 INDUSTRIJA NAFTE, d.d.	SAFETY DATA SHEET	Issue: 5/01/08
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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name and code:	FUEL OIL-LIGHT, FO L-II 1000059
Product use:	In furnaces with installations that may be pre-heated during storage and use.
Producer/supplier:	INA-INDUSTRIJA NAFTE d.d.
Address:	Av. V. Holjevca 10, P.O.B. 555, 10002 Zagreb, CROATIA Phone 00-385 1 64 50 842 / 385 1 64 51 075 (0 – 24 h) Fax 00-385 1 64 52 050
Emergency Service Telephone Number:	112

2. COMPOSITION / INFORMATION ABOUT INGREDIENTS


Substance:		Preparation:	X		
Chemical name of substance:					
CAS No.:		68476-31-3			
Chemical composition of preparation (concentration / range)		Fuel that may receive various additives for improvement of application properties.			
EEC index:		649-226-00-7			
Components contributing to product hazardousness:					
Component	v/v % (concentration)	EINECS/CAS	Hazard symbol	Risk phrases	Safety phrases
Fuel oil light, FO L-II (Fuel oil, No. 4)	< = 100	270-673-5/68476-31-3	Xn, N Carc. Cat. 3	R: 40-65-66-51/53	S: (2-)36/37-61-62

3. HAZARDS IDENTIFICATION

The most important hazards and effects:	
Human health hazards:	Limited findings on cancerous effects. May cause lung damage if ingested. Frequent exposure may cause skin dryness or cracking.
Environmental hazards:	Toxic for aquatic organisms, may have long-term harmful effect in water.
Physical/chemical hazards:	In confined areas, vapours may displace air. Inflammable air-vapour mixture may be formed at the flash-point temperature or higher (above 55°C).
Special hazards:	See item 10
Main symptoms of effects:	
Inhalation:	Headache, nausea, dizziness. Longer inhalation of higher vapour concentrations may cause fainting and hypoxia if concentration of oxygen in air drops below 17%.
Skin:	Irritating and degreasing effects, possibly accompanied by redness and/or dermatitis.
Eyes:	Irritating effect, possibly accompanied by redness.
Ingestion:	Irritation to mucous membrane, nausea, vomiting, and risk of pulmonary oedema due to aspiration into lungs.
Overview of special conditions:	None.

4. FIRST-AID MEASURES

First-aid procedure:	
Inhalation:	Afflicted person shall be brought to fresh air and placed in a half-lying position. In case of fainting, person shall be transported to hospital, lying on the side, paying attention to free upper respiratory tract. If the person is breathing with difficulty or not at all, administer CPR and immediately seek medical assistance.
Skin contact:	Take the soaked clothing and footwear off, rinse thoroughly the places of contact with water and soap for at least 15-20 minutes. Should there appear redness, seek medical assistance.
Eye contact:	Open the lids apart with clean hands and rinse with running water for at least 15-20 minutes. In case of major redness, burning sensation, or tears, seek oculist's assistance.

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Ingestion:	DO NOT invoke vomiting! It may cause damage to lungs! Place the afflicted person in half-lying position and transport to a hospital.
Note to first-aid/physician:	

5. FIRE-FIGHTING MEASURES


Extinguishing media:	
Suitable:	Heavy air foam (alcohol-based foaming agent) for major fires. Dry powder and CO ₂ for minor fires.
Not suitable:	Water jet.
Fire-fighting measures for special hazards:	Remove all ignition sources, call for firemen and police. Pay special attention to finding out whether there is a risk of explosive-air mixture formation at temperatures above the flash point.
Special fire-fighting measures:	Use water mist and water spray for cooling the surfaces exposed to heat and for protection of persons. Only those who are trained in fire protection/fire-fighting may use water spray (sprayed water).
Fire-fighting special safety equipment:	Self-sustaining breathing apparatus with pressurised-air open circuit (HRN EN 137/AC: 2008), set for protection against heat radiation.
Special exposure hazards:	Vapours, being heavier than air, remain close to the ground and in recesses from where they can spread farther from the place of accident and cause explosion and fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Endangered areas shall be well ventilated. A visible sign prohibiting entrance and work with open flame and sparking devices shall be displayed. Smoking prohibited. Stand upwind from the release/spill point. Use personal safety equipment/accessories from item 8.
Environmental precautions:	Mark the contaminated area boundaries and prevent leaks and spills into water-courses, trenches, drainage systems and soil by digging out a protective ditch, surrounding with bags filled with dry sand, earth. Or clay. Provide a good ventilation of areas/premises. In case of major releases/spills notify the communication unit at phone No.112.
Methods for cleaning-up and recovery:	With an Ex-type (safety/explosion-protected) pump take out the product from a damaged tank to be pumped into an empty container – tank. Remove the remainder from the ground by means of adsorption agents (sawdust, sand, mineral adsorbents, and other inert materials). Waste material and removed contaminated surface soil layer shall be placed in containers and sealed, as well as stored in well-ventilated areas until disposal. Such material shall be delivered to the legal entities authorised for disposal of hazardous waste, as decided by the Ministry in charge of environmental protection.
Additional warnings:	In case of a traffic accident, tank-truck/tank-car shall be properly grounded, accident area marked, and calls made to the authorised person and professional service responding to the accident and taking care of its consequences.

7. HANDLING AND STORAGE

Handling:	
Safety precautions:	Reloading i.e. unloading/loading shall be performed only on the locations designed for the purpose, ensuring ventilation/air outlet. Equipment and devices used shall be in a proper working order. Safety precautions shall be taken in regard to protection against static electricity and devices shall be grounded. Use of sparking devices shall be prohibited. All ignition sources shall be removed. Impermeable, solvent-resistant floor shall be provided in work and storage areas.
Safe handling advice:	Smoking prohibited, as well as storing food and beverages in the areas where this product is handled. Obligatory wearing of the prescribed working clothes, protective gloves, and goggles. Personal clothes shall be kept separately from work clothes and work-places.
Storage: technical measures and storage conditions:	
Suitable:	Store in properly manufactured and sealed containers equipped with a mechanism ensuring proper venting and maintenance of adequate temperature. Provide containing tank farms i.e. trays below the self-supporting tanks.

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To be avoided:	Storing in the same areas with other chemicals, particularly those prone to causing fire. Handling tools or devices that may produce sparks.
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Packaging materials:

Recommended:	Original ones made by tank/container manufacturers.
Not suitable:	Reloading into other tanks, replaced, damaged, or inadequate.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Technical measures for reducing exposure:	Ensure good ventilation /air outlet in working areas.
Control parameters:	Oxygen concentration in the air shall not drop below 18%.

Hazardous substance	Maximum allowed concentration MAC ppm	Biological limit values ppm
No hazardous components/ingredients		

Personal protective equipment:

Respiratory protection:	Safety mask for the whole face (HRN EN 136/AC: 2006). During the fire, obligatory use of self-sustaining breathing apparatus with pressured-air open circuit (HRN EN 137/AC: 2008).
Hand protection:	Safety gloves made of a resistant, impermeable material, such as nitrile rubber or viton (HRN EN 374-1, 374-2, and 374-3).
Eye protection:	Safety goggles or vizier for lower concentrations, and safety mask for higher concentrations.
Skin and body protection:	Safety clothing and footwear, nitrile rubber apron, chemical safety suit.

Special hygienic and safety precautions:	Maintain the regular hygiene standards for working with hazardous substances. Take-off the contaminated clothes and footwear. Regularly check and maintain the equipment/accessories and devices by washing with running water. Smoking, eating and drinking is prohibited during handling this product. Wash hands before each work break.
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Additional warnings:	None.
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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state

State:	Liquid	Colour:	Brown-black	Odour:	Characteristic for hydrocarbons
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Chemical properties

Characteristics	Unit	Values	Method	Note
pH value:				Not applicable.
Boiling point / Boiling range:	°C			No data.
Flash point:	°C	>55	HRN EN ISO 2719	
Flammability:	°C	Not flammable.		From literature.
Auto-ignition temperature:	°C			No data.
Explosive properties:	v/v %			Not applicable.
Oxidizing properties:				No data.
Vapour pressure (20°C):	kPa			Not applicable.
Density (15 °C):	kg/m ³			
Solubility in water (20°C):	g/L	Negligible.		From literature.
Solubility in organic solvents or oils:	g/L			Not applicable
Distribution coefficient n-octanol / water:	- log Pow	3.9-6.0		
Viscosity (100 °C):	mm ² /s	2.0-6.0	HRN EN ISO 3104	
Vapour density:	kg/m ³			No data.
Volatility:	kPa			No data.
Miscibility with other substances:				No data.
Conductivity:				No data.

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Melting point/Melting range:	°C		No data.
Gas group			Not applicable.

10. STABILITY AND REACTIVITY


Stability:	Stable at prescribed storage and use conditions.
Conditions to avoid:	Sources of heat, open flame, sparking.
Materials to avoid:	Strong oxidants.
Hazardous decomposition products:	Carbon oxides (CO, CO ₂), sulphur dioxide (SO ₂).

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	
Oral (LD ₅₀):	No data.
Inhalation (LD ₅₀):	No data.
Dermal (LD ₅₀):	No data.
Local effects:	
Skin irritation:	Redness, dermatitis.
Eye irritation:	Irritating effect with possible redness.
Dermal sensitivity:	Sensitive people may experience redness and dermatitis.
Chronic poisoning or long exposure:	Frequent exposure may cause skin dryness or cracking.
Exposure effects:	
Single-term:	May cause damage to lungs, if ingested.
Recurrent:	See item 3.
Long-term:	Long-term vapour inhalation causes a feeling of intoxication, headache, urge to vomiting, fainting.
Momentary effects:	If ingested, may cause damage to lungs.
Delayed:	No data.
Special:	Limited knowledge of carcinogenic effects.

12. ECOLOGICAL INFORMATION

Mobility:	
Known or predicted distribution to environmental compartments:	No data.
Surface tension:	No data.
Soil absorption/desorption:	No data.
Other physical and chemical properties:	See item 9.
Persistence/degradability:	
Biotic or abiotic degradation:	No data.
Aerobic and anaerobic degradation:	Some components evaporate and degrade when exposed to light.
Persistence:	No data.
Bioaccumulation:	
Bioaccumulative potential:	No data.
Bio-enhancement:	No data.
Possible environmental impact:	
Water:	Floats on water surface creating an oil slick that spreads quickly regardless of wind and currents, and may have adverse effect on aquatic organisms due to lack of oxygen.
Air:	Combustion releases carbon dioxide (CO ₂), carbon monoxide (CO), and to a smaller extent, nitrogen oxides (NO _x) and sulphur oxides (SO _x) the sedimentation of which causes acidification, eutrophication, and photochemical pollution.
Soil:	Groundwater pollution risk exists if major quantities penetrate the soil.
Eco-toxicity:	
For aquatic organisms (EC 50):	No data.
For algae (EC 50):	No data.

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For ground organisms:	No data.
For plants and land animals:	No data.
Other harmful effects:	No data.



13. DISPOSAL CONSIDERATIONS


Preferred disposal considerations:	
Waste from residues:	The product has no classic waste, except in case of accidental discharging. In that case see item 6. Thermal treatment of polluted residues is foreseen.
Contaminated packaging:	Not applicable.
Applied local regulations based on*:	Law on Waste (OG 178/04, OG 111/06, OG 60/08); Regulations on Types of Waste (OG 27/96); Regulations on Waste Management Requirements (OG 123/97, OG 112/01); Decree on Hazardous Waste Management Requirements (OG 32/98); Decree on Categories, Types, and Classification of Waste with Waste Catalogue and Hazardous Waste List (OG 50/05); Regulations on Waste Oil Management (OG 124/06, OG 121/08).

14. TRANSPORT INFORMATION

Transport classification signs:	
Road (ADR):	Class: 3, classification code: F1, packing group III
Rail (RID):	Class: 3, classification code: F1, packing group III
Water (ADNR):	Class: 3, classification code: F1, packing group III
Sea (IMDG):	Class: 3
Air (IATA –ICAO):	
UN classification number:	1202
Additional regulations:	List of risks/hazards 3; Law on Transport of Hazardous Substances (OG 79/07); Regulations on the Manner of Hazardous Substance Road Transport (OG 2/02, OG 9/02, OG 53/06); Regulations on the Manner of Hazardous Substance Sea Transport (OG 79/96, 76/02).
Special precautions and conditions:	Fire risk 3.

15. REGULATORY INFORMATION

Applicable regulations:	Law on Hazardous Substances Transportation (OG 79/07); Regulations on the Manner of Hazardous Substances Road Transportation (OG 2/02, OG 9/02, OG 53/06); Regulations on Hazardous Substances Handling, Conditions and Manner of Maritime Transportation, Loading and Unloading, in Bulk and Other Cargo in Ports, and Manner of Preventing Spilled Oil Spreading in Ports (OG 51/05); INA N 02-015.
Information on hazards and safety measures:	
Hazard symbol:	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Xn</p>  <p>HARMFUL</p> </div> <div style="text-align: center;"> <p>N</p>  <p>ENVIRONMENTALLY DANGEROUS SUBSTANCES</p> </div> </div>
Risk phrases: (for final product)	R 40 Limited knowledge of carcinogenic effects. R 65 May cause lung damage if ingested. R 66 Frequent exposure may cause skin dryness and cracking. R 51/53 Toxic for aquatic organisms, may have long-term effect in water.
Safety phrases: (for final product)	S 2 Keep out of children's reach. S 36/37 Wear appropriate safety clothes and gloves. S 61 Avoid discharging into environment. Follow special instructions –safety data sheet. S 62 If ingested, do not induce vomiting, urgently seek medical assistance and show the label or this container.

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16. OTHER INFORMATION

Risk phrases: (for ingredients)	-
Safety phrases: (for ingredients)	-
Literature:	<ol style="list-style-type: none"> 1. http://www.upvh.hr 2. Classification and labelling of petroleum substances according to the EU Dangerous Substances Directive (CONCAWE recommendations – July 2005); report No, 6/05
Revisions:	Edition 5 of this SDS in respect of edition 4 represents a completely new edition meeting the requirements of Regulations on the Manner of Filling-in Technical Safety Sheets (OG 111/06, OG 39/08) and EU Directive 2001/58/EC.
Note:	SDS has been prepared based on the existing knowledge of legal provisions valid at the moment of the product marketing. The product is described on the basis of safety data comprised in this SDS. Use of the product for any other purpose than the mentioned ones, as well as its use together with other materials in treatment procedure may provoke risks/hazards not described in this SDS.