



# FUSEL OIL MSDS

Phaga / IMS / Q / F /01  
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## SECTION 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product Identifier

Trade name	FUSEL OIL %
Synonyms	Amyl alcohols
CAS-No.	8013-75-0
EC-No.	232-395-2

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

Relevant Identified uses	General Solvent (Denature)
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### 1.3 Manufacturer or supplier's details

Company	Phaga for industries
Address	
Telephone	
E-mail address	<a href="mailto:info@phaga.com">info@phaga.com</a>

### 1.4 Emergency telephone

## SECTION 2: Hazards identification

### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 3	H226
Acute toxicity (oral), Category 4	H302
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 1	H336
Specific target organ toxicity—Single exposure, Category 3,	H335
Narcosis Specific target organ toxicity—Single exposure, Category 3,	
Respiratory tract irritation	

### 2.1 Classification of the substance or mixture

Flammable liquids	Category 2, H225
Serious Eye Damage/Irritation -	Category 2A H319
Health hazards	Not Classified
Environmental hazards	Not Classified

## 2.2 Label elements

Signal word                                    Danger

Pictogram

GHS02, GHS07

### Hazard statement(s)

H226                                    flammable liquid and vapor.

H319                                    Causes serious eye irritation

### Precautionary statements

P101                                    If Medical advice is needed, have product container or label and hand

P102                                    Keep out from children

P210                                    Keep away from heat, hot surfaces, sparks, open flames and  
other ignition sources. No smoking.

P233                                    Keep container tightly closed.

P240                                    Ground and bond container and receiving equipment.

P241                                    Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242                                    Use non-sparking tools.

P305 + P351 + P338    IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue  
rinsing.

P303 + P361 + P353    if on skin (or hair): remove/Take off immediately all contaminated clothing.  
skin with water / shower

P403 + P235                    Store in a well-ventilated place. Keep cool

## 2.3 Other hazards

None

Substance	FUSEL OIL
CAS-No.	8013-75-0
EC-No.	232-395-2

Flam. Liq. 3, H226Acute Tox. 4 (Oral),

H302Skin Irrit. 2, H315Eye Dam. 1, H318STOT SE 3, H336STOT SE 3, H335

## SECTION 4: first – Aid Measures



<b>Eyes:</b>	Rinse opened eyes for several minutes under running water. Consult a physician.
<b>Skin:</b>	Rinse skin with water/shower. Get medical aid. Wash clothing before reuse. Flush skin with plenty of soap and water.
<b>Ingestion:</b>	Rinse mouth. Call a doctor if you feel unwell
<b>Inhalation:</b>	Provide fresh air. In all Cases of doubt, or when symptoms persist, seek medical advice.

### Most important symptoms and effects, both acute and delayed

Irritation, Nausea, Vomiting, Abdominal pain, Breathing difficulties, Vertigo, Drowsiness, Narcosis, Loss of righting reflex, and ataxia

### Indication of any immediate medical attention and special treatment needed

- None

## SECTION 5: Firefighting Measures



**Extinguishing Media:** carbon dioxide (CO<sub>2</sub>), Dry Powder, water spray or alcohol resistant foam.

### Special hazards arising from the substance or mixture Combustible.

Carbon oxides Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapors possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

**Unsuitable extinguishing Media:** Water spray jet

**Advice for fire fighters** Further information Cool containers / tanks with water spray

## SECTION 6: - Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures



**Personal precautions**

Avoid



contact with skin, eyes and clothes. Do not breathe vapor/spray. Avoidance of ignition sources.

**Environmental**

Do  
to

not allow to enter into surface water of drains. Do not allow enter into soil/subsoil.

### 6.2 Methods and material for containment and cleaning up

**Advice on how to contain a spill**

Covering of drains, Collect, bind, and pump off spills

**Advice on how to clean up a spill**

Contain and collect spillage with non-combustible absorbent material, (eg sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations

### 6.3 Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

## SECTION 7: - Handling and Storage

<p>Additional hazards when processed :</p>	<p>In use, may form flammable vapour-air mixture. Handle empty containers with care because residual vapours are flammable. Flammable vapours may accumulate in the container. Do not spray on an open flame or other ignition source. Protect from direct sunlight. Do not pierce or burn, even after use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p>
<p>Precautions for safe handling :</p>	<p>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing vapours, gas, mist, fume, spray. Avoid contact with skin and eyes.</p>
<p>Hygiene measures</p>	<p>Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.</p>

## 7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Ground/bond container and receiving equipment.
Storage conditions	: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
Incompatible products	: Oxidizing agent.
Incompatible materials	: Sources of ignition. Direct sunlight. Heat sources.
Heat and ignition sources	: KEEP SUBSTANCE AWAY FROM: ignition sources. heat sources.
Information on mixed storage	: KEEP SUBSTANCE AWAY FROM: oxidizing agents. ignition sources.
Storage area	: Keep out of direct sunlight. Store away from heat. Fireproof storeroom. Store in a well-ventilated place. Store in a cool area.

## 7.3. Specific end use(s)

No specific uses

## SECTION 8: - Exposure Controls and Personal Protection

## 8.1. Control parameters

Fusel oil (8013-75-0)	
PNEC (Water)	
PNEC aqua (freshwater)	0.053 mg/l
PNEC aqua (marine water)	0.005 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0.219 mg/kg dwt
PNEC sediment (marine water)	0.022 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.013 mg/kg

## 8.2. Exposure controls

### Appropriate engineering controls:

Ensure good ventilation of the work station.

### Materials for protective clothing:

Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

### Hand protection:

Protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Reusable gloves	Butyl rubber	6 (> 480 minutes)	0.7		EN ISO 374

### Eye protection:

Safety glasses

### Skin and body protection:

Wear fire/flare resistant/retardant clothing. Chemical resistant safety shoes

### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Device	Filter type	Condition	Standard
Gas mask	ABEK		EN 14387

**Personal protective equipment symbol(s):**

**Environmental exposure controls:**

Avoid release to the environment.



## SECTION 9: - Physical and chemical Properties

Physical state	:	Liquid
Appearance	:	Clear liquid.
Colour	:	Colourless to light yellow.
Odour	:	Irritating. Disagreeable.
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	< -20 °C
Freezing point	:	No data available
Boiling point	:	60 – 143
Flash point	:	26 °C
Auto-ignition temperature	:	300 °C
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Not applicable
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	No data available
Density	:	0.84 g/cm <sup>3</sup> @ 15 °C
Solubility	:	Material nearly insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	-1.26 – -0.14
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	3.64 – 3.88 mPa·s @ 20 °C
Explosive properties	:	the study does not need to be conducted because there are no chemical groups present in the molecule which are associated with explosive properties.
Oxidising properties	:	The substance is incapable of reacting exothermically with combustible materials on the basis of the chemical structure (the substance contains oxygen atoms but these are not chemically bonded to nitrogen or oxygen).

Explosive limits	:	No data available
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## SECTION 10 : - Stability and Reactivity

### 10.1. Reactivity

Flammable liquid and vapour.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

Oxidizing agent.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: - Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	:	Harmful if swallowed.
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

<b>Fusel oil (8013-75-0)</b>	
LD50 oral rat	4172 mg/kg
LD50 dermal rabbit	3216 mg/kg
LC50 Inhalation - Rat (Vapours)	12.8 – 16.6 mg/l/4h

Skin corrosion/irritation	:	Causes skin irritation.
Serious eye damage/irritation	:	Causes serious eye damage.
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified

Reproductive toxicity	:	Not classified
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STOT-single exposure	:	May cause drowsiness or dizziness. May cause respiratory irritation.
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STOT-repeated exposure	:	Not classified
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Aspiration hazard	:	Not classified
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## SECTION 12: Ecological information

### 12.1 :Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

Fusel oil (8013-75-0)	
LC50 fish 1	120 mg/l
EC50 Daphnia 1	173 mg/l
EC50 72h algae (1)	275 mg/l

### 12.1. Persistence and degradability

Fusel oil (8013-75-0)	
Persistence and degradability	Readily biodegradable in water.
Biodegradation	70 – 80 % in 28 days

### 12.2. Bioaccumulative potential

Fusel oil (8013-75-0)	
Partition coefficient n-octanol/water (Log Pow)	-1.26 – -0.14
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

### 12.3. Mobility in soil

No additional information available

### 12.4. Results of PBT and vPvB assessment

#### Fusel oil (8013-75-0)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

#### 12.5. Other adverse effects

No additional information available

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

#### Carcinogenicity

No data available

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available






Guideline 471, GLP: No, (literatur value)

**11.3 Other information**

No further relevant information available.

**SECTION 14: Transport Condition**

**In accordance with ADR / RID / IMDG / IATA / ADN**

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
UN 1201	UN 1201	UN 1201	UN 1201	UN 1201
<b>14.2. UN proper shipping name</b>				
FUSEL OIL	FUSEL OIL	Fusel oil	FUSEL OIL	FUSEL OIL
<b>Transport document description</b>				
UN 1201 FUSEL OIL, 3, III, (D/E)	UN 1201 FUSEL OIL, 3, III	UN 1201 Fusel oil, 3, III	UN 1201 FUSEL OIL, 3, III	UN 1201 FUSEL OIL, 3, III
<b>14.3. Transport hazard class(es)</b>				
3	3	3	3	3
				
<b>14.4. Packing group</b>				

III	III	III	III	III
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

#### 14.6. Special precautions for user

##### Overland transport

**Classification code (ADR)** : F1  
**Limited quantities (ADR)** : 5I  
**Excepted quantities (ADR)** : E1  
**Packing instructions (ADR)** : P001, IBC03, LP01, R001  
**Mixed packing provisions (ADR)** : MP19  
**Portable tank and bulk container instructions (ADR) :**  
T2  
**Portable tank and bulk container special provisions (ADR)** : TP1

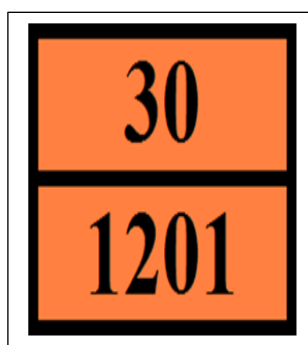
**Tank code (ADR)** : LGBF  
**Vehicle for tank carriage** : FL  
**Transport category (ADR)**

**: 3 Special provisions for carriage - Packages (ADR)**

**: V12 Special provisions for carriage - Operation (ADR)**

**: S2 Hazard identification number (Kemler No.)**

**: 30 Orange plates**



**Tunnel restriction code (ADR)** : D/E  
**EAC code** : •2YE  
**Transport by sea**  
**Special provisions (IMDG)** : 223, 955

Limited quantities (IMDG) : 5 L  
Excepted quantities (IMDG) : E1  
Packing instructions (IMDG) : P001, LP01  
IBC packing instructions (IMDG) : IBC03  
Tank instructions (IMDG) : T2  
Tank special provisions (IMDG) : TP1  
EmS-No. (Fire) : F-E  
EmS-No. (Spillage) : S-D  
Stowage category (IMDG) : A  
Properties and observations (IMDG) : Colourless, oily liquid with a disagreeable odour. A mixture consisting of amyl alcohols.  
Immiscible with water.

**Air transport**

PCA Excepted quantities (IATA) : E1  
PCA Limited quantities (IATA) : Y344  
PCA limited quantity max net quantity (IATA) : 10L  
PCA packing instructions (IATA) : 355  
PCA max net quantity (IATA) : 60L  
CAO packing instructions (IATA) : 366  
CAO max net quantity (IATA) : 220L  
Special provisions (IATA) : A3  
ERG code (IATA) : 3L

**Inland waterway transport**

Classification code (ADN) : F1  
Limited quantities (ADN) : 5 L  
Excepted quantities (ADN) : E1  
Equipment required (ADN) : PP, EX, A  
Ventilation (ADN) : VE01  
Number of blue cones/lights (ADN) : 0

**Rail transport**

Classification code (RID) : F1  
Limited quantities (RID) : 5L

Excepted quantities (RID) : E1  
Packing instructions (RID) : P001, IBC03, LP01, R001  
Mixed packing provisions (RID) : MP19  
Portable tank and bulk container instructions (RID) : T2  
Portable tank and bulk container special provisions : TP1  
(

Tank codes for RID tanks (RID) : LGBF  
 Transport category (RID) : 3  
 Special provisions for carriage – Packages (RID) :  
 W12 Colis express (express parcels) (RID) :  
 CE4  
 Hazard identification number (RID) : 30

## SECTION 15: Regulatory information

### 15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

Reference code	Applicable on
3(a)	Fusel oil
3(b)	Fusel oil
40.	Fusel oil

Fusel oil is not on the REACH Candidate List

Fusel oil is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) not listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR) not listed

Water Framework Directive (WFD)

## SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship