



MATERIAL SAFETY DATA SHEET

Emission-Tek

Section 1 - COMPANY IDENTIFICATION

DSG Saskatoon Diesel Services
230 29th Street East
Saskatoon, SK S7L 6Y6

Product Information 1-800-667-6879

**IN CASE OF A DANGEROUS GOODS EMERGENCY
CALL CANUTEC AT THE 24-HOUR NUMBER
613-966-6666**

Section 2 - COMPOSITION / INGREDIENT INFORMATION

Material	CAS	Number %
2-Ethylhexyl Nitrate.....	27247-96-7.....	50-70
2-Ethylhexyl Alcohol.....	104-76-7.....	<2
Detergent.....		10-30
Heavy Aromatic Naphtha.....	64742-94-5	<10
*(Naphthalene).....	91-20-3.....	(<1)
Light Aromatic Naphtha	64742-95-6.....	<2
Dicyclopentadienyl iron	102-54-5	<5
Light Ends of Polyethylbenzene residue.....	178535-25-6	10-30
(Triethylbenzene).....	102-25-0.....	(<10)

*Disclosure as a toxic chemical is required under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

Section 3 - HAZARDOUS IDENTIFICATION

Potential Health Effects

In general, overexposure to high atmospheric concentrations of alkyl-substituted aromatics may produce central nervous system depression, headache, dizziness, incoordination, nausea and loss of appetite. Aspiration (liquid enters the lung), may cause lung damage due to chemical pneumonia, a condition caused by petroleum-like solvents.

Minute amounts of petroleum hydrocarbons aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possible death.

Individuals with preexisting diseases of the kidneys or liver may have increased susceptibility to the toxicity of excessive exposures.

Skin contact with Detergent may cause skin sensitization upon extended contact. The compound may cause skin sensitization in susceptible individuals. Eye contact may cause eye irritation with discomfort, tearing, or blurring of vision. Inhalation may initially include irritation of the upper respiratory passages with coughing and discomfort. Individuals with preexisting diseases of the central nervous system may have increased susceptibility to the toxicity of excessive exposures to Detergent. Eye contact with the product ingredients may cause eye irritation with discomfort, tearing, or blurring of vision. Direct exposure may cause skin irritation

(redness, swelling). A single prolonged exposure may result in the material being absorbed through the skin in harmful amounts.

Skin contact with Light Aromatic Naphtha may cause skin irritation with discomfort or rash. Evidence suggests that skin permeation can occur in amounts capable of producing photosensitization. Eye contact may cause irritation with discomfort, tearing, or blurring of vision. Inhalation may cause irritation of upper respiratory passages with coughing and discomfort. Ingestion may cause nonspecific discomfort, such as nausea, headache, weakness or temporary nervous system depression with anesthetic effects such as dizziness, headache, confusion, incoordination, and loss of consciousness.

Inhalation or ingestion of Heavy Aromatic Naphtha may cause central nervous system depression with anesthetic effects, such as dizziness, headache, confusion, incoordination and loss of consciousness. Higher exposures may result in fatality from gross overexposure. Ingestion may cause gastrointestinal irritation. Aspiration hazard! Small amounts aspirated into the lungs during ingestion or vomiting may cause lung injury, possibly leading to death. Symptoms of aspiration into the lungs include coughing, gasping, choking, shortness of breath, bluish discolored skin, rapid breathing and heart rate. Chemical pneumonitis from aspiration may result in fever. Pulmonary edema or bleeding, drowsiness, confusion, coma and seizures may occur in more serious cases. Symptoms may develop immediately or as late as 24 hours after the exposure, depending on how much chemical entered the lungs.

Inhalation or ingestion of 2-Ethylhexyl Nitrate may initially cause nonspecific discomfort, such as nausea, headache, or weakness. Exposed workers reported throbbing headaches and heart palpitations. Data to evaluate the skin permeation hazard of this compound are insufficient. There are no reports of human sensitization. No adequate epidemiologic studies are available for this compound.

Carcinogenicity Information

Naphthalene has been classified by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B). This IARC classification was based upon limited evidence of carcinogenicity to animals and inadequate evidence of carcinogenicity to humans.

Section 4 - FIRST AID MEASURES

Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Skin Contact

Flush skin with water after contact. Wash contaminated clothing before reuse.

Eye Contact

In case of contact immediately, flush eyes with plenty of water for at least 15 minutes. Call a physician.

Ingestion

If swallowed, do not induce vomiting. Allow victim to rinse his mouth and then to drink 2-4 cupfuls of water. Never give anything by mouth to an unconscious person. Call a physician.

Notes to Physicians

Activated charcoal mixture may be administered. To prepare activated charcoal mixture, suspend 50 grams activated charcoal in 400-ml water and mix thoroughly. Administer 5 ml/kg or 350 ml for an average adult.

Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances. Activated charcoal may induce vomiting, but may be given after emesis or lavage to absorb toxic additives. Steroid therapy in mild to moderate cases does not improve outcome. Bacterial pneumonia often occurs after exposure, but prophylactic antibiotics are not indicated and should be reserved for documented bacterial pneumonia.



Section 5 - FIRE FIGHTING MEASURES

Flammable Properties

Flash Point 160°F (71°C)
Method..... PMCC

Flammable Properties of 2-Ethylhexyl Nitrate

Flash Point79°C (174°F)
Method.....TCC
Flammable limits in airLEL 0.25% by volume
Autoignition130°C (266°F)
Autodecomposition185°C (365°F)
Exotherm initiation temperature120°C (248°F)
(Self-heating sustained due to decomposition)
Combustible Heating can release vapors, which can be ignited.

Hazardous gases/vapors produced in fire are carbon monoxide and oxides of nitrogen. Risk of explosion if heated under confinement.

Extinguishing Media

Water Spray, Foam, Dry Chemical, CO₂.

Fire Fighting Instructions

Wear self-contained breathing apparatus. Wear full protective equipment. Cool tank/container with water spray. Fight fire from maximum distance, use extreme caution as heat may decompose material and rupture containers.

Section 6 - ACCIDENTAL RELEASE MEASURES

Note: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) SECTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up. Soak up with sawdust, sand, oil dry or other absorbent material. Remove source of heat, sparks, flame, impact, friction, or electricity. Dike spill. Prevent material from entering sewers, waterways, or low areas.

Spill Clean-Up

Soak up with sawdust, sand, oil dry or other absorbent material.

Accidental Release Measures

Spills are very slippery and should be cleaned up promptly. Unless released material is cleaned up immediately for reprocessing, recycling, or reuse, a release of 100 lbs. may trigger the reporting requirements of CERCLA Section 103.



Section 7 - HANDLING AND STORAGE

Handling (Personnel)

Avoid breathing vapors or mist. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling.

Handling (Physical Aspects)

Keep away from heat, sparks and flames.

Storage

Store in a well-ventilated place. Keep container tightly closed. Store in accordance with National Fire Protection Association recommendations.

Section 8 - EXPOSURE CONTROLS

Engineering Controls

Use only with adequate ventilation. Keep container tightly closed.

Personal Protective Equipment

Eye/Face Protection

Wear overall chemical splash goggles or safety glasses.

Respirators

Where there is potential for airborne exposures in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection.

Protective Clothing

Where there is potential for skin contact have available and wear as appropriate Impervious gloves, apron, pants, hood and jacket.

Exposure Limits

2-Ethylhexyl Alcohol:

PEL (OSHA)None established

TLV (ACGIH)None established

Heavy Aromatic Naphtha:

PEL (OSHA)None established

TLV (ACGIH)None established

Light Aromatic Naphtha:

PEL (OSHA)None established

TLV (ACGIH)None established

Naphthalene:

PEL (OSHA).....10 ppm, 50 mg/m³, 8 hr. TWA

TLV (ACGIH).....10 ppm, 52 mg/m³, 8 hr TWA, Skin; A4 STEL 15 ppm, 79 mg/m³, A4

2-Ethylhexyl Nitrate:

PEL (OSHA)None established

TLV (ACGIH)None established

Dicyclopentadienyl Iron:

TLV (ACGIH)10 mg/m³ 8 hr. TWA



The "skin" notation following the exposure guideline refers to the potential for dermal absorption of the material. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposure should be considered

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Appearance..... Amber
Form..... Liquid
Odor..... Aromatic
Specific Gravity 0.959 @ 60/60°F (16/16°C)
Density..... 7.99 lbs./gal. @ 60°F (16°C)
Solubility in water nil

Physical Data for 2-Ethylhexyl Nitrate

Appearance..... Amber
Form..... Liquid
Odor..... Strong Pungent
Specific Gravity 0.967 @ 60/60°F (16/16°C)
Density..... 8.06 lbs./gal @ 60°F (16°C)
Solubility in water 0.02 wt%
Boiling Point Decomposes above 100°C (212°F)
Vapor Pressure..... 0.035 mm Hg @ 20°C (68°F)
Vapor Density >1 (air=1)
Evaporation Rate <1 (Butyl Acetate = 1)

Physical Hazard

2-Ethylhexyl nitrate should not be exposed to steam, sparks, flames, or hot surfaces. Rapid gas evolution during decomposition may lead to bursting of container and may be explosive if heated under confinement.

Section 10 - STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and storage conditions.

Incompatibility

Incompatible with strong oxidizers.

Decomposition

Decomposes with heat. Hazardous decomposition products include oxides of carbon and nitrogen. Decomposition temperature is >100 degrees Celsius.

Polymerization

Will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

Animal Data

Heavy Aromatic Naphtha:

Inhalation 6 hour LC50..... >11.67 mg/L in rats
Skin Absorption LD50 >3,160 mg/kg in rabbits
Oral LD50..... >5,000 mg/kg in rats

Naphthalene:

Inhalation 15 minute LC50: >0.34 mg/L in rats
Skin Absorption LD50: 10,000 mg/kg in rabbits

Oral LD50:.....	1,780 mg/kg in rats
Light Aromatic Naphtha:	
Inhalation 6 hour LC50.....	>14.4 mg/L in rats
Oral LD50.....	~5,000 mg/kg in rats
2500C ee1 Page 7 of 9	
Revised 5/24/05 Octel Starreon	
Revision 1	
2-Ethylhexyl Nitrate:	
Inhalation 1 hour LC50.....	>639 ppm in rats
Skin absorption LD50.....	>4,820 mg/kg in rabbits
Oral LD50.....	>9,640 mg/kg in rats
2-Ethylhexyl Alcohol:	
PEL (OSHA)	None established
TLV (ACGIH)	None established
AEL* (Octel Starreon)	20 ppm, 8 hr, TWA
Dicyclopentadienyl Iron:	
Oral LD50.....	1320 mg/kg in rats
Detergent:	
Skin absorption LD50.....	660 mg/kg in rabbits
Oral LD50.....	3,990 mg/kg in rats

Heavy Aromatic Naphtha is a severe skin irritant, and is an eye irritant, but is not a skin sensitizer in animals. Repeated inhalation exposures caused reduced growth rate, respiratory tract irritation, congestion in liver and spleen, changes in blood tests and equilibrium disturbances. No animal test reports are available to define carcinogenic, mutagenic, developmental or reproductive hazards.

Light Aromatic Naphtha is a moderate skin irritant, a slight eye irritant and a skin photosensitizer in animals. Toxic effects of a single inhalation exposure to very high concentrations include hyperactivity, salivation, incoordination, tremors, irregular respiration and nonspecific effects such as weight loss and irritation. Long-term inhalation exposure produced no significant effects from exposure up to concentrations of 400 ppm for one year. No animal test reports are available to define carcinogenic, mutagenic, developmental or reproductive hazards.

The detergent is a severe skin and eye irritant and is a skin sensitizer in animals. Effects of long term dermal exposures include hyperkeratosis and necrosis of the epidermis but no evidence of increased incidences of tumors. Repeated dietary administration of high doses produced depressed liver weights and body weight loss. Tests in animals demonstrate no carcinogenic activity. No animal test reports are available to define developmental or reproductive hazards. The Detergent does produce genetic damage in bacterial and mammalian cell cultures but has not been tested in animals.

2-Ethylhexyl Nitrate is not a skin and eye irritant, but is untested for animal sensitization. Single ingestion exposure produced weight loss, diarrhea, incoordination and prostration. Repeated inhalation exposures produced weight loss and increased liver weight. No animal test reports are available to define carcinogenic, mutagenic, developmental, or reproductive hazards.

Section 12 - ECOLOGICAL INFORMATION

Heavy Aromatic Naphtha:

96 hour LC50, fathead minnows: 4.2 – 20.8 mg/L

Light Aromatic Naphtha:

The LC50 in white crappie is approximately 4.2 mg/L.

Dicyclopentadienyl Iron:

96 hour LC50, golden orfe:.....24.5 mg/L

2-Ethylhexyl Nitrate:



24 hour LC50, Trout: 145 mg/L
 48 hour LC50, Trout: 116 mg/L
 24 hour LC50, Bluegill: 6.5 mg/L
 48 hour LC50, Bluegill: 6.0 mg/L

Section 13 - DISPOSAL CONSIDERATIONS

Waste Disposal

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial and Local regulations.

Section 14 - SHIPPING INFORMATION

DOT

Proper Shipping Name..... Flammable Liquid, n.o.s.
 (2-Ethylhexyl Nitrate, Aromatic Hydrocarbons)
 Hazard Class 3
 I.D. No. (UN/NA)NA 1993
 Packing Group..... III
 Special Information..... Flash Point: 71°C
 Marine Pollutant..... 2-Ethylhexyl Nitrate
 Reportable Quantity..... Naphthalene 100 lbs.
 DOT Label(s)Flammable Liquid

IMO

Proper Shipping Name.....Environmentally Hazardous Substance, n.o.s.
 (2-Ethylhexyl Nitrate)
 Hazard Class 9
 I.D. No. (UN)3082
 Packing Group..... III
 Special Information..... Flash Point: 71°C
 Marine Pollutant..... 2-Ethylhexyl Nitrate
 IMO LabelMiscellaneous Dangerous Substance

Section 15 - OTHER INFORMATION

NPCA-HMIS Rating

Health 2
 Flammability 3
 Reactivity 0

Personal Protection rating to be supplied by user depending on uses conditions

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS:

MSDS Coordinator
 DSG Canada
 Saskatoon, SK S7L 6Y6
 (800) 667-6879 or
 (306) 242-7644

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