

SAFETY DATA SHEET CFS™ - 969

according to Regulation (EC) No. 2015/830

Revision Date: 13-Aug-2020
Preparation Date 13-Aug-2020

Revision Number: 4
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
Sector of uses SU2 - Mining, (including offshore industries)
Uses advised against Consumer use

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

For further information, please contact:

E-mail Address: 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	
Austria	Poison Information Centre (AT): +43-(0)1-406 43 43
Belgium	Poison center (BE): +32 70 245 245
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	1401; +357 22 88 7171
Czech Republic	+420 224 919 293; +420 224 915 402
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Estonia	16662 (Local Poison Information Centre); (+372) 626 93 90 (International Poison Information Centre)
Europe	112
Finland	Poison Information Centre (FI):+358 9 471 977
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201-199
Iceland	543 2222 / 543 1000
Ireland	National Poisons Information Centre (IE): +353 1 8379964
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Latvia	(+371) 67042473 (International number for the National Toxicology Centre)
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	2122 4071

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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
Slovakia	+421 2 5477 4166
Slovenia	112
Spain	Poison Information Service (ES): +34 91 562 04 20
Sweden	Poisons Information Center (SV):+46 8 33 12 31
Switzerland	Poison Center: Tel 145; +41 44 251 51 51
Turkey	Ulusal Zehir Danisma Merkezi (UZEM) :114 Acil Saglik Hizmetleri : 112
United Kingdom	NHS Direct (UK): +44 0845 46 47

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

P264 - Wash face, hands and any exposed skin thoroughly after handling

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

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

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

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

Contains

Substances

Hydrotreated distillate

Hexane, 1,1'-oxybis-

CAS Number

Proprietary

112-58-3

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Modified carbohydrate
Ethylene glycol monobutyl ether
Orange, sweet, extract

Proprietary
111-76-2
8028-48-6

2.3. Other Hazards

None known

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	EC No		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	EC No		10 - 30%	Eye Dam. 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) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H332)	No data available
Orange, sweet, extract	232-433-8	8028-48-6	5 - 10%	Flam. Liq. 3 (H226) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Skin Sens. 1 (H317) Aquatic Chronic 2 (H411)	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 Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.

Eyes Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.

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

May be fatal if swallowed and enters airways. Causes skin irritation. May cause allergic skin reaction. Causes severe eye irritation which may damage tissue.

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

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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

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

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 ³ STEL: 50 ppm STEL: 246 mg/m ³	TWA: 25 ppm TWA: 123 mg/m ³ STEL: 50 ppm STEL: 246 mg/m ³	TWA: 100 mg/m ³ STEL: 246 mg/m ³	TWA: 10 ppm TWA: 49 mg/m ³ STEL: 50 ppm STEL: 246 mg/m ³
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 ³ TWA: 50 ppm TWA: 350 mg/m ³ Peak: 20 mg/m ³ Peak: 100 ppm Peak: 700 mg/m ³	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	111-76-2	TWA: 10 ppm	TWA: 20 ppm	TWA: 20 ppm	TWA: 20 ppm

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ether		TWA: 49 mg/m ³ Peak: 20 ppm Peak: 98 mg/m ³	TWA: 98 mg/m ³ 50 ppm STEL [VLA-EC]; 245 mg/m ³ STEL [VLA-EC]	TWA: 98 mg/m ³ STEL: 50 ppm STEL: 246 mg/m ³	TWA: 98 mg/m ³ STEL: 50 ppm STEL: 250 mg/m ³
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	TWA: 350 mg/m ³ STEL: 700 mg/m ³	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 ³ STEL" 40 ppm STEL" 200 mg/m ³	20 ppm TWA; 98 mg/m ³ TWA 50 ppm STEL; 246 mg/m ³ STEL	TWA: 10 ppm TWA: 49 mg/m ³ STEL: 20 ppm STEL: 98 mg/m ³	TWA: 10 ppm TWA: 50 mg/m ³ STEL: 15 ppm STEL: 75 mg/m ³
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 ³ STEL: 50 ppm STEL: 246 mg/m ³	TWA: 98 mg/m ³ STEL: 200 mg/m ³	TWA: 98 mg/m ³ STEL: 246 mg/m ³	TWA: 100 mg/m ³
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 ³	TWA: 20 ppm TWA: 98 mg/m ³ STEL: 50 ppm STEL: 246 mg/m ³	TWA: 20 ppm TWA: 98 mg/m ³ STEL: 50 ppm STEL: 246 mg/m ³	TWA: 20 ppm TWA: 98 mg/m ³ STEL: 50 ppm STEL: 246 mg/m ³
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 ³ STEL: 50 ppm STEL: 246 mg/m ³	TWA: 20 ppm TWA: 98 mg/m ³ STEL: 50 ppm STEL: 246 mg/m ³

Component	European Union	United Kingdom	France	Spain	Germany
Ethylene glycol monobutyl ether 111-76-2 (10 - 30%)		240 mmol/mol creatinine		200 mg/g Creatinine	150 mg/g Creatinine urine
Substances	Austria	Switzerland	Poland	Norway	Ireland
Ethylene glycol monobutyl ether 111-76-2 (10 - 30%)		150 mg/g creatinine			200 mg/g Creatinine

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 ³	663 mg/m ³	Not available	246 mg/m ³	75 mg/kg bw/day	89 mg/kg bw/day	Not available	Not available	Not available

General Population

Substances	Long-term	Acute /	Long-term	Acute /	Long-term	Acute /	Long-term	Acute /	Long-term	Acute /	Hazards
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	exposure - systemic effects, Inhalation	short term exposure - systemic effects, Inhalation	exposure - local effects, Inhalation	short term exposure - local effects, Inhalation	exposure - systemic effects, Dermal	short term exposure - systemic effects, Dermal	exposure - local effects, Dermal	short term exposure - local effects, Dermal	exposure - systemic effects, Oral	short term exposure - local effects, Oral	for the eyes - local effects
Ethylene glycol monobutyl ether	49 mg/m ³	426 mg/m ³	Not available	123 mg/m ³	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

Personal protective equipment

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.

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. Organic vapor respirator.

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

Eyewash fountains and safety showers must be easily accessible.

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 No information available

Threshold:

Property
Remarks/ - Method

Values

pH:

7-8

Freezing Point / Range

No data available

Melting Point / Range

No data available

Pour 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

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Specific Gravity	0.855 - 0.875
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

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 severe eye irritation which may damage tissue.
Skin Contact	Causes skin irritation. May cause an allergic skin reaction.
Ingestion	Aspiration can be a hazard if this material is swallowed.

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	530 mg/kg-bw (guinea pig)	400 mg/kg (Rabbit)	No data available
Orange, sweet, extract	8028-48-6	> 5000 mg/kg (Rat)(similar substance)	>5000 mg/kg (Rabbits) (Similar substance)	No data available

Rat = Rat, Rabbit = Rabbit, dust = dust

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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) Causes skin irritation.
Modified carbohydrate		Not irritating to skin in rabbits. (similar substances)
Ethylene glycol monobutyl ether	111-76-2	Skin, rabbit: Causes moderate skin irritation. Causes skin irritation. (Rabbit)
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) Non-irritating to rabbit's eye
Modified carbohydrate		Causes severe eye irritation (Rabbit) (similar substances)
Ethylene glycol monobutyl ether	111-76-2	Eye, rabbit: Causes moderate eye irritation Causes eye irritation. (Rabbit)
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

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ether		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.
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	Has been shown to cause damage to organs in a single exposure.
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. Toxic to aquatic life.

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 (Algae) QSAR NOEC(96 h)=0.192 mg/L (Algae) QSAR	LC50(96 h)=0.324 mg/L (Fish) QSAR NOEC(30 d)=0.031 mg/L (Fish) 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)
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	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)

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			(Cyprinodon variegatus) NOEC (28d) 1.8 mg/L (Danio rerio) (similar substance)		
Ethylene glycol monobutyl ether	111-76-2	EC50(72 h)=1840 mg/L (Pseudokirchneriella subcapitata)	LC50(96 h)=1474 mg/L (Oncorhynchus mykiss) NOAEC(21 d)>100 mg/L (Danio rerio)	No information available	EC50(48 h)=1800 mg/L (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)

growth rate = growth rate, similar substance = similar substance, activated sludge = activated sludge, reproduction = reproduction

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 (72% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Bioaccumulation
Hydrotreated distillate	Proprietary	No information available
Hexane, 1,1'-oxybis-	112-58-3	Log Pow=4.98
Modified carbohydrate	Proprietary	1.77
Ethylene glycol monobutyl ether	111-76-2	Log Pow=0.9
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

Dispose in accordance with local regulations.

Contaminated Packaging

Follow all applicable national or local regulations.

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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
EMS: EmS F-A, S-F

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

US TSCA Inventory All components listed on inventory or are exempt.
Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

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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 WGK 3: Severe hazard to waters.

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.

Substances	CAS Number	Seveso III	TA LUFT
Hydrotreated distillate	@CAS	Not applicable	Not applicable
Hexane, 1,1'-oxybis-	112-58-3	Not applicable	Not applicable
Modified carbohydrate	@CAS	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	Not applicable	Not applicable
Orange, sweet, extract	8028-48-6	Not applicable	Not applicable

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Hydrotreated distillate	@CAS	Not applicable	Not applicable
Hexane, 1,1'-oxybis-	112-58-3	Not applicable	Not applicable
Modified carbohydrate	@CAS	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	Not applicable	Not applicable
Orange, sweet, extract	8028-48-6	Not applicable	Not 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
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%

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LL50 – Lethal Loading 50%

MARPOL – International Convention for the Prevention of Pollution from Ships

mg/kg – milligram/kilogram

mg/L – milligram/liter

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/

Revision Date: 13-Aug-2020

Revision Note

Initial Release

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

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End of Safety Data Sheet