



# Safety Data Sheet

## HiFlow 26

### SECTION 1: Identification

#### 1.1 Product identifier

Product name HiFlow 26

Product number HF26

#### 1.3 Recommended use of the chemical and restrictions on use

Friction Reducer

#### 1.4 Supplier's details

Name Downhole Chemical Solutions  
Address 7274 Elm Street  
Frisco, Texas 75034

Telephone 469-466-1100

#### 1.5 Emergency phone number(s)

1-888-255-3924 US (ChemTel)  
1-813-248-0585 International (ChemTel)

### SECTION 2: Hazard identification

#### 2.1 Classification of the substance or mixture

GHS classification in accordance with: (US) OSHA (29 CFR 1910.1200)

- Skin corrosion/irritation, Cat. 2
- Eye corrosion/irritation, Cat. 1

#### 2.2 GHS label elements, including precautionary statements

##### Pictogram



##### Signal word

Danger

##### Hazard statement(s)

H318 Causes serious eye damage  
H315 Causes skin irritation

##### Precautionary statement(s)

P264 Wash hands thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

# Safety Data Sheet

## HiFlow 26

P302+P352  
P321

IF ON SKIN: Wash with plenty of water.  
Specific treatment (see first aid instructions on label)

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.  
Immediately call a POISON CENTER/Doctor  
Take off contaminated clothing

P310  
P362

**Disposal:**  
P501

Dispose of contents/container in accordance with national regulations.

### 2.3 Other hazards which do not result in classification

Slip hazard from spills

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## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Hazardous components	CAS-No	Concentration
distillates (petroleum) hydrotreated light.	64742-47-8	$\geq 21.25$ - $< 23.5$ % (weight)
Poly(oxy-1,2-ethanediyl), .alpha. -(carboxymethyl)-.omega.-hydroxy- C16-18 and C18-unsatd. Alkyl ethers	227310-69-2	$< 3.5$ % (weight)
Poly(oxy-1,2-ethanediyl), a-(carboxymethyl) -omega-[(9z)-9-octadecen-1-yloxy]-	57635-48-0	$< 2$ % (weight)
Ammonium Chloride	12125-02-9	$\geq 1$ - $< 1.5$ % (weight)

#### Trade secret statement (OSHA 1910.1200(i))

Actual concentration is withheld as a trade secret.

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## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of the dangerous area.
If inhaled	Remove the person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If symptoms persist, call a physician.
In case of skin contact,	Take off contaminated clothing and shoes immediately. Wash off with plenty of water. Consult a physician if necessary. Wash contaminated clothing before re-use.
In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
If digested	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

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

Symptoms: Eye Damage, Eye Irritation, Skin Irritation

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

# Safety Data Sheet

## HiFlow 26

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

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### SECTION 5: Fire-fighting measures

#### 5.1 Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

#### Unsuitable extinguishing media

Solid water stream, water may be ineffective

#### 5.2 Specific hazards arising from the chemical

No information available

#### 5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus and protective suit. Use NIOSH/MSHA approved respiratory protection.

#### Further information

Use water spray to cool unopened containers. Spills produce extremely slippery surfaces.

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### SECTION 6: Accidental release measures

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

Warning: Do not touch or walk through spilled material. Spills can create very slippery surfaces. Wear approved respiratory protection where the exposure level is not known. Where the exposure level is known, wear an approved respirator suitable for the level of exposure. Avoid breathing gas, mist, vapors, or spray. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection, see Section 8. Chemical-resistant boots.

#### 6.2 Environmental precautions

Do not contaminate water. Prevent product from entering drains.

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

Stop leak if you can do it without risk. Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material such as sand, silica gel, acid binder, universal binder, sawdust). Shovel in suitable containers. After cleaning, flush away traces with water. Use detergent if needed.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Surfaces are very slippery from this product. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Do not breathe mist, vapors, or spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. See Section 8 for information on Personal Protective Equipment.

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

Store at room temperature in the original container. Flashpoint determination was performed using a Pensky Martens-type closed cup method. The method indicates a flash point greater than 93.3C (200F). Although there was no flashpoint detected below 93.3C (200F), some flammable vapors evolved during the test as evidenced by the enlargement of the flame. Therefore caution should be exercised during storage and handling. Keep out of the reach of children.

#### Recommended Storage Temperature

39.99 - 90.0 °F / 4.44 - 32.2 °C

#### Materials to avoid

Strong oxidizing agents

Storage stability:

Storage Temperature: Store at room temperature to maintain product integrity.

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**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Distillates (petroleum), hydrotreated light	64742-47-8	(Vapour)	197 ppm 1,200 mg/m <sup>3</sup>	Recommendations of the manufacturer
Ammonium chloride	12125-02-9	(Fumes)	10 ml/m <sup>3</sup>	ACGIH
		STEL (Fumes)	20 ml/m <sup>3</sup>	ACGIH
		STEL (Fumes)	20 ml/m <sup>3</sup>	NIOSH REL
		TWA (Fumes)	10 ml/m <sup>3</sup>	NIOSH REL
		TWA (Fumes)	10 mg/m <sup>3</sup>	ACGIH
		STEL (Fumes)	20 mg/m <sup>3</sup>	ACGIH
		TWA (Fumes)	10 mg/m <sup>3</sup>	NIOSH REL
		ST (Fumes)	20 mg/m <sup>3</sup>	NIOSH REL
		TWA (Fumes)	10 mg/m <sup>3</sup>	OSHA P0
		STEL (Fumes)	20 mg/m <sup>3</sup>	OSHA P0

**8.2 Appropriate engineering controls**

Ensure adequate ventilation. Dose and handle in the closed system if possible. Handle only in a place equipped with local exhaust (or other appropriate exhaust). Remove and wash contaminated clothing before re-use. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before breaks and immediately after handling the product.

**8.3 Individual protection measures, such as personal protective equipment (PPE)**

**Eye/face protection**

Safety glasses. If splash hazard, wear face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Ensure that eyewash stations and/or safety showers are accessible

**Skin protection**

Avoid contact with skin. Wear protective gloves, such as PVC or other plastic material. Consult manufacturer specifications for further information.

**Body protection**

Wear protective clothing. Clothing with full-length sleeves and pants should be worn. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Avoid contact with skin.

**Respiratory protection**

No respiratory protection is required when exposures are below the established exposure limit. Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure.

**Hand Protection**

Permeability tests are not available for this product.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough.

**Hygiene Measures**

# Safety Data Sheet

## HiFlow 26

Wash hands before breaks and immediately after handling this product. Wash hands before eating, drinking, or smoking. Keep away from food and drink. Keep away from tobacco products.

### Thermal hazards

No data is available.

### Environmental exposure controls

Do not let the product enter drains.

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## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	Milky emulsion
Odor	mild petroleum
Odor threshold	No data available.
pH	6.0 - 8.0
Melting point/freezing point	Not applicable.
Initial boiling point and boiling range	> 212 °F
Flash point	> 201 °F
Evaporation rate	< 1 (n-butyl acetate = 1)
Flammability (solid, gas)	No data available.
Upper/lower flammability limits	No data available.
Upper/lower explosive limits	No data available.
Vapor pressure	Not applicable
Vapor density	No data available.
Relative density	1.052 - 1.062 (@ 77°F)
Bulk density	8.7 - 9.1 lb/gal
Solubility(ies)	Limited by viscosity
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature	302 °F (150 °C)
Decomposition temperature	392 °F (200 °C)
Viscosity	Dynamic viscosity: 500 - 2,500 mPa.s (Brookfield) Kinematic viscosity; > 20.5 mm <sup>2</sup> /s (104°F / 40 °C)
Oxidizing properties	The substance or mixture is not classified as oxidizing
Charge	Anionic

### Other safety information

No data is available.

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions

### 10.3 Possibility of hazardous reactions

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Stable under normal conditions.

### 10.5 Incompatible materials

Strong oxidizing agents, strong alkaline materials and cationic polymer

### 10.6 Hazardous decomposition products

# Safety Data Sheet

## HiFlow 26

Thermal decomposition may produce: nitrogen oxides, carbon oxides, ammonia

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### SECTION 11: Toxicological information

#### Information on toxicological effects

##### Acute Toxicity

##### Product

##### Acute Oral Toxicity

No data is available on the product itself

Information given is based on data on the components and the toxicology of similar products.

Acute toxicity estimate: > 5,000 mg/kg

Acute toxicity estimate: > 5,000 mg/kg

Method: Calculation Method

##### Acute Inhalation Toxicity

No data is available on the product itself

##### Acute Dermal Toxicity

No data is available on the product itself

##### Skin corrosion/irritation

Product:

Ammonium Chloride

Causes skin irritation

Rabbit, Draize Test, No skin irritation

##### Serious Eye Damage/Eye Irritation

Product;

Ammonium Chloride

Causes serious eye damage

Rabbit, eye irritation, OECD Test Guideline 405

##### Respiratory or Skin Sensitizations

Product:

Ammonium chloride

Exposure Route, Inhalation, Does not cause respiratory sensitization

Based on available data, the classification criteria are not met

Dermal, Does not cause skin sensitization, OECD 406

##### Carcinogenicity

Product:

No known carcinogenic effects

Based on available data, the classification criteria are not met

##### Components

##### **Distillates, petroleum, hydrotreated light:**

LD50 Oral - Rat - > 5,000 mg/kg

LC50 Inhalation - Rat - > 5.2 mg/m / 4 h.

LD50 Rabbit - 2,000 mg/kg

Skin sensitisation - Not classified as a sensitizer

Genotoxicity in vitro - No known effect

Genotoxicity in vivo - Not mutagenic

Carcinogenicity - Not classified by IARC or NTP

Toxicity for reproduction - No toxicity to reproduction

##### **Ammonium Chloride**

LD50 Oral - Rat - > 1,410 mg/kg

LC50 Inhalation - No data available.

LD50 Rabbit - No skin irritation

Skin sensitization - Guinea Pig : Not sensitizing

Genotoxicity in vitro - Ames test/Salmonella typhimurium (bacterium)/ with and without. Result: Negative

Genotoxicity in vivo - No data available.

Carcinogenicity - Not carcinogenic

Toxicity for reproduction - No data available.

# Safety Data Sheet

## HiFlow 26

STOT Single Exposure - Not classified  
STOT Repeated Exposure - Not classified  
Repeated Dose Toxicity - Rat, 1,695 mg/kg, 90 D, OECD Test Guideline 408

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### SECTION 12: Ecological information

#### Aquatic Toxicity

Information on the product as supplied:

LC50/96 h/Pimephales promelas (fathead minnow)/Acute Fish toxicity/EPA Whole Effluent Toxicity Method 600/4-90/027F: 10.02mg/l

LC50/48 h/Ceriodaphnia dubia (Water Flea)/EPA Whole Effluent Toxicity Method 600/4-90/027F: 11.31mg/l  
Exposure Time: 48 H

Ecotoxicological information provided is based on a structurally or compositionally similar product.

Toxicity to Algae/aquatic plants: No data available

Toxicity to microorganisms: No data available

#### Components:

Ammonium Chloride:

LC50/96 h/Cyprinus carpio (Carp)/static test: 209 mg/L

EC50/24 h/Daphnia magna (Water Flea): 101 mg/L

EC50/5 d/Chlorella vulgaris(Fresh Water Algae): 1,300 mg/L

EC50/0.5 h/Respiration Inhibition of Activated Sludge: 1,310 mg/L (OECD Test Guideline 209)

#### Persistence and degradability

No data is available.

The polymeric ingredient is not readily biodegradable

#### Bioaccumulative potential

Ammonium Chloride: The method for determining biodegradability are not applicable to inorganic substances.

Does not bioaccumulate

#### Mobility in soil

No data available

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### SECTION 13: Disposal Considerations

#### Disposal of the product

Recycling, recovery, and reuse of materials is recommended if permitted by regulations. If recycling is not practicable, dispose of it in compliance with local regulations.

#### Disposal of contaminated packaging

Packages that cannot be cleaned must be disposed of the same way as the unused product. Must be disposed of in accordance with local and national regulations.

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### SECTION 14: Transport information

#### DOT (US)

Not classified as dangerous in the meaning of transport regulations

#### IMDG

Not classified as dangerous in the meaning of transport regulations

#### IATA

Not classified as dangerous in the meaning of transport regulations



<b>PERSONAL PROTECTION</b>
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## SECTION 16: Other information

### 16.1 Further information/disclaimer

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes. In no event shall Downhole Chemical Solutions be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages, whatsoever arising, even if Downhole Chemical Solutions has been advised of the possibility of such damages.

### Revision History

V2: Company address updated - no other content changes