



SAFETY DATA SHEET

In compliance with EC Regulations No.: 1907/2006, 830/2015 and 1272/2008 (CLP).

Date last modified: 15 November 2019 - version 3.0

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

1.1 Product Identifier

Product Name: FUELFLOW PPR

Product Code: 562515 (25 L)/562115 (210 L)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Intended Use: Industrial applications; Fuel Treatment.

Uses advised against: This product is not recommended for any industrial, professional or consumer use other than the Intended Uses above and the instructions written in this Safety Data Sheet.

1.3 Details of the supplier of the safety data sheet

Company/undertaking identification

Supplier/Manufacturer:

Marichem Marigases Hellas SA
Sfaktirias 64,
185 45 Piraeus,
Greece

Tel. No.: ++30 210 4148800

Fax No.: ++30 210 4133985

<http://www.marichem-marigases.com>

e-mail: mail@marichem-marigases.com

1.4 Emergency telephone number

Tel. No.: ++30 210 4148800 (including working hours)

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

2.1 Classification of the mixture

Classification under EC 1272/2008 regulation - GHS classification.

Aspiration Toxicity, Category 1
Carcinogenicity, Category 2
Aquatic toxicity (chronic), Category 2
Specific target organ toxicity-single exposure, Category 3
Eye damage, Category 1
Acute Toxicity (dermal), Category 1

SIGNAL WORD: DANGER



GHS 07 GHS 08 GHS 09

Hazard Statement(s):

H304: May be fatal if swallowed and enters airways.
H336: May cause drowsiness or dizziness.
H351: Suspected of causing cancer.
H411: Toxic to aquatic life with long lasting effects.
EUH066: Repeated exposure may cause skin dryness or cracking.

2.2 Label Elements

Labelling according to Regulation (EC) No. 1272/2008.

The substance is classified and labelled according to the CLP Regulation.

Hazard Pictograms



GHS 07 GHS 08 GHS 09

SIGNAL WORD: DANGER

Hazard Statements

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EUH066: Repeated exposure may cause skin dryness or cracking.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical Composition:

Ingredients	CAS Number	Proportion	Hazard Code(s)*
Hydrocarbons, C10, Aromatics, >1% Naphthalene	64742-94-5	50% - 90%	H304; H351; H336; H411; EUH066
Naphthalene	91-20-3	0.5% - 9%	H302; H351; H400; H410.
Ingredients (not classified as hazardous) that do not contribute in the classification of the product	-	5% - 9%	-

*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

4.1 Description of first aid measures

Inhalation

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device, or use mouth-to-mouth resuscitation.

Skin contact

Wash contact areas with soap and water. Remove contaminated clothing. If this chemical penetrates the clothing promptly remove the clothing and wash. Launder contaminated clothing before reuse.

Eye contact

Flush thoroughly with water. If irritation occurs, get medical assistance.

Ingestion

Seek immediate medical attention. Do not induce vomiting. Never give anything to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Acute health effects: drowsiness, dizziness, nausea, skin irritation.

Delayed effects: N/A.

4.3 Indication of any immediate medical attention and special treatment needed

Note to physician: If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Appropriate extinguishing media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate extinguishing media: Straight streams of water.

5.2 Unusual fire hazards arising from the substance or mixture

Hazardous material. Fire-fighters should consider protective equipment.

Hazardous combustion products: Smoke, Fume, Incomplete combustion products, Oxides of Carbon.

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

5.3 Fire Fighting Instructions

Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply.

Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

6. ACCIDENTAL RELEASE MEASURES

6.1 Notification Procedure

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

6.2 Protective Measures

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material

6.3 Spill Management

Land Spill: Stop leak if you can do so without risk. Do not touch or walk through spilled material. Large Spills: Water spray may reduce vapour, but may not prevent ignition in enclosed spaces. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Recover by pumping or with a suitable absorbent

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken .

6.4 Environmental Precautions

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

6.5 Reference to other sections

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Prevention of user exposure: Avoid breathing mists or vapours. Avoid contact with skin. Potentially toxic/irritating fumes/vapour may be evolved from heated or agitated material. Use only with adequate ventilation. Prevent small spills and leakage to avoid slip hazard.

Prevention of fire and explosion: Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator. A liquid is typically considered a non-conductive, static accumulator if its conductivity is below 100 pS/m (100×10^{-12} Siemens per meter), and is considered a semi-conductive, static accumulator, if its conductivity is below 10,000 pS/m. Whether a liquid is non-conductive or semi-conductive, the precautions are the same. A number of factors, for example: liquid temperature, presence of contaminants, anti-static additives and filtration, can greatly influence the conductivity of a liquid.

Precautions while moving the product:

Loading/Unloading Temperature: [Ambient]

Transport Temperature: [Ambient]

Transport Pressure: N/D

7.2 Conditions for safe storage, including any incompatibilities

Technical measures: The container choice, for example storage vessel, may effect static accumulation and dissipation. Keep container tightly closed and in a well ventilated place. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be earthed and bonded. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static discharge. Keep away from direct sunlight and other sources of ignition. Do not smoke in storage areas.

7.3. Specific end use(s):

Fuel oil treatment product for industrial use only.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Name of Substance: Hydrocarbons, C10, Aromatics, >1% Naphthalene

Occupational exposure limit values:

Recommended occupational and consumer exposure limit values (following from the preformed CSA):

Derived No Effect Level (DNEL) Exposure pattern	Route	Workers	General population
Long-term – systemic effects	Oral	N/A	7.5 mg/kg bw/day
Long-term – systemic effects	Dermal	12.5 mg/kg bw/day	7.5 mg/kg bw/day
Long-term – systemic effects	Inhalation	151 mg/m ³	32 mg/m ³

Name of Substance: Naphthalene

TWA value 50 mg/m³ ; 10 ppm (OEL (EU)) indicative

TWA value 10 ppm

STEL value 15 ppm

Skin Designation: The substance can be absorbed through the skin.

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 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

9.1. Information on basic physical and chemical properties

9.1.1. Appearance

Physical State: Liquid

Color: Colorless

Odor: Aromatic Solvent Odor

9.1.2. Basic data

Initial Boiling Point: <240°C
Final Boiling Point: >262°C
Flash Point: 64°C
Autoignition Temperature: >220°C
Lower Explosion Limit (vol %): N/E
Upper Explosion Limit (vol %): N/E
Cloud Point: < -20°C
Pour Point: < -30°C
Product Stability: -20 °C - 80 °C
Specific Gravity (gr/cm³): 0.88 - 0.90 at 20°C
pH value: Not Applicable

9.2 Other Information: No further relevant information available.

10. STABILITY AND REACTIVITY

10.1 Chemical stability

Material is stable under normal conditions of use and storage.

10.2 Conditions to avoid

Avoid open flames, sparks, heating and high energy ignition sources.

10.3 Materials to avoid

Keep it away from strong oxidizing materials.

10.4 Hazardous Decomposition products

Material does not decompose at ambient temperatures.

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

10.5 Hazardous polymerization

Will not occur.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

EXPOSURE LIMITS

Name of Substance: Hydrocarbons, C10, Aromatics, >1% Naphthalene

Acute toxicity: Product/ingredient name	Test	Species	Dose
Hydrocarbons, C10, aromatics, >1% naphthalene	LD50, Oral	Rat (male)	6318 mg/kg
	LC50, Inhalation (4h)	Rat (male)	>4688 mg/m ³
	LD50, Dermal	Rabbit (male)	>2000 mg/kg

Skin corrosion/irritation: Not irritating.

Serious eye damage/irritation: Not irritating.

Respiratory or skin sensitization: Not sensitizing.

Carcinogenicity: Limited evidence of a carcinogenic effect.

Mutagenicity: All genetic toxicity tests, both in vitro and in vivo, were negative.

Reproductive toxicity: Findings do not warrant classification of C10-C12 Aromatics fluids as a reproductive or developmental toxin under the new Regulation (EC) 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP) or under the Directive 67/548/EEC for dangerous substances and Directive 1999/45/EC for preparations.

Specific target organ toxicity (single exposure): STOT Single Exp. 3: May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure): N/A

Aspiration hazard: Aspiration Toxicity 1; May be fatal if swallowed and enters airways

Name of Substance: Naphthalene

Acute toxicity

Experimental/calculated data:

LD50 rat (oral): > 2,000 mg/kg

Irritation

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

Serious eye damage/irritation rabbit: non-irritant (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:

Based on the ingredients, there is no suspicion of a skin-sensitizing potential.

Carcinogenicity

Assessment of carcinogenicity:

Limited evidence of a carcinogenic effect.

Other relevant toxicity information

The product has not been tested. The statements on toxicology have been derived from the structure of the product.

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

12.1 Toxicity

Name of Substance: Hydrocarbons, C10, Aromatics, >1% Naphthalene

Substance name	Toxicity to fish	Toxicity to crustaceans	Toxicity to algae	Toxicity to other aquatic plants	Other toxicity data (birds, bees, plants etc.)
Hydrocarbons, C10, aromatics, >1% naphthalene	LL50 (96 h): >= 2 — <= 5 mg/L test mat. LL50 (96 h): 14 mg/L test mat.	Daphnia magna: NOELR (21 d): 0.851 mg/L test mat. (based on: reproduction)	EL50 (72 h): > 1 — < 3 mg/L test mat. (nominal) (based on: biomass) EL50 (72 h): > 1 — < 3 mg/L test mat. (based on: growth rate)	N/A	N/A

Name of Substance: Naphthalene

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

Microorganisms/Effect on activated sludge: Microorganisms/Effect on activated sludge: Depending on local conditions and existing concentrations, disturbances in the biodegradation process of activated sludge are possible.

12.2 Persistence and Degradability

Name of Substance: Hydrocarbons, C10, Aromatics, >1% Naphthalene

The substance is readily biodegradable.

Name of Substance: Naphthalene

Assessment biodegradation and elimination (H₂O):

The substance is slightly soluble in water. It can be largely eliminated from the water by abiotic processes, e.g. mechanical separation.

12.3 Bioaccumulative potential

Name of Substance: Hydrocarbons, C10, Aromatics, >1% Naphthalene

No measured values available for bioaccumulation.

Name of Substance: Naphthalene

Assessment bioaccumulation potential:

The product contains components with potential for bioaccumulation.

12.4 Mobility in soil

Name of Substance: Hydrocarbons, C10, Aromatics, >1% Naphthalene

Not available.

Name of Substance: Naphthalene

Assessment transport between environmental compartments:
Adsorption in soil: Adsorption to solid soil phase is expected.

12.5 Results of PBT and vPvB assessment

Name of Substance: Hydrocarbons, C10, Aromatics, >1% Naphthalene

Does not meet the criteria for PBT or vPvB.

Name of Substance: Naphthalene

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

12.6 Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

12.7. Additional information

Other ecotoxicological advice:
Do not release untreated into natural waters.

Name of Substance: Naphthalene

Other ecotoxicological advice:
The substance has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

13. DISPOSAL CONSIDERATIONS

13.1 Waste disposal

Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal .

Disposal recommendation: Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products .

Regulatory Disposal Information: European Waste Code: 08 XX XX

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

13.2 Disposal of contaminated packaging

Disposal recommendation: Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations.

DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

14. TRANSPORT INFORMATION

14.1 Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Solvent Naphtha, Heavy Aromatic mixture)

14.2 LAND TRANSPORT

UN number: 3082 RID-class: 9
ADR class: 9

14.3 SEA TRANSPORT

UN number: 3082 EmS: F-A, S-F
IMDG class: 9
IMDG packing group: III

14.4 AIR TRANSPORT

UN number: 3082
IATA/ICAO class: 9 Packing group: III

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

15.2 Chemical Safety Assessment

A CSA has been carried out for the raw materials in this product, from the raw materials manufacturers (when needed to be carried out).

16. OTHER INFORMATION

16.1 Full text of Hazard Code(s) referred in Section 3

H302: Harmful if swallowed.

H304: May be fatal if swallowed and enters airways.

H336: May cause drowsiness or dizziness.

H351: Suspected of causing cancer.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

H411: Toxic to aquatic life with long lasting effects.

EUH066: Repeated exposure may cause skin dryness or cracking.

16.2 Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road).

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail).

IMDG: International Maritime Code for Dangerous Goods.

IATA: International Air Transport Association.

ICAO: International Civil Aviation Organization.

bw: Body weight.

Carc.: Carcinogenicity.

CAS number: Chemical Abstracts Service number.

CLP: Classification Labelling Packaging Regulation.

CSA: Chemical Safety Assessment.

CSR: Chemical Safety Report.

DNEL: Derived No Effect Level.

dw: Dry weight.

EC number: EINECS and ELINCS number.

EC: European Commission.

EC50: Half maximal effective concentration.

EINECS: European Inventory of Existing Commercial Chemical Substances.

ELINCS: European List of Notified Chemical Substances.

EmS: Emergency Schedule.

ERC: Environmental Release Category.

ES: Exposure scenario.

food: oral feed.

GHS: Globally Harmonized System of Classification and Labelling of Chemicals.

Irrit.: Irritation.
LC50: Lethal concentration, 50 %.
LD50: Median Lethal dose.
LOAEC: Lowest Observed Adverse Effect Concentration.
LOAEL: Lowest Observed Adverse Effect Level.
MK value: Maximum Concentration value.
NCO: An international corporation that provides customer service contracting.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
NOEC: No Observed Effect Concentration.
OECD: Organisation for Economic Cooperation and Development.
PBT: Persistent, Bioaccumulative and Toxic.
PNEC: Predicted No Effect Concentration.
PROC: Process category.
REACH: The Registration, Evaluation, Authorisation and Restriction of Chemicals.
Resp.: Respiratory.
Sens.: Sensitization.
STEL value: Short Term Exposure Limit value.
STOT RE: Specific target organ toxicity — repeated exposure.
STOT SE: Specific target organ toxicity — single exposure.
STOT: Specific Target Organ Toxicity.
STP: Sewage Treatment Plant.
SU: Sector of use.
Tox.: Toxicity.
TWA value: Time Weighted Average value.
vPvB: Very Persistent and Very Bioaccumulative.

16.3 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.