

MATERIAL SAFETY DATA SHEET

Trade Name: ZAK Diesel Fuel Injector Cleaner
MSDS NO. DF500
Revision Date:
Date Printed 12/05/2003

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: ZAK Diesel Fuel Injector Cleaner
Chemical Family: MIXTURE
Synonyms: None
Emergency Telephone (24 hr.): CHEMTREC 1-800-424-9300

Supplier: Zak Products, 3006 Skyway Circle South, Irving, TX 75038

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient/CAS No.	wt. %	OSHA PEL TWA	OSHA PEL Ceiling Limits	ACGIH TLV TWA	ACGIH TLW STEL
2-Ethylhexyl Nitrate 27247-96-7	60-100	None Established	None Established	None Established	None Established
Solvent naptha (petroleum), light aromatic 64742-95-6	5-10	None Established	None Established	None Established	None Established
2-Ethylhexanol 104-76-7	1-5	None Established	None Established	None Established	None Established
Heavy Aromatic Naphtha 64742-94-5	1-5	None Established	None Established	None Established	None Established
Amides, tall-oil fatty, n,n-bis 68155-20-4	1-5	None Established	None Established	None Established	None Established
1,2,4-trimethylbenzene 95-63-6	1-5	Not Established	Not Established	Not Established	Not Established
Naphthalene 91-20-3	.1-1	10 ppm	None Established	10 ppm	15 ppm

3. HAZARDS IDENTIFICATION

Emergency Overview: Warning! Causes Respiratory tract, eye, and skin irritation. May be harmful if inhaled, absorbed through skin or swallowed.

HMIS Classification: Health: *2 Flammability: 2 Physical Hazard: 1
NFPA Rating: Health: 2 Flammability: 2 Reactivity: 1

4. FIRST AID MEASURES

Eye Contact: In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Ingestion: If swallowed, do NOT induce vomiting. Call a physician immediately. Never give anything by mouth to an unconscious person. If victim is conscious and alert, give 1-2 glasses of water to drink.

Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

Skin Contact: In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention.

5. FIRE FIGHTING MEASURES

Flammable Properties

Flash Point °F(°C): 145.4 (63C)
Flash Point Method: PMCC
Flammable Limits in Air - Lower (%): NT
Flammable Limits in Air - Upper (%): Not Determined
Autoignition Temperature °F(°C): Not Determined
Extinguishing Media: Foam. Dry chemical. Water fog.

Protection Of Fire-Fighters:

Special Fire-Fighting Procedures: Wear approved positive-pressure self-contained breathing apparatus and protective clothing. When

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heated above 100C/212F may undergo a self-accelerating, exothermic reaction which causes a rapid rise in temperature and pressure. Rupture of storage vessels and fire should be anticipated in case of such temperature. Spray storage vessels with water to maintain temperature above 100C/212F.

Hazardous Combustion Products: Oxides of Nitrogen. Oxides of Carbon. Some metallic oxides

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear safety glasses or goggles and impervious gloves. Wear appropriate protective clothing and equipment to prevent skin and eye contact. Avoid breathing gas. When airborne exposure limits are exceeded use NIOSH approved respiratory protection equipment appropriate to the material and/or its components.

Spill Procedures: Avoid all sources of ignition; heat, sparks and open flames. Contain any liquid from leaking containers. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Use non-sparking tools and equipment. Wear proper protective equipment as specified in the protective equipment section. Remove sources of ignition. Persons not trained should evacuate area. Leaking containers should be removed to an isolated, well-ventilated area and transferred to other suitable containers. Stop release at source. Dike area and contain. Absorb spill with inert material. Transfer contaminated absorbent, soil and other materials to containers for disposal. Use non-sparking tools and equipment. Do not flush to sewer.

Environmental Precautions: Do not allow to enter sanitary drains, sewer or surface and subsurface waters.

7. HANDLING AND STORAGE

Handling and Storage: Use ground strap. Avoid contact with skin and eyes. Do not inhale vapors. Wash hands before eating and smoking. Do not handle or store near an open flame, heat or other sources of ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Local exhaust ventilation as necessary to maintain exposures to within applicable limits.

Eyes: Wear safety glasses or goggles to protect against exposure.

Skin Protection: Avoid skin contact. Wear protective clothing and gloves. Use chemical resistant gloves for prolonged skin contact.

Respiratory Protection: Use approved NIOSH respiratory protection if TLV exceeded..... Or over exposure is likely. Use in a well ventilated area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light yellow to amber color liquid.	pH Value:	Not Determined
Odor:	Fruity, Aromatic	Vapor Density (Air=1):	Not Determined
Vapor Pressure:	1 mm Hg at 20C	Melting/Freezing Point:	Not determined.
Boiling Point (°F):	Not determined.	Bulk Density at 20°C:	Not Determined
Solubility in Water:	Insoluble in cold water.	Evaporation Rate:	Not Determined
Molecular Weight:	Not Determined	Specific Gravity (H2O=1):	.9572 at 15.6/15.6C (target)
Viscosity:	2 cSt at 40C (target)	Decomposition Temperature:	212 (100C)
VOC Content(%):	Not determined.		

10. STABILITY AND REACTIVITY

Chemical Stability: Unstable at temperatures greater than 100C/212F.

Conditions to Avoid: Keep away from heat, sparks and flame.

Materials to Avoid: Oxidizing or reducing agents.

Hazardous Decomposition Products: Oxides of carbon and nitrogen, AVOID extreme heat

Hazardous Polymerization: None anticipated.

11. TOXICOLOGICAL INFORMATION

Toxicological Data:

Ingredient/CAS No.	wt. %	Route	Species	Dose
2-Ethylhexyl Nitrate 27247-96-7	60-100	NA	NA	Not Known
Solvent naphtha (petroleum), light aromatic 64742-95-6	5-10	Oral	Rats	LD50 8400 mg/kg
2-Ethylhexanol 104-76-7	1-5	Oral	Rats	LD50 3730 mg/kg
Heavy Aromatic Naphtha 64742-94-5	1-5	Inhalation	Rats	LC50 590 mg/m3/4H
Amides, tall-oil fatty, n,n-bis 68155-20-4	1-5	NA	NA	Not known
1,2,4-trimethylbenzene 95-63-6	1-5	Inhalation	Rats	LC50 18 gm/m3/4H
Naphthalene 91-20-3	.1-1	Inhalation	Rats	LC50 340 mg/m3/1H

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Carcinogenicity:

Ingredient/CAS No.	wt. %	IARC	NTP	OSHA
2-Ethylhexyl Nitrate 27247-96-7	60-100	Not Listed	Not Listed	Not Listed
Solvent naphtha (petroleum), light aromatic 64742-95-6	5-10	Not Listed	Not Listed	Not Listed
2-Ethylhexanol 104-76-7	1-5	Not Listed	Not Listed	Not Listed
Heavy Aromatic Naphtha 64742-94-5	1-5	Not Listed	Not Listed	Not Listed
Amides, tall-oil fatty, n,n-bis 68155-20-4	1-5	Not Listed	Not Listed	Not Listed
1,2,4-trimethylbenzene 95-63-6	1-5	Not Listed	Not Listed	Not Listed
Naphthalene 91-20-3	.1-1	Not Listed	Not Listed	Not Listed

12. ECOLOGICAL INFORMATION
13. DISPOSAL CONSIDERATION

Waste Classification: Not determined.

Waste Management: Not determined.

Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT:

Proper Shipping Name: ORM-D CONSUMER COMMODITY
Hazard Class: ORM-D
UN/NA Number: NA
DOT Packing Group: NA

IMDG:

Proper Shipping Name: Environmentally Hazardous Substance, liquid n.o.s.
Hazard Class: 9
Hazard Subclass: Not determined.
UN No.: UN 3082
Packing Group: III
Marine Pollutant: pollutant

15. REGULATORY INFORMATION

US Federal Regulations:

Ingredient/CAS No.	wt. %	SARA 313	SARA 302	RQ	TPQ
2-Ethylhexyl Nitrate 27247-96-7	60-100	Not Listed	Not Listed	NA	NA
Solvent naphtha (petroleum), light aromatic 64742-95-6	5-10	Not Listed	Not Listed	NA	NA
2-Ethylhexanol 104-76-7	1-5	Not Listed	Not Listed	NA	NA
Heavy Aromatic Naphtha 64742-94-5	1-5	Not Listed	Not Listed	NA	NA

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Amides, tall-oil fatty, n,n-bis 68155-20-4	1-5	not listed	not listed	not listed	not listed
1,2,4-trimethylbenzene 95-63-6	1-5	Listed	Not Listed	NA	NA
Naphthalene 91-20-3	.1-1	Listed	Not Listed	100 lbs	NA

SARA 311/312 Hazard Categories: Not Determined.

State Regulations:

Ingredient/CAS No.	wt. %	California Prop. 65 Cancer list	California Prop. 65 Developmental Toxicity	California Prop. 65 Reproductive Female	California Prop. 65 Reproductive Male
2-Ethylhexyl Nitrate 27247-96-7	60-100	Not Listed	Not Listed	Not Listed	Not Listed
Solvent naptha (petroleum), light aromatic 64742-95-6	5-10	Not Listed	Not Listed	Not Listed	Not Listed
2-Ethylhexanol 104-76-7	1-5	Not Listed	Not Listed	Not Listed	Not Listed
Heavy Aromatic Naphtha 64742-94-5	1-5	Not Listed	Not Listed	Not Listed	Not Listed
Amides, tall-oil fatty, n,n-bis 68155-20-4	1-5	Not Listed	Not Listed	Not Listed	Not Listed
1,2,4-trimethylbenzene 95-63-6	1-5	Not Listed	Not Listed	Not Listed	Not Listed
Naphthalene 91-20-3	.1-1	Listed (4/19/2002)	Not Listed	Not Listed	Not Listed

U.S. TSCA: The components of this product are listed on the TSCA Inventory.

This Product contains the following ingredients for which the State of California has found to cause cancer, birth defects, or other reproductive harm, which would require a warning under the statute: Naphthalene; Toluene; Benzene.

16. OTHER INFORMATION

General Notes: Do not allow undiluted material or large quantities to reach groundwater, bodies of water or sewer system.

Disclaimer:

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