

## SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

### CFR-1

Revision Date: 02-Jan-2013

Revision Number: 11

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

##### 1.1 Product Identifier

Product Name CFR-1

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

Recommended Use Friction Reducer

##### 1.3 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)

##### 1.4 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

##### 2.1 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  
Risk Phrases None

**2.2 Label Elements**

Not classified

**Hazard Pictograms****Signal Word**

Not Hazardous

**Hazard Statements**

Not Classified

**Precautionary Statements - EU (§28, 1272/2008)**

Not Classified

**Contains****Substances**

Carbohydrate base

**CAS Number**

Proprietary

**2.3 Other Hazards**

None known

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances	EINECS	CAS Number	PERCENT (w/w)	EEC Classification	EU - CLP Substance Classification	REACH No.
Carbohydrate base	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****4.1 Description of first aid measures****Inhalation**

Under normal conditions, first aid procedures are not required.

**Eyes**

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin**

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

**Ingestion**

Under normal conditions, first aid procedures are not required.

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

No significant hazards expected.

**4.3 Indication of any immediate medical attention and special treatment needed****Notes to Physician**

Treat symptomatically

**5. FIREFIGHTING MEASURES****5.1 Extinguishing media****Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

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

None known.

**5.2 Special hazards arising from the substance or mixture****Special Exposure Hazards**

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

**5.3 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**

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

Use appropriate protective equipment. Avoid creating and breathing dust.  
See Section 8 for additional information

**6.2 Environmental precautions**

None known.

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

Scoop up and remove.

**6.4 Reference to other sections**

See Section 8 and 13 for additional information.

<b>7. HANDLING AND STORAGE</b>
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**7.1 Precautions for Safe Handling**

Avoid creating or inhaling dust.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice

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

Store away from oxidizers. Store in a cool, dry location.

**7.3 Specific End Use(s)**

**Exposure Scenario** No information available

**Other Guidelines** No information available

<b>8. EXPOSURE CONTROLS/PERSONAL PROTECTION</b>
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**8.1 Control parameters****Exposure Limits**

Substances	CAS Number	EU	UK OEL	Netherlands	France OEL
Carbohydrate base	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany MAK/TRK	Spain	Portugal	Finland
Carbohydrate base	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Carbohydrate base	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Carbohydrate base	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark
Carbohydrate base	Proprietary	Not applicable

**Derived No Effect Level (DNEL)**

No information available.

**Worker****General Population****Predicted No Effect Concentration (PNEC)**

No information available.

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

Use in a well ventilated area.

**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

### 9.1 Information on basic physical and chemical properties

**Physical State:** Solid      **Color:** White  
**Odor:** Odorless      **Odor Threshold:** No information available

Property Remarks/ - Method	Values
<b>pH:</b>	2.6
<b>Freezing Point/Range</b>	No data available
<b>Melting Point/Range</b>	No data available
<b>Boiling Point/Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	2.6
<b>Water Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

### 9.2 Other information

**Molecular Weight** 178  
**VOC Content (%)** No data available

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Not applicable

### 10.2 Chemical Stability

Stable

### 10.3 Possibility of Hazardous Reactions

Will Not Occur

### 10.4 Conditions to Avoid

None anticipated

### 10.5 Incompatible Materials

Strong oxidizers.

### 10.6 Hazardous Decomposition Products

Carbon monoxide and carbon dioxide.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on Toxicological Effects

#### Acute Toxicity

<b>Inhalation</b>	None known.
<b>Eye Contact</b>	May cause eye irritation.
<b>Skin Contact</b>	None known.
<b>Ingestion</b>	None known

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

### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Carbohydrate base	Proprietary	7930 mg/kg ( Rat )	No data available	No data available

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Carbohydrate base	Proprietary	EC50: 878.2 mg/l (Skeletonema costatum) (72 hour)	LC50: 1000 mg/l (Scophthalmus maximus, Juvenile turbot) (24 hour)	No information available	EC50: 384.5 mg/l (Acartia tonsa) (48 hour)

### 12.2 Persistence and degradability Readily biodegradable

### 12.3 Bioaccumulative potential No information available

### 12.4 Mobility in soil No information available

### 12.5 Results of PBT and vPvB assessment No information available.

### 12.6 Other adverse effects Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods Disposal Method Contaminated Packaging

Bury in a licensed landfill according to federal, state, and local regulations.  
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  
Packing Group: Not applicable  
Environmental Hazards: Not applicable

### RID

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

**ADR**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable  
**Environmental hazard:** Not applicable

**IATA/ICAO**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable  
**Environmental hazard:** Not applicable

**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****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories**

**All of the components in the product are on the following Inventory lists:** All of the components in the product are on the following Inventory lists:.

**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/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**Germany, Water Endangering Classes (WGK)** WGK 0: Generally not water endangering.

**15.2 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:** 02-Jan-2013

**Revision Note**

Not applicable

**This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010**

**Disclaimer Statement**

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**End of Safety Data Sheet**