

# SAFETY DATA SHEET

FO 1% / FO 3,5%

Last changed: 03/11/2011

Replaces date: 16/03/2011

## 1 Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Trade name / designation** FO 1% / FO 3,5%  
**Substance name** Fuel oil, residual  
**SYNONYMS** Fuel oil; residual. Heavy fuel oil  
**CAS NO.** 68476-33-5;  
**EC NO.** 270-675-6;  
**INDEX NO.** 649-024-00-9;  
**REG.NO** 01-2119474894-22-0005;

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

**RELEVANT IDENTIFIED USES** Fuel.  
**USES ADVISED AGAINST** None.

### 1.3 Details of the supplier of the safety data sheet

#### NATIONAL MANUFACTURER/IMPORTER

**Enterprise** Statoil ASA (CLP)  
**Address** Forusbeen 50  
**Postal code** 4035 Stavanger  
**Country** Norge  
**E-mail** Statoil chemical competence center: chem@statoil.com  
**Telephone** +47 51 99 00 00

### 1.4 Emergency Telephone Number

Emergency Phone	Type of assistance	Opening Hours
+ 47 22 591300	Norway Poisons Information (NO)	

## 2 Hazards identification

### 2.1 Classification of the substance or mixture

**DSD** Xn; R20, Carc. Cat. 2; R45, Xn; R48/21, N; R50/53, Repr. Cat. 3; R63, R66  
**Classification:**

**CLP** Acute Tox. 4H332, Carc. 1BH350, Repr. 2H361, STOT RE 2H373, Aquatic Chronic 1H410  
**Classification:**

**Most important HSE hazard effects:** Harmful if inhaled. May cause cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

### 2.2 Label elements



**Signal word:** Danger

#### COMPOSITION

Fuel oil, residual (100 %)

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## H Statements

H332 Harmful if inhaled.  
H350 May cause cancer.  
H361 Suspected of damaging fertility or the unborn child.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H410 Very toxic to aquatic life with long lasting effects.

## P Statements

P201 Obtain special instructions before use.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P501 Dispose of contents/container in accordance with local regulation.  
P308/313 IF exposed or concerned: Get medical advice/attention.  
P273 Avoid release to the environment.

## SUPPLEMENTAL HAZARD INFORMATION (EU)

Repeated exposure may cause skin dryness or cracking.

## 2.3 Other hazards

The substance does not meet the criteria for PBT or vPvB.

## 3 Composition/information on ingredients

### 3.1 Substances

Ingredient name	Reg.No	EC No.	CAS No.	Conc. (wt%)	DSD-Classification	CLP-classification
Fuel oil, residual	01-2119474894-22-0005	270-675-6	68476-33-5	100 %	Xn,N,Carc. Cat. 2,R45 - R48/21 - R50/53 - R63 - R66 - R20	Acute Tox. 4 H332 Carc. 1B H350 Repr. 2 H361 STOT RE 2 H373 Aquatic Chronic 1 H410

Full text of R-, H- and EUH-phrases: see section 16.

The EUH hazard statements mentioned in CLP-classification are only label elements.

## 4 First aid measures

### 4.1 Description of first aid measures

#### INHALATION

Seek fresh air. Seek medical advice in case of persistent discomfort.

#### INGESTION

Wash out mouth thoroughly and drink 1-2 glasses of water in small sips.

Seek medical advice in case of discomfort.

#### SKIN CONTACT

Remove contaminated clothing. Wash skin with soap and water. Remove contaminated clothing, watch and jewellery. Seek medical advice in case of persistent discomfort.

#### EYE CONTACT

Flush with water (preferably using eye wash equipment) until irritation subsides. Seek medical advice if symptoms persist.

#### GENERAL

Other information: When obtaining medical advice, show the safety data sheet or label.

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

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Harmful if inhaled. May cause cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Affected organs: blood, thymus, liver. Degreases and dries the skin. Repeated exposure may cause skin dryness or cracking.

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

Treat symptoms. Ensure that medical personnel are aware of the material involved, and take precautions to protect themselves.

## 5 Fire-fighting measures

### 5.1 Extinguishing media

#### SUITABLE EXTINGUISHING MEDIA:

Extinguish with powder, foam, carbon dioxide or water mist. Use water or water mist to cool non-ignited stock.

#### UNSUITABLE EXTINGUISHING MEDIA

Do not use water stream, as it may spread the fire.

### 5.2 Special hazards arising from the substance or mixture

Can generate harmful flue gases containing carbon monoxide in the event of fire.

### 5.3 Advice for fire-fighters

Wear Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit. Move containers from danger area if it can be done without risk. Avoid inhalation of vapour and flue gases - seek fresh air.

## 6 Accidental release measures

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

#### FOR NON-EMERGENCY PERSONNEL

Wear gloves. Stay upwind/keep distance from source. Keep unnecessary personnel away. Provide good ventilation. Stop leak if this can be done without risk.

#### FOR EMERGENCY RESPONDERS

In addition to the above: Chemical protective suit equivalent to EN 943-2 is recommended.

### 6.2 Environmental precautions

Prevent spillage from entering drains and/or surface water. Notify proper authorities in case of contamination of soil or aquatic environment or discharge to drains.

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

#### METHODS AND MATERIAL

Contain and absorb spill with sand or other absorbent, non-combustible material and transfer to suitable waste containers.

### 6.4 Reference to other sections

See section 13 for instructions on disposal.

## 7 Handling and Storage

### 7.1 Precautions for safe handling

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Work under effective process ventilation (e.g. local exhaust ventilation). Running water and eye wash equipment must be available. Wash hands before breaks, before using restroom facilities, and at the end of work. Do not store, use and/or consume foods, beverages or tobacco products in the work room. Store personal protective equipment separately from other clothing.

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## 7.2 Conditions for safe storage, including any incompatibilities

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Store safely, out of reach of children and away from food, animal feeding stuffs, medicines, etc. Keep under lock. Keep in tightly closed original packaging. Store in a well-ventilated area.

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## 7.3 Specific end uses

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None.

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## 8 Exposure controls / Personal protection

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### 8.1 Control parameters

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#### LEGAL BASIS

EH40/2005 Workplace exposure limits incl. supplement from October 2007.

#### MONITORING PROCEDURES

DNEL values:

68476-33-5:

Workers:

Inhalation DNEL (acute/short-term exposure - systemic effects), 4700mg/m<sup>3</sup>/15 min, Assessment factor 7,5, Dose descriptor NOAEC.

Dermal DNEL (long-term exposure - systemic effects), 0,065mg/kg/8h, Assessment factor 12, Dose descriptor LOAEL.

Inhalation DNEL (long-term exposure - systemic effects), 0,12mg/m<sup>3</sup>/8h, Assessment factor 12, Dose descriptor LOAEL,

General population:

Oral DNEL (long-term exposure - systemic effects), 0,015 mg/kg/24h, Assessment factor 40, Dose descriptor NOAEL,

PNEC values:

92061-97-7:

PNEC aqua (freshwater) 0,1 mg/l, Assessment factor: 1, Extrapolation method Statistic extrapolation.

#### OTHER INFORMATION REGARDING LIMIT VALUES AND MONITORING

Contains no substances subject to reporting requirements.

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### 8.2 Exposure controls

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#### EXPOSURE SCENARIOS

See enclosed exposure scenarios for further information.

#### APPROPRIATE ENGINEERING CONTROLS

Wear the personal protective equipment specified below. See also section 7.1.

#### EYE PROTECTION

Wear safety goggles if there is a risk of eye splash. Eye protection must conform to EN 166.

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## HAND PROTECTION

Light use (small volume, shortterm contact (below 10 min.)):

Use disposable gloves of nitril rubber. Change gloves immediately if contaminated, and wash hands with soap and water. Medium use (medium volume, medium contact (1-2 hours)):

Wear gloves. Type of material: Nitrile rubber. Wear coveralls. Heavy use (high volume, longterm contact (more than 2 hours)): Wear gloves. Type of

material: Nitrile rubber. Wear coveralls. Gloves must conform to EN 374.

Breakthrough time has not been determined for the product. Change gloves often.

## RESPIRATORY PROTECTION

Light use (small volume, shortterm contact (below 10 min.)):

Not required. Medium - heavy use (medium, high volume, longterm medium contact (>1 hours)):

In case of insufficient ventilation, wear respiratory protective equipment. Filter type: A. Respiratory protection must conform to one of the following standards: EN 136/140/145.

## LIMITATION OF ENVIRONMENTAL EXPOSURE

Ensure compliance with local regulations for emissions.

## 9 Physical and chemical Properties

### 9.1 Information on basic physical and chemical properties

PHYSICAL STATE	Liquid
COLOUR	Brown
ODOUR	Oil
EXPLOSIVE PROPERTIES	N/A
OXIDISING PROPERTIES	N/A
WATER SOLUBILITY	Not miscible with water

Parameter	Value/unit	Method/reference	Observation
pH concentrate	No data	N/A	
pH in solution	No data	N/A	
Melting point	-40 - 6 °C		
Freezing point	No data		
Initial boiling point and boiling range	150 - 750 °C		
Flash point	> 60 °C		
Evaporation rate	No data	N/A	
Flammability (solid, gas)	No data	Combustible	
Flammability limits	220 - 550 °C		
Explosion limits	No data	N/A	
Vapour pressure	0,02 - 0,7910 kPa	(120°C)	
Vapour density	No data	N/A	
Relative density	No data		
Partition coefficient	No data	N/A	
Auto-ignition temprature	> 225 °C		
Decomposition temprature	No data	N/A	
Viscosity	1200 - 2100 cSt	(40°C)	

### 9.2 Other safety information

Parameter	Value/unit	Method/reference	Observation
Density	0,84 - 1,20 g/ml	(15°C)	
Odour threshold	N/A		
Vapour pressure:	0,063 to 0,861 kPa (150°C)		

Note no.	Comments
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## OTHER INFORMATION

None.

## 10 Stability and Reactivity

### 10.1 Reactivity

Not reactive.

### 10.2 Chemical stability

The product is stable when used in accordance with the supplier's directions.

### 10.3 Possibility of hazardous reactions

None known.

### 10.4 Conditions to avoid

None known.

### 10.5 Incompatible materials

Avoid contact with strong oxidising agents.

### 10.6 Hazardous decomposition products:

Product decomposes in fire conditions or when heated to high temperatures, and toxic gases such as carbonoxides will be released.

## 11 Toxicological information

### 11.1 Toxicological effects

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Route of exposure	Exposure time	Value/unit	Species	Source
LC50 (Inhalation)	4 h	4100 g/m <sup>3</sup>	Rat	
LD50 (Dermal)		> 2000 mg/kg	Rabbit	
LD50 (Oral)		> 5000 mg/kg	Rat	

Ingestion may cause discomfort.

The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.

The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.

Harmful by inhalation.

Degreases and dries the skin. Repeated exposure may cause skin dryness or cracking. May cause slight irritation.

68476-33-5: Rabbit, 24+72h: Non-irritating (EU Method B.4).

Temporary irritation. The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.

68476-33-5: Rabbit, 24 h: Iritis: Score: 0((EU Method B.5).

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The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.

68476-33-5: Guinea pig : Non-sensitising (EU Method B.6).

The product does not have to be classified.

Test data are not unequivocal.

68476-33-5: Mutagenic effects observed in tests with: micro organisms, No mutagenic effects observed in tests with: in vivo tests,

May cause cancer.

68476-33-5: Mouse: Neoplastic effects observed.

Suspected of damaging fertility or the unborn child.

68476-33-5: Rat, NOAEL (reproductive) 250mg/kg bw/day, 70 days: NOAEL (systemic toxicity) 50 mg/kg bw/day

Heavy Fuel Components adversely affect foetal development.

The product does not have to be classified. Test data are not available.

May cause damage to organs through prolonged or repeated exposure. Affected organs: blood, thymus, liver.

68476-33-5: Rat, 4 weeks: LOAEL System. toxicity 497 mg/kg bw/day.

LOAEL Local effects 2483 mg/kg bw /day.

The product does not have to be classified. Test data are not available.

None known.

## 12 Ecological information

### 12.1 Toxicity

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Test	Exposure time	Value/unit	Species	Source
EC50 (Acute Daphnia)	48 h	2 mg/l	Daphnia magna	
EC50 (Acute algae)	72 h	0,75 mg/l	Pseudokirchnerella subspicatus	
LC50 (Acute Daphnia)	21 d	0,27 mg/l	Daphnia magna	
LC50 (Acute fish)	28 d	0,1 mg/l	Oncorhynchus mykiss	
LC50 (Acute fish)	96 h	79 mg/l	Oncorhynchus mykiss	

Toxic to aquatic life with long lasting effects.

### 12.2 Persistence and degradability

Slow degradation. Test data are not available.

### 12.3 Bioaccumulative potential

Bioaccumulation can be expected. Test data are not available.

68476-33-5: Partition coefficient n-octanol/water >: 5

### 12.4 Mobility in soil

The product is predicted to have low mobility in soil and sediment. Test data are not available.

### 12.5 Results of PBT and vPvB assessment

The substance does not meet the criteria for PBT or vPvB.

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## 12.6 Other adverse effects

None.

## 13 Disposal considerations

### 13.1 Waste treatment methods

#### GENERAL REGULATIONS

Avoid discharge to drain or surface water. Collect spills and waste in closed, leak-proof containers for disposal at the local hazardous waste site.

#### CATEGORY OF WASTE

EWC code: Depends on line of business and use, for instance 13 07 01 fuel oil and diesel

Absorbent/cloth contaminated with the product:

EWC code: 15 02 02 absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances

## 14 Transport information

Classified as Dangerous Goods: Yes

Land transport (ADR/RID)			
14.1 UN-No.	3082	14.4 Packing group	III
14.2 Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fuel oil, residual)	14.5 Environmental hazards	The product must be labelled as an environmental hazard (symbol: fish and tree) in packaging sizes of more than 5 kg/l.
14.3 Class(es)	9		
Hazard label(s)			
Hazard ID:		Tunnel restriction code	E

Inland water ways transport (ADN)			
14.1 UN-No.	3082	14.4 Packing group	III
14.2 Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fuel oil, residual)	14.5 Environmental hazards	Yes
14.3 Class(es)	9		
Environmentally hazardous in tank-vessels	N1 F		

Sea transport (IMDG)			
14.1 UN-No.	3082	14.4 Packing group	III
14.2 Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fuel oil, residual)	14.5 Environmental hazards	MP, The product must be labelled as a Marine Pollutant (MP) in packaging sizes of more than 5 kg/l.
14.3 Class(es)	9		
Sub Risk:			
IMDG Code			
segregation group			
Marine pollutant			
EMS:			



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## Air transport (ICAO-TI / IATA-DGR)

<b>14.1 UN-No.</b>	3082	<b>14.4 Packing group</b>	III
<b>14.2 Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fuel oil, residual)	<b>14.5 Environmental hazards</b>	
<b>14.3 Class(es)</b>	9		
<b>Hazard label(s)</b>			

## 14.6 SPECIAL PRECAUTIONS FOR USER

None.

## 14.7 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL73/78 AND THE IBC CODE

Not included.

## OTHER INFORMATION

Tunnel restriction code: EHazard identification number: 90

## 15 Regulatory information

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

#### OTHER REGULATORY INFORMATION

Covered by: Seveso directive: 96/82/EC.

#### PROVISIONS

Special care should be applied for employees under the age of 18. Young people under the age of 18 may not carry out any work causing harmful exposure to this product.

### 15.2 Chemical Safety Assessment

#### OTHER INFORMATION

Chemical safety assessments have been performed for the following substance: Fuel oil, residual, CAS: 68476-33-5 EINECS: 270-675-6

## 16 Other information

### ABBREVIATIONS

DNEL: Derived No Effect Level

PNEC: Predicted No Effect Concentration

PBT: Persistent, Bioaccumulative and Toxic

vPvB: Very Persistent and Very Bioaccumulative

STOT: Specific Target Organ Toxicity

### LIST OF RELEVANT R-PHRASES

R20	Harmful by inhalation.
R45	May cause cancer.
R48/21	Harmful: danger of serious damage to health by prolonged exposure in contact with skin.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R63	Possible risk of harm to the unborn child.
R66	Repeated exposure may cause skin dryness or cracking.

### LIST OF RELEVANT H-STATEMENTS

H332	Harmful if inhaled.
H350	May cause cancer.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

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## TRAINING ADVICE

A thorough knowledge of this safety data sheet should be a prerequisite condition.

## OTHER INFORMATION

Changes have been made in the following sections: 1, 14, 16. Other information: Exposure scenarios are enclosed as appendices. Version: 01.01 /GBR