

- Eye Irritation: Moderate to strong eye irritation. Based on data from components or similar material.
- Skin Irritation: Skin irritant. Based on data from components or similar material. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, defatting, and cracking of the skin.
- Respiratory Irritation: If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract similar to that observed with mineral oil. Based on data from components or similar materials. Under good industrial hygiene practices where all exposure limits are observed, respiratory irritation should not be a problem.

CHRONIC EXPOSURE

- Chronic Toxicity: Repeated overexposure to naphthalene may cause destruction of red blood cells with anemia, fever, jaundice and kidney and liver damage.
- Carcinogenicity: A two-year national toxicology Program (NTP) study found an increased incidence of tumors of the nose in rats exposed to ethylbenzene and naphthalene by inhalation. In mice similarly exposed, increased incidences of alveolar/bronchiolar adenomas were observed. Naphthalene and ethylbenzene have been classified by the International Agency for Research on Cancer (IARC) as a possible human carcinogen (Group 2B) on the basis of sufficient evidence of carcinogenicity in experimental animals but inadequate evidence in exposed humans.
- Mutagenicity: No data available to indicate product present at greater than 1.0% present a mutagenic or genotoxic hazard.
- Reproductive Toxicity: No data available to indicate product present at greater than 1.0% present a reproductive hazard.
- Teratogenicity: No evidence of adverse effects were found in a developmental toxicity study of 2-ethylhexanol in rats. Dose up to 3 ml/kg applied to the skin during the most critical part of the gestation period produced evidence of toxicity to mothers, but no evidence of injury in the developing offspring. In a previous study, birth defects were observed by oral administration, an unlikely route of exposure in the workplace.

ADDITIONAL INFORMATION

- Exposure Limits: Under conditions which may generate mists, observe the OSHA PEL of 5 mg per cubic meter, ACGIH STEL of 10 mg per cubic meter.

Section 12: Ecological Information

Freshwater Fish Toxicity: The acute LC50 is 1-10 mg/L based on component data
 Freshwater Invertebrates: The acute LC50 is 1-10 mg/L based on component data
 Algal Inhibition: The acute LC50 is 1-10 mg/L based on component data

Section 13: Disposal Considerations

Material is expected to be hazardous when disposed, Dispose of in accordance with all local, state and federal regulations as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. 0.004% BENZENE CAS no. 71-43-2, D018

Section 14: Transport Information

DOT Information – 49 CFR 172.101
 DOT Description: Non-Regulated by D. O. T.
 Container. Mode: 55 Gal Drum. Truck Package
 NOS Component: Aromatic Petroleum Distillates
 RQ (Reportable Quantity): 49 CFR 172.101:

Product Quantity (lbs.)	Component
6667	Xylenes (O-, M-, P- ISOMERS)

Section 15: Regulatory Information

U.S. Federal Regulations

OSHA Table Z Petroleum Distillates
 TSCA Not Applicable
 CERCLA 40 CFR 302.4

Components	RQ (lbs)
Xylenes (O-, M-, P- Isomers)	100
Cumene	5000
Ethylbenzene	1000

SARA Title III

Section 302 Extremely Hazardous..... None
 Section 311/312
 Fire Hazard Yes
 Reactive Hazard..... No
 Release of Pressure..... No
 Acute Health Hazard Yes
 Chronic Health Hazard..... Yes

Section 313 Components – 40 CFR 372.65

Components	CAS NO	Wgt %
1, 2, 4 Trimethylbenzene	95-63-6	29.1%
Xylenes (Mixed Isomers)	1330-20-7	1.2%
Cumene	98-82-8	1.2%
Ethylbenzene	00-41-4	0 – 0.4%
Napthalene	91-20-3	0.9%

U.S. State & Local Regulations

California Proposition 65

The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains the following substance(s) known to the state of California to cause cancer:

- ETHYL BENZENE
- BENZENE
- NAPHTHALENE

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The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains the following substance(s) known to the state of California to cause reproductive harm:

TOLUENE

International Regulations

WHMISAll components listed

Section 16: Other Information

The information and recommendations contained herein are, to the best of AMSOIL's knowledge and belief, accurate and reliable as of the date issued. AMSOIL makes no warranty or guarantee, expressed or implied, of their accuracy or reliability, and AMSOIL shall not be liable for any loss or damage based upon the criteria supplied by the developers of these rating systems, together with AMSOIL's interpretation of the available data.