

## SAFETY DATA SHEET CFS™ - 969

according to Regulation (EC) No. 2015/830

Revision Date: 11-Jul-2018  
Preparation Date 11-Jul-2018

Revision Number: 2  
Internal ID Code HM008819

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

#### 1.1. Product Identifier

Product Name CFS™ - 969  
Internal ID Code HM008819

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

Recommended Use Cleaner

#### 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  
+44 1224 776888

[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 8 08 189 0979 / 1-760-476-3961

Global Incident Response Access Code: 334305

Contract Number: 14012

Emergency telephone - Article 45 - (EC)1272/2008	
Turkey	Ulusal Zehir Danisma Merkezi (UZEM) :114 Acil Saglik Hizmetleri : 112
Europe	112
Bulgaria	Bulgarian poison centre: +359 2 915-44-09 or +359 2 915-43-46
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	00357 22 88 7171
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
Israel	Acute poisoning (hotline): 04-7771900 (24/7)
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
Portugal	CIAV - Centro de Informação Antivenenos (Portuguese Poison Centre): + 351 213 303 271
Romania	+40 21 318 36 06
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

# SAFETY DATA SHEET

CFS™ - 969

according to Regulation (EC) No. 2015/830

Revision Date: 11-Jul-2018  
Preparation Date 11-Jul-2018

Revision Number: 2  
Internal ID Code HM008819

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Regulation (EC) No 1272/2008

Aspiration Toxicity	Category 1 - H304
Skin Corrosion/Irritation	Category 2 - H315
Serious Eye Damage/Irritation	Category 1 - H318
Skin Sensitization	Category 1 - H317
Chronic Aquatic Toxicity	Category 2 - H411

### 2.2. Label Elements

#### Hazard Pictograms



Signal Word:

**Danger**

#### Hazard Statements:

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H411 - Toxic to aquatic life with long lasting effects

#### Precautionary Statements:

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P272 - Contaminated work clothing should not be allowed out of the workplace

P273 - Avoid release to the environment

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P302 + P352 - IF ON SKIN: Wash with plenty of water.

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

P362 + P364 - Take off contaminated clothing and wash before reuse

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTRE or doctor/physician

P391 - Collect spillage

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

#### Contains

##### Substances

Hydrotreated distillate

Hexane, 1,1'-oxybis-

Modified carbohydrate

Ethylene glycol monobutyl ether

Orange, sweet, extract

##### CAS Number

Proprietary

112-58-3

Proprietary

111-76-2

8028-48-6

### 2.3. Other Hazards

None known

# SAFETY DATA SHEET

CFS™ - 969

according to Regulation (EC) No. 2015/830

Revision Date: 11-Jul-2018  
Preparation Date 11-Jul-2018

Revision Number: 2  
Internal ID Code HM008819

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Mixture

Substances	EINECS	CAS Number	PERCENT (w/w)	EU - CLP Substance Classification	REACH Reg. No
Hydrotreated distillate	Listed	Proprietary	30 - 60%	Asp. Tox. 1 (H304)	No data available
Hexane, 1,1'-oxybis-	203-987-8	112-58-3	10 - 30%	Aquatic Acute 1 (H400) Aquatic Chronic 2 (H411)	No data available
Modified carbohydrate	Listed	Proprietary	10 - 30%	Eye Corr. 1 (H318)	No data available
Ethylene glycol monobutyl ether	203-905-0	111-76-2	10 - 30%	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2A (H319)	No data available
Orange, sweet, extract	232-433-8	8028-48-6	5 - 10%	Skin Irrit. 2 (H315) Skin Sens. 1 (H317) Asp. Tox. 1 (H304) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Flam. Liq. 3 (H226)	No data available

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

## SECTION 4: First aid measures

### 4.1. 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

In case of contact, immediately flush eyes with plenty of water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Seek immediate medical attention/advice. Suitable emergency eye wash facility should be immediately available

#### Skin

In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention.

#### Ingestion

Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration. Rinse mouth. Never give anything by mouth to an unconscious person.

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

Causes skin irritation. Causes serious eye damage. May cause allergic skin reaction. Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

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

#### Notes to Physician

Aspiration may cause severe lung damage. Evacuate stomach in a way which avoids aspiration.

## SECTION 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

Do NOT spray pool fires directly with water. A solid stream of water directed into hot burning liquid can cause splattering.

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

# SAFETY DATA SHEET

CFS™ - 969

according to Regulation (EC) No. 2015/830

Revision Date: 11-Jul-2018  
Preparation Date 11-Jul-2018

Revision Number: 2  
Internal ID Code HM008819

## Special exposure hazards in a fire

Decomposition in fire may produce harmful gases.

### 5.3. Advice for firefighters

#### Special protective equipment for firefighters

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

## SECTION 6: Accidental release measures

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

Use appropriate protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.  
See Section 8 for additional information

### 6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

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

Dike far ahead of liquid spill for later disposal. Soak up condensate with inert absorbent material and collect in ventilated waste container for disposal

### 6.4. Reference to other sections

See Section 8 and 13 for additional information.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Use appropriate protective equipment. Ensure adequate ventilation. Avoid contact with eyes, skin, or clothing.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

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

Keep containers tightly closed in a cool, well ventilated place

### 7.3. Specific end use(s)

Exposure scenario No information available

Other Guidelines No information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Hydrotreated distillate	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable
Hexane, 1,1'-oxybis-	112-58-3	Not applicable	Not applicable	Not applicable	Not applicable
Modified carbohydrate	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	TWA: 20 ppm TWA: 98 mg/m <sup>3</sup> STEL: 50 ppm STEL: 246 mg/m <sup>3</sup>	TWA: 25 ppm TWA: 123 mg/m <sup>3</sup> STEL: 50 ppm STEL: 246 mg/m <sup>3</sup>	TWA: 100 mg/m <sup>3</sup> STEL: 246 mg/m <sup>3</sup>	2 ppm
Orange, sweet, extract	8028-48-6	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Hydrotreated distillate	Proprietary	TWA: 5 mg/m <sup>3</sup> TWA: 50 ppm TWA: 350 mg/m <sup>3</sup> Peak: 20 mg/m <sup>3</sup> Peak: 100 ppm Peak: 700 mg/m <sup>3</sup>	Not applicable	Not applicable	Not applicable

# SAFETY DATA SHEET

## CFS™ - 969

according to Regulation (EC) No. 2015/830

Revision Date: 11-Jul-2018  
Preparation Date 11-Jul-2018

Revision Number: 2  
Internal ID Code HM008819

Hexane, 1,1'-oxybis-	112-58-3	Not applicable	Not applicable	Not applicable	Not applicable
Modified carbohydrate	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	TWA: 10 ppm TWA: 49 mg/m <sup>3</sup>  Peak: 20 ppm Peak: 98 mg/m <sup>3</sup>	TWA: 20 ppm TWA: 98 mg/m <sup>3</sup> 50 ppm STEL [VLA-EC]; 245 mg/m <sup>3</sup> STEL [VLA-EC]	TWA: 20 ppm TWA: 98 mg/m <sup>3</sup> STEL: 50 ppm STEL: 246 mg/m <sup>3</sup>	TWA: 20 ppm TWA: 98 mg/m <sup>3</sup> STEL: 50 ppm STEL: 250 mg/m <sup>3</sup>
Orange, sweet, extract	8028-48-6	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Hydrotreated distillate	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable
Hexane, 1,1'-oxybis-	112-58-3	Not applicable	Not applicable	Not applicable	Not applicable
Modified carbohydrate	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	TWA: 20 ppm TWA: 98 mg/m <sup>3</sup> STEL" 40 ppm STEL" 200 mg/m <sup>3</sup>	20 ppm TWA; 98 mg/m <sup>3</sup> TWA 50 ppm STEL; 246 mg/m <sup>3</sup> STEL	TWA: 10 ppm TWA: 49 mg/m <sup>3</sup> STEL: 20 ppm STEL: 98 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 50 mg/m <sup>3</sup> STEL: 20 ppm STEL: 75 mg/m <sup>3</sup>
Orange, sweet, extract	8028-48-6	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Hydrotreated distillate	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable
Hexane, 1,1'-oxybis-	112-58-3	Not applicable	Not applicable	Not applicable	Not applicable
Modified carbohydrate	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	TWA: 20 ppm TWA: 98 mg/m <sup>3</sup> STEL: 50 ppm STEL: 246 mg/m <sup>3</sup>	TWA: 98 mg/m <sup>3</sup> STEL: 200 mg/m <sup>3</sup>	TWA: 98 mg/m <sup>3</sup> STEL: 246 mg/m <sup>3</sup>	TWA: 100 mg/m <sup>3</sup>
Orange, sweet, extract	8028-48-6	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Hydrotreated distillate	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable
Hexane, 1,1'-oxybis-	112-58-3	Not applicable	Not applicable	Not applicable	Not applicable
Modified carbohydrate	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	TWA: 20 ppm TWA: 98 mg/m <sup>3</sup>	TWA: 20 ppm TWA: 98 mg/m <sup>3</sup> STEL: 50 ppm STEL: 246 mg/m <sup>3</sup>	TWA: 20 ppm TWA: 98 mg/m <sup>3</sup> STEL: 50 ppm STEL: 246 mg/m <sup>3</sup>	TWA: 20 ppm TWA: 98 mg/m <sup>3</sup> STEL: 50 ppm STEL: 246 mg/m <sup>3</sup>
Orange, sweet, extract	8028-48-6	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Bulgaria	Turkey
Ethylene glycol monobutyl ether	111-76-2	TWA: 20 ppm TWA: 98 mg/m <sup>3</sup> STEL: 50 ppm STEL: 246 mg/m <sup>3</sup>	TWA: 20 ppm TWA: 98 mg/m <sup>3</sup> STEL: 50 ppm STEL: 246 mg/m <sup>3</sup>

### Derived No Effect Level (DNEL)

No information available

#### Worker

Substances	Long-term exposure - systemic effects, Inhalation	Acute / short term exposure - systemic effects, Inhalation	Long-term exposure - local effects, Inhalation	Acute / short term exposure - local effects, Inhalation	Long-term exposure - systemic effects, Dermal	Acute / short term exposure - systemic effects, Dermal	Long-term exposure - local effects, Dermal	Acute / short term exposure - local effects, Dermal	Hazards for the eyes - local effects
Ethylene glycol monobutyl ether	98 mg/m <sup>3</sup>	663 mg/m <sup>3</sup>	Not available	246 mg/m <sup>3</sup>	75 mg/kg bw/day	89 mg/kg bw/day	Not available	Not available	Not available

#### General Population

Substances	Long-term exposure - short term	Acute / short term	Long-term exposure - short term	Acute / short term	Long-term exposure - short term	Acute / short term	Long-term exposure - short term	Acute / short term	Long-term exposure - short term	Acute / short term	Hazards for the
------------	---------------------------------	--------------------	---------------------------------	--------------------	---------------------------------	--------------------	---------------------------------	--------------------	---------------------------------	--------------------	-----------------

# SAFETY DATA SHEET

**CFS™ - 969**

according to Regulation (EC) No. 2015/830

Revision Date: 11-Jul-2018  
Preparation Date 11-Jul-2018

Revision Number: 2  
Internal ID Code HM008819

	systemic effects, Inhalation	exposure - systemic effects, Inhalation	local effects, Inhalation	exposure - local effects, Inhalation	systemic effects, Dermal	exposure - systemic effects, Dermal	local effects, Dermal	exposure - local effects, Dermal	systemic effects, Oral	exposure - local effects, Oral	eyes - local effects
Ethylene glycol monobutyl ether	49 mg/m <sup>3</sup>	426 mg/m <sup>3</sup>	Not available	123 mg/m <sup>3</sup>	38 mg/kg bw/day	44.5 mg/kg bw/day	Not available	Not available	3.2 mg/kg bw/day	13.4 mg/kg bw/day	Not available

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

Substances	Freshwater	Marine water	Intermittent release	Sewage treatment plant	Sediment (freshwater)	Sediment (marine water)	Air	Soil	Secondary poisoning
Ethylene glycol monobutyl ether	8.8 mg/L	0.88 kg/L	9.1 mg/L	463 mg/L	34.6 mg/kg	3.46 mg/kg	Not available	3.13 mg/kg soil dw	0.02 g/kg food

## 8.2. Exposure controls

### Engineering Controls

Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits. Ensure adequate ventilation, especially in confined areas. If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

### Personal protective equipment

#### Respiratory Protection

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.

#### Hand Protection

Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace.

#### Skin Protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron, rain jacket, pants or coverall, as appropriate, to prevent skin contact.

#### Eye Protection

Chemical goggles; also wear a face shield if splashing hazard exists.

#### Other Precautions

None known.

**Environmental Exposure Controls** No information available

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**Physical State:** Liquid

**Color:** Colorless

**Odor:** Slight Citrus

**Odor Threshold:** No information available

Property

Values

Remarks/ - Method

**pH:**

7-8

**Freezing Point / Range**

No data available

**Melting Point / Range**

No data available

**Boiling Point / Range**

No data available

**Flash Point**

> 61 °C Closed cup

**Flammability (solid, gas)**

No data available

Upper flammability limit

No data available

Lower flammability limit

No data available

**Evaporation rate**

No data available

**Vapor Pressure**

No data available

**Vapor Density**

No data available

**Specific Gravity**

0.855-0.875

**Water Solubility**

No data available

# SAFETY DATA SHEET

CFS™ - 969

according to Regulation (EC) No. 2015/830

Revision Date: 11-Jul-2018  
Preparation Date 11-Jul-2018

Revision Number: 2  
Internal ID Code HM008819

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

## 9.2. Other information

VOC Content (%) No data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Not expected to be reactive.

### 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. Strong acids. Strong alkalis.

### 10.6. Hazardous decomposition products

Carbon oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute Toxicity

##### Inhalation

May cause mild respiratory irritation.

##### Eye Contact

Causes serious eye damage.

##### Skin Contact

Causes skin irritation. May cause an allergic skin reaction.

##### Ingestion

Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

#### Chronic Effects/Carcinogenicity

No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrotreated distillate	Proprietary	>5000 mg/kg-bw (rat) (similar substance)	>2000 mg/kg-bw (rabbit) (similar substance)	>5.2 mg/L (rat, 4 h, vapor) (similar substance)
Hexane, 1,1'-oxybis-	112-58-3	>2000 mg/kg-bw (rat) (similar substances)	>2000 mg/kg-bw (rat) (similar substances)	No data available
Modified carbohydrate	Proprietary	> 2000 mg/kg (Rat) > 5000 mg/kg (Rat) (similar substance)	>2000 mg/kg-bw (rat) (similar substances)	No data available
Ethylene glycol monobutyl ether	111-76-2	1414 mg/kg-bw (guinea pig)	>2000 mg/kg (Rabbit)	~2.0 mg/L LC50 (rat, vapor, 4h)
Orange, sweet, extract	8028-48-6	> 5000 mg/kg (Rat)(similar substance)	>5000 mg/kg (Rabbits) (Similar substance)	No data available

Substances	CAS Number	Skin corrosion/irritation
Hydrotreated distillate		Non-irritating to the skin (similar substances)
Hexane, 1,1'-oxybis-	112-58-3	Mild skin irritation (Rabbit) (similar substances)
Modified carbohydrate		Not irritating to skin in rabbits. (similar substances)

**SAFETY DATA SHEET**  
**CFS™ - 969**  
 according to Regulation (EC) No. 2015/830

Revision Date: 11-Jul-2018  
 Preparation Date 11-Jul-2018

Revision Number: 2  
 Internal ID Code HM008819

Ethylene glycol monobutyl ether	111-76-2	Skin, rabbit: Causes moderate skin irritation.
Orange, sweet, extract	8028-48-6	Skin, rabbit: Causes moderate skin irritation.

Substances	CAS Number	Serious eye damage/irritation
Hydrotreated distillate		Non-irritating to rabbit's eye (similar substances)
Hexane, 1,1'-oxybis-	112-58-3	Non-irritating to the eye (Rabbit) (similar substances)
Modified carbohydrate		Causes severe eye irritation (Rabbit) (similar substances)
Ethylene glycol monobutyl ether	111-76-2	Eye, rabbit: Causes moderate eye irritation
Orange, sweet, extract	8028-48-6	Non-irritating to rabbit's eye

Substances	CAS Number	Skin Sensitization
Hydrotreated distillate		Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Hexane, 1,1'-oxybis-	112-58-3	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Modified carbohydrate		Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Ethylene glycol monobutyl ether	111-76-2	Did not cause sensitization on laboratory animals (guinea pig)
Orange, sweet, extract	8028-48-6	May cause sensitization of susceptible persons (similar substances)

Substances	CAS Number	Respiratory Sensitization
Hydrotreated distillate		Based on available data, the classification criteria are not met.
Hexane, 1,1'-oxybis-	112-58-3	No information available
Modified carbohydrate		No information available
Ethylene glycol monobutyl ether	111-76-2	No information available
Orange, sweet, extract	8028-48-6	No information available

Substances	CAS Number	Mutagenic Effects
Hydrotreated distillate		In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)
Hexane, 1,1'-oxybis-	112-58-3	In vitro tests did not show mutagenic effects (similar substances)
Modified carbohydrate		In vitro tests did not show mutagenic effects (similar substances)
Ethylene glycol monobutyl ether	111-76-2	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.
Orange, sweet, extract	8028-48-6	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)

Substances	CAS Number	Carcinogenic Effects
Hydrotreated distillate		Did not show carcinogenic effects in animal experiments (similar substances)
Hexane, 1,1'-oxybis-	112-58-3	No information available
Modified carbohydrate		Not regarded as carcinogenic. (similar substances)
Ethylene glycol monobutyl ether	111-76-2	Not regarded as carcinogenic.
Orange, sweet, extract	8028-48-6	Did not show carcinogenic effects in animal experiments (similar substances)

Substances	CAS Number	Reproductive toxicity
Hydrotreated distillate		Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)
Hexane, 1,1'-oxybis-	112-58-3	Did not show teratogenic effects in animal experiments. (similar substances)
Modified carbohydrate		Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)
Ethylene glycol monobutyl ether	111-76-2	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Orange, sweet, extract	8028-48-6	Did not show teratogenic effects in animal experiments. (similar substances)

Substances	CAS Number	STOT - single exposure
Hydrotreated distillate		No significant toxicity observed in animal studies at concentration requiring classification.



# SAFETY DATA SHEET

**CFS™ - 969**

according to Regulation (EC) No. 2015/830

Revision Date: 11-Jul-2018  
Preparation Date 11-Jul-2018

Revision Number: 2  
Internal ID Code HM008819

Hexane, 1,1'-oxybis-	112-58-3	No information available
Modified carbohydrate		No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Ethylene glycol monobutyl ether	111-76-2	No data of sufficient quality are available.
Orange, sweet, extract	8028-48-6	No information available

Substances	CAS Number	STOT - repeated exposure
Hydrotreated distillate		No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Hexane, 1,1'-oxybis-	112-58-3	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Modified carbohydrate		No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Ethylene glycol monobutyl ether	111-76-2	No data of sufficient quality are available.
Orange, sweet, extract	8028-48-6	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

Substances	CAS Number	Aspiration hazard
Hydrotreated distillate		Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.
Hexane, 1,1'-oxybis-	112-58-3	Not applicable
Modified carbohydrate		Not applicable
Ethylene glycol monobutyl ether	111-76-2	Not applicable
Orange, sweet, extract	8028-48-6	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Ecotoxicity effects

Toxic to aquatic life with long lasting effects.

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Hydrotreated distillate	Proprietary	ErL50(72 h)>10000 mg/L (Skeletonema costatum)	LC50(96 h)>10000 mg/L (Scophthalmus maximus) NOELR(28 d)>1000 mg/L (fish)	No information available	LC50(48 h)>10000 mg/L (Acartia tonsa) NOELR(21 d)=1000 mg/L (Daphnia magna)
Hexane, 1,1'-oxybis-	112-58-3	EC50 (72 h)=0.562 mg/L (QSAR) NOEC (96 h)=0.192 mg/L (QSAR)	LC50 (96 h)=0.324 mg/L (QSAR) NOEC (30 d)= 0.031 mg/L (QSAR)	No information available	EC50 (48 h)=0.194 mg/L (Daphnia magna) LC50 (48 h)=0.242 mg/L (Daphnia magna; QSAR) NOEC (21 d)= 0.036 mg/L (Daphnia magna; QSAR)
Modified carbohydrate	Proprietary	EC50 (72h) 27.22 mg/L (Desmodesmus subspicatus) EC50 (72h) 19.82 mg/L (Selenastrum sp.)	LC50 (96h) 126 mg/L (Danio rerio) LC50 (96h) 96.64 mg/L (Scophthalmus maximus) NOEC (96h) 56mg/L (Scophthalmus maximus) NOEC (96h) >= 21 mg/L (Cyprinodon variegatus) NOEC (28d) 1.8 mg/L (Danio rerio) (similar substance)	EC50 (6h) > 560 mg/L (Pseudomonas putida, growth inhibition)	EC50 (48h) >100 mg/L (Daphnia magna) EC50 (48h) 31.62 mg/L (Acartia tonsa) NOEC (21d) 1 mg/L (Daphnia magna) (similar substance)
Ethylene glycol	111-76-2	EC50(72 h)=1840 mg/L	LC50(96 h)=1474 mg/L	No information available	EC50(48 h)=1800 mg/L

# SAFETY DATA SHEET

**CFS™ - 969**

according to Regulation (EC) No. 2015/830

Revision Date: 11-Jul-2018  
Preparation Date 11-Jul-2018

Revision Number: 2  
Internal ID Code HM008819

monobutyl ether		(Pseudokirchneriella subcapitata)	(Oncorhynchus mykiss) NOAEC(21 d)>100 mg/L (Danio rerio)		(Daphnia magna) EC50(21 d)=297 mg/L (Daphnia magna)
Orange, sweet, extract	8028-48-6	No information available	LL50 (96h) 0.702 mg/L (Pimephales promelas) (similar substance)	No information available	EC50 (48h) 0.36 mg/L (Daphnia magna)(similar substance) NOEC (16d) = 0.115 mg/L (Daphnia magna or Daphnia pule)(similar substance)

## 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Hydrotreated distillate	Proprietary	Readily biodegradable (68.1% @ 28d)
Hexane, 1,1'-oxybis-	112-58-3	Readily biodegradable (.?% @ 28d)
Modified carbohydrate	Proprietary	Readily biodegradable (100% @ 28d)
Ethylene glycol monobutyl ether	111-76-2	Readily biodegradable (90.4% @ 28d)
Orange, sweet, extract	8028-48-6	Readily biodegradable

## 12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Hydrotreated distillate	Proprietary	No information available
Hexane, 1,1'-oxybis-	112-58-3	Not Bioaccumulative (BCF = 37.8 (EpiSuite)) logPOW = 4.98 (EpiSuite)
Modified carbohydrate	Proprietary	1.77
Ethylene glycol monobutyl ether	111-76-2	Not Bioaccumulative; Log Pow=0.81
Orange, sweet, extract	8028-48-6	LogPow = 2.78 - 4.88

## 12.4. Mobility in soil

Substances	CAS Number	Mobility
Hydrotreated distillate	Proprietary	No information available
Hexane, 1,1'-oxybis-	112-58-3	No information available
Modified carbohydrate	Proprietary	Log KOC = 1.7
Ethylene glycol monobutyl ether	111-76-2	No information available
Orange, sweet, extract	8028-48-6	No information available

## 12.5. Results of PBT and vPvB assessment

Substances	PBT and vPvB assessment
Hydrotreated distillate	Not PBT/vPvB
Modified carbohydrate	Not PBT/vPvB
Ethylene glycol monobutyl ether	Not PBT/vPvB
Orange, sweet, extract	Not PBT/vPvB

## 12.6. Other adverse effects

### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Disposal methods**  
**Contaminated Packaging**

Dispose in accordance with local regulations.  
Follow all applicable national or local regulations.

# SAFETY DATA SHEET

CFS™ - 969

according to Regulation (EC) No. 2015/830

Revision Date: 11-Jul-2018  
Preparation Date 11-Jul-2018

Revision Number: 2  
Internal ID Code HM008819

## SECTION 14: Transport information

### IMDG/IMO

**UN Number** UN3082  
**UN proper shipping name:** Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Orange terpene, Dihexyl ether)  
**Transport Hazard Class(es):** 9  
**Packing Group:** III  
**Environmental Hazards:** Marine Pollutant

### ADN

**UN Number** UN3082  
**UN proper shipping name:** Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Orange terpene, Dihexyl ether)  
**Transport Hazard Class(es):** 9  
**Packing Group** III  
**Environmental Hazards:** Marine Pollutant

### ADR/RID

**UN Number** UN3082  
**UN proper shipping name:** Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Orange terpene, Dihexyl ether)  
**Transport Hazard Class(es):** 9  
**Packing Group** III  
**Environmental Hazards:** Marine Pollutant

### IATA/ICAO

**UN Number** UN3082  
**UN proper shipping name:** Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Orange terpene, Dihexyl ether)  
**Transport Hazard Class(es):** 9  
**Packing Group:** III  
**Environmental Hazards:** Marine Pollutant

- 14.1. UN Number** UN3082
- 14.2. UN proper shipping name:** Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Orange terpene, Dihexyl ether)
- 14.3. Transport Hazard Class(es):** 9
- 14.4. Packing Group** III
- 14.5. Environmental Hazards:** Marine Pollutant
- 14.6. Special Precautions for User** None
- 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable

## SECTION 15: Regulatory information

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

#### International Inventories

**EINECS (European Inventory of** This product, and all its components, complies with EINECS

# SAFETY DATA SHEET

**CFS™ - 969**

according to Regulation (EC) No. 2015/830

Revision Date: 11-Jul-2018  
Preparation Date 11-Jul-2018

Revision Number: 2  
Internal ID Code HM008819

## Existing Chemical Substances)

### US TSCA Inventory

All components listed on inventory or are exempt.

**Canadian Domestic Substances List (DSL)** 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** Not determined

### Classes (WGK)

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

## 15.2. Chemical safety assessment

No information available

## SECTION 16: Other information

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

H226 - Flammable liquid and vapor  
H302 - Harmful if swallowed  
H304 - May be fatal if swallowed and enters airways  
H312 - Harmful in contact with skin  
H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H318 - Causes serious eye damage  
H319 - Causes serious eye irritation  
H332 - Harmful if inhaled  
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

### Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight  
CAS – Chemical Abstracts Service  
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures  
EC – European Commission  
EC10 – Effective Concentration 10%  
EC50 – Effective Concentration 50%  
EEC – European Economic Community  
ErC50 – Effective Concentration growth rate 50%  
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
LC50 – Lethal Concentration 50%  
LD50 – Lethal Dose 50%  
LL0 – Lethal Loading 0%  
LL50 – Lethal Loading 50%  
MARPOL – International Convention for the Prevention of Pollution from Ships  
mg/kg – milligram/kilogram  
mg/L – milligram/liter

# SAFETY DATA SHEET

**CFS™ - 969**

according to Regulation (EC) No. 2015/830

Revision Date: 11-Jul-2018  
Preparation Date 11-Jul-2018

Revision Number: 2  
Internal ID Code HM008819

---

NIOSH – National Institute for Occupational Safety and Health

NOEC – No Observed Effect Concentration

NTP – National Toxicology Program

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

PC – Chemical Product category

PEL – Permissible Exposure Limit

ppm – parts per million

PROC – Process category

REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

STEL – Short Term Exposure Limit

SU – Sector of Use category

## Key literature references and sources for data

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

Revision Date: 11-Jul-2018

## Revision Note

Initial Release

**This safety data sheet complies with the requirements of Regulation (EC) No. 2015/830**

## Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**