



MATERIAL SAFETY DATA SHEET

In compliance with EC Directive 2001/58/EC

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product Name: F.O.T. LS

Product Code # : 562506 (25 lt)

Product Uses: Industrial applications; Fuel Treatment.

Date last modified: 23 November 2011

Company:

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Emergency Information:

Inside U.S. and Canada: (800)-424-9300 (CHEMTREC)

Outside U.S. and Canada: 1-703-527-3887 (CHEMTREC)

National Emergency Centre (Greece): ++30 210 7793777

2. HAZARDS IDENTIFICATION

The preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

Flammable liquid. Irritating to respiratory system. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Harmful: may cause lung damage if swallowed. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Composition:

Ingredients	CAS Number	Proportion	Classification*
Derivative based on polyisobuten	Proprietary mixture	5% -20%	N; R66, R67, R51/53
Solvent Naphtha (petroleum), Light Aromatic	64742-95-6	30% - 50%	Xn, N; R10, R37, R51/53, R65, R66, R67
Ingredients that do not contribute to the classification of the product	-	30% - 50%	-

*See section 16 for the full text of the classifications and the R-phrases declared above.

Occupational Exposure Limits, if available, are listed in section 8.

4. FIRST AID MEASURES

INHALATION

Remove to fresh air. If breathing has stopped, administer artificial respiration. Contact physician or emergency medical facility immediately.

SKIN

Promptly flush the contaminated skin with soap and water. If this chemical penetrates the clothing promptly remove the clothing and wash.

EYES

Immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical.

INGESTION

Contact a physician or emergency medical facility immediately. Never give anything to an unconscious person.

5. FIRE-FIGHTING MEASURES

EXTINGUISH MEDIA

Use foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

FIRE FIGHTING PROCEDURES

Fire fighters should wear self contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate hazard area and deny entry. Dike area to prevent run off and contamination of water sources. Persons who have been exposed to contaminated smoke should be immediately examine by a physician and checked for symptoms of poisoning.

HAZARDOUS COMBUSTION PRODUCTS

Possible formation of toxic Carbon Monoxide when combustion takes place in lack of oxygen.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Avoid contact with skin and eyes. Do not breathe vapor. Extinguish naked flames. Remove ignition sources. No smoking. Avoid sparks. Evacuate the area of all non-essential personnel. Take precautionary measures against static discharge.

ENVIRONMENTAL PRECAUTIONS

Prevent contamination of soil and water. Prevent from spreading or entering into drains, ditches or rivers by using sand or other appropriate barriers.

METHODS FOR CLEANING UP

Absorb liquid with sand, earth or spill control material. Shovel up and place in a labeled, sealable container for subsequent safe disposal. Put leaking containers in a labeled drum. Scrum contaminated surfaces with detergent solution.

OTHER INFORMATION

Risk of explosion. Inform the emergency services if liquid enters surface water drains. Vapors may form an explosive mixture with air.

7. HANDLING AND STORAGE

HANDLING

Avoid prolonged or repeated contact with skin. Do not breathe vapor, spray mists. Extinguish any naked flames. Remove ignition sources. Avoid sparks. Do not smoke. Take precautionary measures against static discharges. Earth all equipment do not empty into drains.

STORAGE

Keep container tightly closed and in a well ventilated place. Keep away from direct sunlight and other sources of ignition. Do not smoke in storage areas.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Name of Substance: Solvent Naphtha (petroleum), Light Aromatic

In the absence of occupational exposure standards for this product, it is recommended that the following are adopted:

Material	Source	Type	ppm	mg/m ³	Notation
Rubber solvent	ACGIH	TWA	400 ppm		
	OSHA Z1	PEL	100 ppm	400 mg/m ³	
	OSHA Z1A	TWA	100 ppm	400 mg/m ³	
1,2,4-Trimethyl benzene	ACGIH	TWA	25 ppm		
	OSHA Z1A	TWA	25 ppm	125 mg/m ³	
1,3,5-Trimethyl benzene	ACGIH	TWA	25 ppm		
	OSHA Z1A	TWA	25 ppm	125 mg/m ³	
Cumene	ACGIH	TWA	50 ppm		
	OSHA Z1	PEL	50 ppm	245 mg/m ³	
	OSHA Z1	SKIN			Can be absorbed through the skin
	OSHA Z1A	TWA	50 ppm	245 mg/m ³	
1,2,3-Trimethyl benzene	ACGIH	TWA	25 ppm		
	OSHA Z1A	TWA	25 ppm	125 mg/m ³	
Xylene, Mixed Isomers	ACGIH	TWA	100 ppm		
	ACGIH	STEL	150 ppm		
	OSHA Z1	PEL	100 ppm	435 mg/m ³	
	OSHA Z1A	TWA	100 ppm	435 mg/m ³	
	OSHA Z1A	STEL	150 ppm	655 mg/m ³	

Name of Substance: Derivative based on polyisobuten

OSHA: Not Available

ACGIH: Not Available

PERSONAL PROTECTION

Eye and face protection: Wear safety glasses. Contact lenses should not be worn. Chemical goggles and face shield should be worn where splashing is a possibility

Skin protection: Wear solvent resistant gloves such as Viton, polyvinyl alcohol or equivalent and solvent resistant boots, safety shower and eyewash station should be available

Respiratory protection: Wear self a self contained breathing apparatus or air line respirator, with full face piece is required for vapour concentrations and for spills.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear liquid
Color:	Yellow
Odor:	Aromatic Solvent odor
Initial Boiling Point:	>145 ⁰ C
Final Boiling Point:	<180 ⁰ C
Flash Point:	54 ⁰ C
Autoignition Temperature:	>450 ⁰ C
Lower Explosion Limit (vol %):	>0.6 % (v/v)
Upper Explosion Limit (vol %):	<60 % (v/v)
Cloud Point:	- 25 ⁰ C (ASTM D 2500)
Pour Point:	- 47 ⁰ C (ASTM D 97)
Specific Gravity (gr/cm³):	0.88 - 0.92 gr/cm ³ at 20 ⁰ C (ASTM D 1298)
Viscosity:	4.17 cSt at 20 ⁰ C

10. STABILITY AND REACTIVITY

STABILITY

Stable under normal use conditions.

CONDITIONS TO BE AVOIDED

Avoid contact with open flame, sparks and heating.

MATERIALS TO BE AVOIDED

Keep it away far from strong oxidant materials.

HAZARDOUS DECOMPOSITION PRODUCTS

Possible the formation of toxic Carbon monoxide when no proper combustion takes place.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA

EXPOSURE LIMITS

Name of Substance: Solvent Naphtha (petroleum), Light Aromatic

Basis for Assessment: Information given is based on product testing as written in Shell Chemicals MSDS of the product.

Acute Oral Toxicity: Low toxicity: LD50>2000 mg/kg, Rat.

Aspiration into the lungs may cause chemical pneumonitis which can be fatal.

Acute Dermal Toxicity: Low toxicity: LD50>2000 mg/kg, Rat.

Acute Inhalation Toxicity: Low toxicity: LC50 greater than near-saturated vapor concentration/1 hour, Rat.

High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.

Skin Irritation: May cause moderate irritation to skin. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.

Eye Irritation: Essentially non-irritating to eyes.

Respiratory Irritation: Repeated inhalation of vapors and mists is expected to cause irritation of the respiratory tract.

Sensitisation: Not a skin sensitiser.

Repeated Dose Toxicity: Auditory system: prolonged and repeated exposures to high concentrations have resulted in hearing loss in rats. Solvent abuse and noise interaction in the work environment may cause hearing loss. Central nervous system: repeated exposure affects the nervous system. Cardiovascular system: chronic abuse of similar materials has been associated with irregular heart rhythms and cardiac arrest.

Reproductive and Developmental toxicity: Causes severe foetotoxicity in animals at doses which are maternally toxic.

Name of Substance: Derivative based on polyisobuten

LD50 (oral, rat) : >2000 mg/kg

HEALTH EFFECTS

Inhalation: Exposure to high concentrations of vapour or mist can cause dizziness, headache, drowsiness, nausea cough and unconsciousness.

Skin contact: Prolonged or repeated contact of liquid can cause dry skin and defats of skin.

Eye contact: Liquid in eyes produces pain and irritation with mild temporary damage, vapour slightly irritating to eyes.

Ingestion: It can be aspired into lungs, which can cause Cough, Diarrhoea, Sore throat and vomiting.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL DATA

Name of Substance: Solvent Naphtha (petroleum), Light Aromatic

Acute Toxicity

Fish: Toxic: $1 < LC/EC/IC50 \leq 10$ mg/l

Aquatic Invertebrates: Toxic: $1 < LC/EC/IC50 \leq 10$ mg/l

Algae: Toxic: $1 < LC/EC/IC50 \leq 10$ mg/l

Mobility: Adsorbs to soil and has low mobility. Floats on water.

Persistence/degradability: Expected to be readily biodegradable. Oxidises rapidly by photo-chemical reactions in air.

Bioaccumulation: Has the potential to bioaccumulate.

Name of Substance: Derivative based on polyisobuten

Ecotoxicity

Toxicity to fish: LC50 (96 h): 1 - 10 mg/l

Aquatic invertebrates:

OECD Guideline 202, part 1 - Daphnia magna/EC50 (48 h): > 100 mg/l

Microorganisms/Effect on activated sludge:

DIN/EN/ISO 8192-OECD 209-88/302/EEC, P.C.

- activated sludge, domestic/EC50 (34 h): > 1000 mg/l

Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

Persistence and degradability: The substance can be virtually eliminated from water in suitable effluent treatment plants by biodegradation, stripping and mechanical separation.

DEGRADATION

Product readily biodegradable. Oxidizes rapidly by photochemical reaction in air.

BIOACCUMULATION

Product has the potential to bioaccumulate

13. DISPOSAL CONSIDERATIONS

SPILLAGE DISPOSAL

Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert adsorbent. Use ventilation

DISPOSAL METHODS

All disposals of this material must be done in accordance with the local state and federal regulations. Waste characterization and compliance with disposal regulations are the responsibilities of the waste generator

14. TRANSPORT INFORMATION

Proper shipping name: Flammable Liquid NOS (Light Aromatic Naphtha)

LAND TRANSPORT

UN number: 1993 RID-class: 3
ADR class: 3
Item: 31c

SEA TRANSPORT

UN number: 1993 EmS: F-E, S-E
IMDG class: 3
IMDG packing group: III

AIR TRANSPORT

UN number: 1993
IATA/ICAO class: 3 Packing group: III

15. REGULATORY INFORMATION

LABELING ACCORDING TO EC DIRECTIVES

Symbol: **Xn, N**



Harmful (Xn)



Dangerous for the environment (N)

R-phrases: R10 Flammable.
 R37 Irritating to respiratory system.
 R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R65 Harmful: may cause lung damage if swallowed.
 R66 Repeated exposure may cause skin dryness or cracking.
 R67 Vapours may cause drowsiness and dizziness.

S-phrases:	S2	Keep out of the reach of children.
	S9	Keep container in a well-ventilated place.
	S23	Do not breathe gas/vapour.
	S24	Avoid contact with skin.
	S61	Avoid release to the environment. Refer to special instructions and to Material Safety Data Sheets (MSDS).
	S62	If swallowed do not induce vomiting; seek medical advice immediately and show this container or label.
	S38	In case of insufficient ventilation, wear suitable respiratory equipment.

16. OTHER INFORMATION

Full text of R-phrases referred in Section 3.

R10: Flammable.

R37: Irritating to respiratory system.

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R65: Harmful: may cause lung damage if swallowed.

R66: Repeated exposure may cause skin dryness or cracking.

R67: Vapours may cause drowsiness and dizziness.

Full text of classifications referred in Section 3.

Xn – Harmful.

N – Dangerous for the Environment.

Notice to reader

All information, instructions and statements contained in this Material Safety Data Sheet are compiled in accordance with European Directives, corresponding national legislation and on the basis of information given by our suppliers.

The information disclosed in this Material Safety Data Sheet (which supersedes all previous versions) is believed to be correct, at the date of issue, to the best of our current knowledge and experience. It only relates to the specific product designated herein and it may not be valid when said product is used in combination with any other products or in any processed form, unless specified in the text. This document aims to provide the necessary health and safety information of the product and is not to be considered a warranty or quality specification. It is the responsibility of the recipient of this Material Safety Data Sheet to ensure that information given here is read and understood by all who use, handle, dispose of or in any way come in contact with the product.

Also, it is the responsibility of the user to comply with local legislation relating to safety, health, environment and waste management. Data and information provided concerning the product are informative, exclusively presented to the customer.