

Prepared according to 29CFR 19 10.1200.

1	Chemical Product and Company Identification
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Opti-Lube

Product Trade Name Opti-Lube XPD
CAS Number Not applicable for mixtures.
Synonyms None.
Generic Chemical Name Mixture.
Product Type Fuel Additive

Transportation Emergency
Phone No. (CHEMTREC) 1-800-424-9300. Outside the U.S. (703) 527-3887
MSDS No. 24823866-2311329-101710-811103

Revision Date 23 October 2007

2	Hazards Identification
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Appearance Brown liquid
Odor Hydrocarbon

Principal Hazards **WARNING.**

- **HARMFUL IF INHALED.**
- **CAUSES EYE IRRITATION.**
- **CAUSES SKIN IRRITATION.**
- **HARMFUL IF ABSORBED THROUGH SKIN.**
- **COMBUSTIBLE LIQUID.**
- **CONTAINS COMPONENTS WHICH MAY CAUSE CANCER.**
- **MAY CAUSE CHRONIC HEALTH EFFECTS.**

Target Organs: Blood, Central nervous system, Eye, Heart, Kidney, Liver, Lung, Respiratory system

This material is considered hazardous by the OSHA Hazard Communication Standard 29CFR 1910.1200.

See Section 11 for complete health hazard information.

Hazardous Ingredients

Comp	CAS No.	Percentage (by wt.)	Carcinogen
Petroleum naphtha	64742-95-6	From 52 to 63 percent	N/E
Trimethylbenzene	25551-13-7	From 13 to 21 percent	N/E
2-Ethylhexyl nitrate	27247-96-7	From 6.6 to 13 percent	N/E
1,2,4-Trimethylbenzene	95-63-6	12.5%	N/E
1,3,5-Trimethylbenzene	108-67-8	From 3.3 to 6.6 percent	N/E
Propylene glycol ether	107-98-2	From 3.6 to 6.6 percent	N/E
Xylene	1330-20-7	3%	N/E
Cumene	98-82-8	2%	N/E
Naphthalene	91-20-3	1.5%	IARC Suspect Carcinogen NTP Carcinogen
Ethylbenzene	100-41-4	0.7%	IARC Suspect Carcinogen

(N/E) - None established

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First Aid Measures

Eyes	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice / attention.
Skin	Wash with plenty of soap and water. Immediately remove contaminated clothing. If skin irritation occurs, get medical attention. Launder contaminated clothing before reuse.
Inhalation	Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is labored, administer oxygen. If breathing has stopped, apply artificial respiration. If irritation persists or if toxic symptoms are observed, get medical attention.
Oral	DO NOT INDUCE VOMITING. If conscious, give 2 glasses of water. Aspiration of material due to vomiting can cause chemical pneumonitis which can be fatal. Get immediate medical attention. If vomiting occurs naturally, the casualty should lean forward to reduce the risk of aspiration. Call a poison center or doctor if exposed or you feel unwell.

Additional Information

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Fire Fighting Measures

Flash Point	42 °C, 107.6 °F PMCC (Typical)
Extinguishing Media	CO ₂ , drychemical, or foam. Water can be used to cool and protect exposed material.
Firefighting Procedures	Recommend wearing self-contained breathing apparatus. Water may cause splattering.
Unusual Fire & Explosion Hazards	Toxic fumes, gases or vapors may evolve on burning. Vapors may be heavier than air and may travel along the ground to a distant ignition source and flash back. Container may rupture on heating. Toxic nitrogen oxides may evolve when burning. The alkyl nitrate contained in this product may decompose exothermically if heated above 120° C. Studies in the Koenen TubeTest indicate that the reaction is non-explosive even when the alkyl nitrate is present at levels up to 70%.

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Accidental Release Measures

Spill Procedures	May form explosive mixtures with air. Immediately evacuate all personnel from danger area. Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations. Eliminate all sources of heat, sparks pilot lights, static electricity and open flames. Ventilate spill area. Prevent entry into sewers and waterways, dispose of in accordance with all federal, state and local environmental regulation. Do not dispose in landfill. Pick up free liquid for recycle and/or disposal if can be accomplished safely with explosion proof equipment. Residual liquid can be absorbed on inert material. Use non-sparking tools. Check under Transportation and Labeling (DOT/CERCLA) and Other Regulatory Information Section (SARA) for hazardous substances to determine regulatory reporting requirements for spills.
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7	Handling and Storage
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Pumping Temperature Not determined.

Maximum Handling Temperature Not determined.

Handling Procedures Keep away from ignition sources such as heat, sparks and open flame. No smoking. 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. DO NOT HEAT. Do not breath dust, fume, gas, mist, vapors or spray. Ground / bond container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Empty containers retain material residue. Do not cut, weld, braze, solder, drill, grind or expose containers to heat, flame, spark or other sources of ignition.

Maximum Storage Temperature Not determined.

Storage Procedures Do not store near potential sources of ignition. Isolated outside storage is preferred. Inside storage area should be in a flammable liquids cabinet or storage area. Store in a cool, dry, well-ventilated area. Keep container tightly closed.

Loading Temperature Not determined.

8	Exposure Controls/Personal Protection
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Exposure Limits

Comp	Exposure Guidelines					
	OSHA		ACGIH		Other	
	TWA	STEL	TW	STEL	TWA	STEL
Petroleum naphtha	N/E	N/E	N/E	N/E	100 ppm (u)	N/E
Trimethylbenzene	N/E	N/E	25ppm	N/E	N/E	N/E
2-Ethylhexyl nitrate	N/E	N/E	N/E	N/E	1 ppm (l)	N/E
Propylene glycol ether	N/E	N/E	100ppm	150 ppm	N/E	N/E
Xylene	100 ppm	N/E	100 ppm	150 ppm	N/E	N/E
Cumene	50 ppm(s)	N/E	50 pp	N/E	N/E	N/E
Ethylbenzene	100 ppm	N/E	100ppm	125 ppm	N/E	N/E
Naphthalene	10 ppm	N/E	10 ppm (s)	15	N/E	N/E

- (s) - Skin exposure
- (p) - Proposed limit
- (c) - Ceiling exposure
- (l) - Recommended exposure limit
- (u) - Supplier recommended exposure limit
- (N/E) - None established

Other Exposure Limits The recommended TWA for 2-Ethylhexyl nitrate is 1 PPM. Contains mineral oil. Under conditions which may generate mists, observe the OSHA PEL of 5 mg per cubic meter, ACGIHSTELof10mg per cubic meter.

Engineering Controls Mechanical exhaust required. Additional ventilation or exhaust may be required to maintain air concentrations below recommended exposure limits. Use explosion proof equipment.

Gloves Procedures Nitrile.

Eye Protection Safety glasses. If potential for splash or mist exists, wear chemical goggles or faceshield.

Respiratory Protection Use NIOSH/MSHA approved full face respirator with a combination organic vapor and high efficiency filter cartridge if the recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites. Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator.

Clothing Recommendation Gloves, coveralls, apron, boots as necessary to minimize contact. Wear either a chemical protective suit or apron when potential for contact with material exists. Do not wear rings, watches or similar apparel that could entrap the material and cause a skin reaction. Launder contaminated clothing before reuse. material and cause a skin reaction. Launder contaminated clothing before reuse.

9	Physical and Chemical Properties
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Flash Point	42 °C, 107.6 °F PMCC (Typical)
Upper Flammable Limit	Not determined.
Lower Flammable Limit	Not determined.
Autoignition Point	Not determined.
Explosion Data	Material does not have explosive properties in the liquid state, but vapors may form explosive mixtures with air.
Vapor Pressure	Not determined.
pH	Not determined.
Specific Gravity	0.89 (15.6 °C)
Bulk Density	Not determined.
Water Solubility	Insoluble.
Percent Solid	Not determined.
Percent Volatile	Unknown.
Volatile Organic Compound	Not determined.
Vapor Density	Not determined.
Evaporation Rate	Not determined.
Odor	Hydrocarbon
Appearance	Brown liquid.
Odor Threshold	Unknown.
Boiling Point	Not determined.
Pour Point Temperature	<-40 °C, < -40 °F
Melting / Freezing Point	Not determined.

The above data are typical values and do not constitute a specification. Vapor pressure data are calculated unless otherwise noted.

10	Stability and Reactivity
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Stability	Material can become unstable at elevated temperatures and pressures.
Decomposition Temperature	Not determined.
Incompatibility	Strong oxidizing agents. Nitriles. Strong alkalis. Reducing agents
Polymerization	Will not occur.
Thermal Decomposition	Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Under combustion conditions, oxides of the following elements will be formed: nitrogen.
Conditions to Avoid	Not determined.

-- 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 materials. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, 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 irritating to the respiratory tract. Breathing of vapor or mist may aggravate asthma and inflammatory or fibrotic pulmonary disease.
Dermal Toxicity	The LD50 in rabbits is > 2000 mg/Kg. Based on data from components or similar materials. Skin absorption of components of this material may cause systemic effects; note toxicity from other sections. Overexposure to organic nitrates by skin contact may cause headache, nausea and decreased blood pressure.
Inhalation Toxicity	The following is based on incomplete information on components. Aerosols of this material are considered toxic. Based on data from components or similar materials. High concentrations may cause headaches, dizziness, nausea, stupor, and other central nervous system effects leading to visual impairment, difficulty breathing and convulsions. Overexposure to organic nitrates by inhalation may cause headache, nausea and decreased blood pressure. The LC50 in rat (4 hr) for xylene is 6,700 ppm.
Oral Toxicity	The LD50 in rats is between 2000 mg/kg and 5000 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.
Dermal Sensitization	No data available to indicate product or components maybe a skin sensitizer.
Inhalation Sensitization	No data available to indicate product or components may be respiratory sensitizers.

-- CHRONIC EXPOSURE --

Chronic Toxicity	Repeated overexposure to propylene glycol ether may cause lung, liver and kidney damage. Xylene has been found to cause cardiac, liver and kidney effects, anemia and eye damage in laboratory animals. Prolonged and repeated inhalation of hydrocarbon solvents such as xylene can cause chronic neurological disturbances. Prolonged or repeated overexposure to petroleum naphtha may cause liver and kidney damage. Chronic exposure to xylene has been shown to cause hearing loss in experimental animals.
Carcinogenicity	A National Toxicology Program (NTP) study found an increased incidence of renal tubule neoplasms in male and female rats exposed to ethylbenzene by inhalation for two years. In male and female mice 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 animals but inadequate evidence in exposed humans. Naphthalene has 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 or any components present at greater than 0.1% are mutagenic or genotoxic.
Reproductive Toxicity	No data available to indicate either product or components present at greater than 0.1% that may cause reproductive toxicity.
Teratogenicity	No evidence of adverse effects were found in a developmental toxicity study of 2-ethylhexanol in rats. Doses 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. Xylene is fetotoxic in rats and rabbits in the absence of maternal toxicity.

-- ADDITIONAL INFORMATION --

Other	No other health hazards known.
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12	Ecological Information
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-- ENVIRONMENTAL TOXICITY --

Freshwater Fish Toxicity	The acute LC50 is 1 - 10 mg/L based on component data.
Freshwater Invertebrates Toxicity	The acute EC50 is 1 - 10 mg/L based on component data.
Algal Inhibition	The acute EC50 is 1 - 10 mg/L based on component data.
Saltwater Fish Toxicity	Not determined.
Saltwater Invertebrates Toxicity	Not determined.
Bacteria Toxicity	Not determined.
Miscellaneous Toxicity	Not determined.

-- ENVIRONMENTAL FATE --

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

13	Disposal Consideration
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Waste Disposal	This material, if discarded, is a hazardous waste under RCRA Regulation 40 CFR 261. Waste management should be in compliance with federal, state and local laws. Material, if discarded, is expected to be hazardous waste under RCRA due to ignitability (D001).
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14	Transport Information
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ICAO/IATA (US)	UN1993 Flammable liquid, n.o.s. (Petroleum naphtha, Trimethylbenzene), Class 3, PG III
ICAO/IATA (International)	UN1993 Flammable liquid, n.o.s. (Petroleum naphtha, Trimethylbenzene), Class 3, PG III, Marine Pollutant (Alkyl (C7- C9) nitrates, Petroleum naphtha)
IMDG	UN1993 Flammable liquid, n.o.s. (Petroleum naphtha, Trimethylbenzene), Class 3, PG III, Marine Pollutant (Alkyl(C7-C9) nitrates, Petroleum naphtha)
IMDG EMS Fire	F-E
IMDG EMS Spill	<u>S-E</u>
IMDG MFAG	*Subsection 4.2
IMO Marine Vessel	DO NOT TRANSPORT - ADDITIONAL INFORMATION REQUIRED
U.S. Barge	DO NOT TRANSPORT - ADDITIONAL INFORMATION REQUIRED
USCG Compatibility	Not determined.
U.S. DOT Bulk	UN1993 Flammable liquid, n.o.s. (Petroleum naphtha, Trimethylbenzene) Class 3, PG III, Marine Pollutant (Alkyl (C7-C9) nitrates, Petroleum naphtha), RQ (Benzene, dimethyl-, Ethylbenzene)
U.S. DOT Non-Bulk	Not regulated.
DOT NAERG	128
TDG Bulk	UN1993 Flammable liquid, n.o.s. (Petroleum naphtha, Trimethylbenzene), Class 3, PG III, Marine Pollutant (Alkyl (C7-C9) nitrates, Petroleum naphtha)
TDG Non-Bulk	Not regulated.
Mexico	UN1993 Flammable liquid, n.o.s. (Petroleum naphtha, Trimethylbenzene), Class 3, PG III, Marine Pollutant (Alkyl (C7-C9) nitrates, Petroleum naphtha)
Mexico Non-Bulk	Not regulated.
Bulk Quantity	85000 liters, 22457 gal.
Non-Bulk Quantity	207.8 liters, 55 gal.

15	Regulatory Information
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-- Global Chemical Inventories --

USA All components of this material are on the US TSCA Inventory or are exempt.
Other TSCA Reg. Section 8d (2-Propanol, 1-methoxy-).Section 8d (Benzene, ethyl-).Section 8d (Benzene, trimethyl-).Section 8d (Cumene).Section 8d (Solvent naphtha (petroleum), light aromatic).Section 4a (p-Xylene).May be subject to export notification under TSCA Section 12(b).
EU All components are in compliance with the EC Seventh amendment Directive 92/32/EEC.
Japan This product requires notification in Japan.
Australia May require notification before sale under Australian regulations.
Canada All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.
Switzerland All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.
Korea This product requires notification before sale in Korea.
Philippines This product requires notification before sale in thePhilippines.
China This product requires notification in China.

-- Other U.S. Federal Regulations --

SARA Ext. Haz. Subst. This product does not contain greaterthan1.0% ofany chemical substance on the SARA Extremely Hazardous Substances list.
SARA Section 313 12.5% 1,2,4-Trimethylbenzene, CAS no. 95-63-6; 3% Xylene(mixed isomers), CAS no. 1330-20-7;2% Cumene, CASno. 98-82-8; 1.5% Naphthalene, CAS no. 91-20-3; .7% Ethylbenzene, CAS no. 100-41-4

SARA 311 Classifications

Acute Hazard	Yes
Chronic Hazard	Yes
Fire Hazard	Yes
Reactivity Hazard	No

CERCLA Hazardous Substances

Transit Reportable Quantities

Component	Reportable Quantity RQ	Units	Reportable Quantity RQ	Units
Benzene, dimethyl-	296	gal.	1119	liters
Ethylbenzene	13714	gal.	51907	liters
Naphthalene	304	gal.	1152	liters

FDA Approval Not applicable

-- State Regulations --

Cal. Prop. 65 This product contains the following chemical(s) known to the state of California to cause cancer and/or birth defects: 5 ppm Benzene, CAS no. 71-43-2 17 ppm Toluene, CAS no. 108-88-3 1.5% ppm Naphthalene, CAS no. 9 1-20-3 1% Ethylbenzene, CAS no. 100-41-4

-- Product Registrations --

U.S. Fuel Registration This fuel additive is registered in the United States.
U.S. Dept of Agriculture This product has not been filed with the USDA to support H2 approvals.
NSF Nonfood Compounds Registration This product has not been filed with the NSF to support H1 or H2 approvals.

-- Other / International --

TDG Regulated Limit. None known.
U.S. Tariff Heading Number 3811.90.00.00
Schedule B Number 3811.90.0000

16	Other Information
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US NFPA Codes

Health	Fire	Reactivity	Special
2	2	1	N/E

(N/E) - None established

HMIS Codes

Health	Fire	Reactivity
2*	2	1

Precautionary Labels

WARNING.

- **HARMFUL IF INHALED.**
- **CAUSES EYE IRRITATION.**
- **CAUSES SKIN IRRITATION.**
- **HARMFUL IF ABSORBED THROUGH SKIN.**
- **COMBUSTIBLE LIQUID.**
- **CONTAINS COMPONENTS WHICH MAY CAUSE CANCER.**
- **MAY CAUSE CHRONIC HEALTH EFFECTS.**

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