

## SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

### EFS-4

Revision Date: 29-Nov-2010

Revision Number: 5

#### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**Product Identifier**

Product Name EFS-4

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

Recommended Use Surfactant

Uses Advised Against No information available

**Details of the supplier of the safety data sheet**

Halliburton Energy Services  
Halliburton House, Howemoss Place  
Kirkhill Industrial Estate  
Dyce  
Aberdeen, AB21 0GN  
United Kingdom

Emergency Phone Number: +44 1224 795277 or +1 281 575 5000

[www.halliburton.com](http://www.halliburton.com)

For further information, please contact

E-Mail address: [fdunexchem@halliburton.com](mailto:fdunexchem@halliburton.com)

**Emergency telephone number**

+44 1224 795277 or +1 281 575 5000

**Emergency telephone §45 - (EC)1272/2008**

Europe	112
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): + 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

#### 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

REGULATION (EC) No 1272/2008

Not classified

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

For the full text of the R-phrases mentioned in this Section, see Section 16

Classification Not Classified

## 2. HAZARDS IDENTIFICATION

**Risk Phrases** None

**Label Elements**

Not classified

**Hazard Pictograms**

**Signal Word** Not Hazardous

**Contains**

**Substances**

Methyl ester sulfonate

**CAS Number**

Proprietary

**Other Hazards**

Dust can form an explosive mixture in air

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	EINECS	CAS Number	PERCENT	EEC Classification	EU - CLP Substance Classification	REACH No.
Methyl ester sulfonate	Listed	Proprietary	60 - 100%	Not applicable	Not applicable	No data available

For the full text of the R-phrases mentioned in this Section, see Section 16

## 4. FIRST AID MEASURES

**Description of first aid measures**

**Inhalation**

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes**

Check for and remove contact lenses if present. Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

**Skin**

Wash with soap and water. Get medical attention if irritation persists.

**Ingestion**

Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

**Most Important symptoms and effects, both acute and delayed**

No information available

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

**Notes to Physician**

Treat symptomatically

## 5. FIREFIGHTING MEASURES

**Extinguishing media**

**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Special hazards arising from the substance of mixture**

**Special Exposure Hazards**

Decomposition in fire may produce toxic gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

**Advice for firefighters****Special Protective Equipment for Fire-Fighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust.  
See Section 12 for additional information

**Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**Methods and material for containment and cleaning up**

Scoop up and remove.

**Reference to other sections**

See Section 12 for additional information.

## 7. HANDLING AND STORAGE

**Precautions for Safe Handling**

Avoid creating or inhaling dust. Slippery when wet.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice

**Conditions for safe storage, including any incompatibilities**

Store away from oxidizers. Store in a dry location. Keep from excessive heat.

**Specific End Use(s)**

**Exposure Scenario** No information available

**Other Guidelines** No information available

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

Substances	EU	UK OEL	Netherlands	France OEL	Germany MAK/TRK
Methyl ester sulfonate	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Substances	Italy	Poland	Hungary	Czech Republic	Denmark
Methyl ester sulfonate	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

**Exposure controls****Engineering Controls**

A well ventilated area to control dust levels.

**Personal protective equipment****Respiratory Protection**

Not normally needed. But if significant exposures are possible then the following respirator is recommended:

Dust/mist respirator. (N95, P2/P3)

**Hand Protection**

Normal work gloves.

**Skin Protection**

Normal work coveralls.

**Eye Protection**

Wear safety glasses or goggles to protect against exposure.

**Other Precautions**

None known.

**Environmental Exposure Controls**

No information available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

**Physical State:** Powder

**Color:** Off white

**Odor:** Detergent

**Odor Threshold:** No information available

Property

Values

Remarks/ Method

**pH:**

No data available

**Melting Point/Range**

No data available

**Freezing Point/Range (C):**

No data available

**Boiling Point/Range**

No data available

**Flash Point**

No data available

**Evaporation rate**

No data available

**Vapor Pressure**

No data available

**Vapor Density**

No data available

**Specific Gravity**

0.6

**Water Solubility**

No data available

**Solubility in other solvents**

No data available

**Partition coefficient: n-octanol/water**

No data available

**Autoignition Temperature**

No data available

**Decomposition Temperature**

No data available

**Viscosity**

No data available

**Explosive Properties**

No information available

**Oxidizing Properties**

No information available

Other information

**VOC Content (%)**

No data available

## 10. STABILITY AND REACTIVITY

Reactivity

Not applicable

Chemical Stability

Stable

Possibility of Hazardous Reactions

Will Not Occur

Conditions to Avoid

None anticipated

Incompatible Materials

Strong oxidizers.

Hazardous Decomposition Products

Carbon monoxide and carbon dioxide. Oxides of nitrogen.

## 11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

**Acute Toxicity**

**Inhalation**

May cause respiratory irritation.

**Eye Contact**

May cause eye irritation.

**Skin Contact**

Prolonged or repeated contact may cause skin irritation.

**Ingestion**

None known

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 1% are chronic health hazards.

Substances	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methyl ester sulfonate	No data available	No data available	No data available

Test species: Rat

## 12. ECOLOGICAL INFORMATION

### Toxicity Ecotoxicity Effects

Substances	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Methyl ester sulfonate	No information available	No information available	No information available	No information available

### Persistence and degradability

No information available

### Bioaccumulative potential

No information available

### Mobility in soil

No information available

### Results of PBT and vPvB assessment

No information available.

### Other adverse effects

#### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

#### Disposal Method

Bury in a licensed landfill according to federal, state, and local regulations.

#### Contaminated Packaging

Follow all applicable national or local regulations.

## 14. TRANSPORT INFORMATION

### IMDG/IMO

UN Number: Not restricted.  
 UN Proper Shipping Name: Not restricted  
 Transport Hazard Class(es): Not applicable

### RID

UN Number: Not restricted.  
 UN Proper Shipping Name: Not restricted  
 Transport Hazard Class(es): Not applicable

### ADR

UN Number: Not restricted.  
 UN Proper Shipping Name: Not restricted  
 Transport Hazard Class(es): Not applicable

### IATA/ICAO

UN Number: Not restricted.  
 UN Proper Shipping Name: Not restricted  
 Transport Hazard Class(es): Not applicable

**14. TRANSPORT INFORMATION**

**Special Precautions for User** None  
**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories**

**EINECS Inventory** This product, and all its components, complies with EINECS  
**US TSCA Inventory** All components listed on inventory or are exempt.  
**Canadian DSL Inventory** All components listed on inventory or are exempt.

**Legend**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**Germany, Water Endangering Classes (WGK)** WGK 2: Hazard to waters.

**Chemical Safety Assessment**

No information available

**16. OTHER INFORMATION****Full text of R-phrases referred to under Sections 2 and 3**

None

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

**Revision Date:** 29-Nov-2010  
**Revision Note** Not applicable

**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**Disclaimer Statement**

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**End of Safety Data Sheet**