

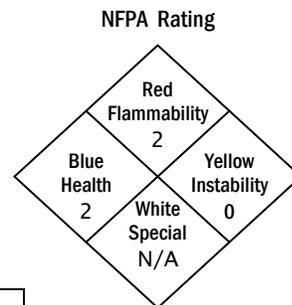
AMSOIL Material Safety Data Sheet

Date Issued/Revised: September 30, 2008
Supersedes: August 4, 2008

Section 1: Product and Company Identification

Manufacturer: AMSOIL, Inc. Telephone:
925 Tower Avenue CHEMTREC (Spill Emergency Only): 1-800-424-9300
Superior, WI 54880 Information: 715-392-7101

AMSOIL Product CodeDFC
Product Label Name.. DIESEL CONCENTRATE & COLD FLOW IMPROVER
Product Use.....DISTILLATE FUEL FLOW IMPROVER



Section 2: Composition/Information on Ingredients

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

Component	CAS No.	Percentage (by wt.)	Carcinogen
Petroleum naphtha	64742-94-5	20.2 – 24.4%	N/E
Naphthalene	91-20-3	2.3%	IARC Suspect Carcinogen
Trimethylbenzene	25551-13-7	.4 – 2.1%	N/E
1, 2, 4 – Trimethylbenzene	95-63-6	23.5%	N/E
1, 3, 5 – Trimethylbenzene	108-67-8	16.9 – 22.3%	N/E
Diethylbenzene	25340-17-4	.8 – 2.7%	N/E
Xylene	1330-20-7	.5 - .8%	N/E
Isopropylbenzene	98-82-8	.8 – 2.7%	N/E
Ethylbenzene	100-41-4	.07%	IARC Suspect Carcinogen
Ethylene Glycol Monobutyl Ether	111-76-2	3.2 – 3.3%	N/E

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.

TARGET ORGAN EFFECTS: Blood, Central nervous system, Kidney, Liver

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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.

Section 4: First Aid Measures

EYE: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, get medical attention. Do not rub eyes.

SKIN: Wash immediately with soap and water. Immediately remove contaminated clothing and launder before reuse. If irritation persists, seek immediate medical attention.

INHALATION: Remove exposed person to fresh air. If breathing is labored give oxygen. If breathing has stopped apply artificial respiration. If irritation persists or if toxic symptoms are observed, get medical attention.

INGESTION: DO NOT INDUCE VOMITING. Get immediate medical attention. If vomiting does occur, keep head below hips to reduce risk of aspiration.

Section 5: Fire Fighting Measures

FLAMMABILITY PROPERTIES:

Flash Point	115°F(46°C)
Method	PMCC ASTM D-93
LFL/UFL	Not Determined
Auto-ignition Temperature	Not Determined

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, and alcohol foam. Water can be used to cool and protect exposed materials

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

UNUSUAL FIRE & EXPLOSION HAZARDS: 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.

Section 6: Accidental Release Measures

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

LARGE SPILL: Evacuate all non-essential personnel. Personal Protective Equipment must be worn, see Person Protection Section for PPE recommendations. Remove sources of ignition. Ventilate spill area. Eliminate all sources of heat, sparks, pilot lights, static electricity and open flames. Prevent entry into sewers and waterways, dispose of in accordance with all federal, state and environmental regulation. Check under Transportation and Labeling (DOT/CERCLA)

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 spurces of ignition.

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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

COMPONENTS	OSHA		ACGIH		NIOSH		OTHER	
	TWA	STEL	TWA	STEL	REL	STEL	TWA	STEL
Petroleum naphtha	N/E	N/E	N/E	N/E	N/E	N/E	100 ppm (1)	N/E
Naphthalene	10 ppm	N/E	10 ppm	15 ppm	N/E	N/E	N/E	N/E
Trimethylbenzene	N/E	N/E	25 ppm	N/E	N/E	N/E	N/E	N/E
1, 2, 4 – Trimethylbenzene	125 mg/m3	N/E	25 ppm	N/E	25 ppm 125 mg/m3	N/E	N/E	N/E
1, 3, 5 – Trimethylbenzene	25 ppm 125 mg/m3	N/E	25 ppm	N/E	25 ppm 125 mg/m3	N/E	N/E	N/E
Diethylbenzene	N/E	N/E	N/E	N/E	N/E	N/E	N/E	N/E
Xylene			100 ppm	150 ppm	100 ppm 435 mg/m3	150 ppm 655 mg/m3	N/E	N/E
Isopropylbenzene			50 ppm	N/E	50 ppm	N/E	N/E	N/E
Ethylbenzene	100 ppm	N/E	100 ppm	125 ppm	N/E	N/E	N/E	N/E
Ethylene Glycol Monobutyl Ether	N/E	N/E	20 ppm	N/E	5 ppm 24 mg/m3	N/E	N/E	N/E

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

RESPIRATORY: Use a NIOSH/MSHA with an organic vapor cartridge if the recommended exposure limit is exceeded. \ Use self-contained breathing apparatus for entry in to confined space.

SKIN: Use Viton or Nitrile gloves to avoid prolonged or repeated skin contact. Long sleeve shirt is recommended. Wear either a chemical protective suit or apron when potential for contact with material exists. Launder contaminated clothing before reuse

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

Section 9: Physical and Chemical Properties

Physical State	Liquid
Freezing/Melting Point	-30°C (-22°F)
Vapor Pressure	Not Determined
Vapor Density (Air=1)	Not Determined
Evaporation Rate	Not Determined
Solubility in Water	Insoluble
Specific Gravity (Water=1)	0.8916
Density, lb./gal.	7.424
Volatility (Volume)	Unknown
VOC.....	Unknown
pH.....	Not Determined
Coefficient of Water/Oil Distribution	Not Determined
Odor	Aromatic, Hydrocarbon Odor
Odor Threshold	Not Determined
Appearance	Amber Colored Liquid
Viscosity, cSt @ 100°C	Not Applicable
Viscosity, cSt @ 40°C	3.9
Viscosity Index	Not Applicable

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Section 10: Stability and Reactivity

STABILITY: Stable under moderately elevated temperatures and pressures.

INCOMPATIBILITY: Avoid contact with strong oxidants, sulfuric acid.

POLYMERIZATION: Will not occur.

THERMAL DECOMPOSITION: Smoke, carbon monoxide, carbon dioxide, aldehydes and other products if incomplete combustion. Under combustion conditions, oxides of the following elements will be formed

Section 11: Toxicological Information

ACUTE 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:** Nose, throat, and lung irritant. Based on data from components or similar materials. Exposure to a high concentration of vapor or mist is irritation to the respiratory tract.
- Dermal Toxicity:** The LD50 in rabbits >2000 mg/Kg. Based on data from components or similar materials. Prolonged or widespread contact with this material could result in the absorption of potentially harmful amounts.
- Inhalation Toxicity:** High concentrations may cause headaches, dizziness, nausea, stupor, and other central nervous system effects leading to visual impairment, difficulty breathing and convulsions. Trimethylbenzene 1,2,4: LD 50 in rats 18 g/m³, 4 h, Isopropylbenzene: LD 50 in rats 8,000 ppm, Petroleum naphtha LD 50 Rat: >5,600 mg/kg,
- Oral Toxicity:** The LD50 in rats is between 1,400 mg/kg and 5,600 mg/kg. Based on data from components or similar materials. Swallowing material may cause irritation of the gastrointestinal lining, nausea, vomiting, diarrhea, and abdominal pain. Trimethylbenzene 1,2,4: LD 50 in rats 6 g/kg
- Dermal Toxicity:** The LD50 in rabbits is between > 2000 mg/kg and 4,000 mg/kg. Based on data from components or similar materials. Prolonged or widespread contact with this material could result in the absorption of potentially harmful amounts. Isopropylbenzene: LD 50 in rabbits 3.15 g/kg
- Dermal Sensitization:** May cause allergic reaction in susceptible individuals.

CHRONIC EXPOSURE

- Chronic Toxicity:** Repeated over exposure to petroleum naphtha can cause nervous system damage. 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

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the basis of sufficient evidence of carcinogenicity in experimental animals but inadequate evidence in exposed humans. A National Toxicology Program (NTP) found that increased incidence of renal tubule neoplasms in male and female rats exposed to ethylbenzene by inhalation for two years. In male and female similarly exposed, increased incidences of alveolar/bronchiolar, neoplasms, and hepatocellular neoplasms, respectively, were observed. Ethylbenzene has been classified by IARC as a possible human carcinogen (Group 2B) on the basis of sufficient evidence of carcinogenicity in experimental animal but inadequate evidence in exposed humans.

Mutagenicity:	No data available to indicate product present at greater than 0.1% present a mutagenic or genotoxic hazard.
Reproductive Toxicity:	No data available to indicate product present at greater than 0.1% present a reproductive hazard.
Teratogenicity:	No data available to indicate product present at greater than 0.1% present a reproductive hazard.

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
Biodegradation:	At least 25% of the components in this product show limited biodegradation based on OECD 301-type test
Bioaccumulation:	25% or greater of the components potentially bioconcentrate, based on octanol/water Coefficients
Soil Mobility:	Not determined.

Section 13: Disposal Considerations

This material, if discarded, is not a hazardous waste under RCRA Regulations 40 CFR 261.

Section 14: Transport Information

ICAO/IATA I	Not Regulated
ICAO/IATA II	Environmentally hazardous substance, liquid, n.o.s. (petroleum naphtha), Class 9, UN3082, PG III, Marine pollutant
IMDG	Environmentally hazardous substance, liquid, n.o.s. (petroleum naphtha), Class 9, UN3082, PG III, Marine pollutant
IMDG EMS Fire	F-A
IMDG EMS Spill	S-A
USCG Compatibility	Not determined
U.S. DOT Bulk	UN1993 Flammable liquid, n.o.s. (Petroleum naphtha, Tetramethylbenzene), Class 3, PG III, Marine Pollutant (Petroleum naphtha), RQ (Naphthalene)
U.S. DOT Non-Bulk	Not Regulated
DOT NAERG	128
TDG Bulk	UN3082 Environmentally hazardous substance, liquid, n.o.s. (petroleum naphtha), Class 9, PG III, Marine pollutant
TDG Non-Bulk	Not Regulated
Mexico	UN3082, Environmentally hazardous substance, liquid, n.o.s. (petroleum naphtha), Class 9, PG III, Marine pollutant
Mexico Non-Bulk	Not regulated
Bulk Quantity	85000 liters, 22457 gal.
Non-Bulk Quantity	207.8 liters, 55 gal.

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Section 15: Regulatory Information

Global Chemical Inventories

TSCA (USA).....All components of this material are on the US TSCA Inventory or are exempt
Other TSCA Reg.....Section 8d (Benzene, ethyl-) Section 8d (Benzene, trimethyl-) Section 4a (Naphthalene). May be subject to export notification under TSCA Section 12(b). awesome

Other Federal Regulations

CERCLA 40 CFR 302.4

Components	RQ
Xylenes (O-, M-, P- Isomers)	1668 gal.
Cumene	5000 lbs
Ethylbenzene	1000 lbs
Naphthalene	230 gal
Benzene, dimethyl	1671 gal

SARA Title III

Section 302 Extremely Hazardous..... None
Section 311/312
Fire Hazard Yes
Reactive Hazard..... 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	23.5%
Xylenes (Mixed Isomers)	1330-20-7	0.9%
Ethylbenzene	100-41-4	0.1 – 0.4%
Naphthalene	91-20-3	1.9%

U.S. State & Local Regulations.....California Proposition 65

This product contains the following chemical(s) known to the state of California to cause cancer and/or birth defects:
59 ppm Benzene, CAS no. 71-43-2 80 ppm Toluene, CAS no. 108-88-3 0.2%, CAS no 100-41-4 5.8% Naphthalene, CAS no. 91-20-3

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.