



# Safety Data Sheet

## DriFlow 110

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### SECTION 1: Identification

#### 1.1 Product identifier

Product name	DriFlow 110
Product number	DF110

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

Cationic 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)**

Combustible Dust

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

##### Pictogram



Pictogram used for Hazard Not Otherwise Classified

**Signal word: WARNING**

##### Hazard statement(s)

May form combustible dust concentrations in air.

##### Precautionary statement(s)

Take action to minimize dust accumulation

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

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This product can create extremely slippery surfaces when wet.

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### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

Hazardous components	Concentration
Polyacrylamide (CAS# 9003-05-8)	100%

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

\*The specific chemical identities and/or actual concentrations or actual concentration ranges for one or more listed components are being withheld as trade secrets under the US regulation 29 CFR 1910.1200(i).

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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 dangerous area.
If inhaled	No hazards which require special first aid measures. Remove to fresh air.
In case of skin contact	Wash with plenty of water for at least 15 minutes. Call a poison center or doctor if irritation develops or persists. Take off contaminated clothing and wash it before reuse.
In case of eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.
If swallowed	Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. 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

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

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

No data available.

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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.

#### 5.2 Specific hazards arising from the chemical

Dust may form explosive mixtures in air

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

Wear self contained breathing apparatus for firefighting if necessary.  
Use NIOSH/MSHA approved respiratory protection.

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### 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 respiratory protection if necessary. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

### 6.2 Environmental precautions

Do not contaminate water

### 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.

### Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Surfaces are very slippery from this product. Do not swallow. Do not breathe dust. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. See Section 8 for information on Personal Protective Equipment.

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

Storage Temperature 40F - 90F

Unsuitable Materials : To avoid product degradation and equipment corrosion, do not use iron, copper, or aluminum containers or equipment. Avoid strong oxidizing agents.

### Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated. Stable under recommended storage conditions.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

### 8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands and face before breaks and immediately after handling the product. Avoid contact with skin and eyes. Do not breathe dust. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation.

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

Handle in accordance with good industrial hygiene and safety practice.

### Eye/face protection

Safety glasses with side shields or goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

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### Skin protection

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.

### Respiratory protection

In case of inadequate ventilation wear respiratory protection. (filter P2)

### Thermal hazards

No data available.

### Environmental exposure controls

Do not let 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.)	White Solid
Odor	Odorless
Odor threshold	
pH	6.0-8.0 (.5 g/L)
Melting point/freezing point	>350 °C
Initial boiling point and boiling range	Not applicable
Flash point	No data available.
Evaporation rate	Not applicable
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.
Bulk Density (kg/m <sup>3</sup> )	650 - 750
Relative density	No data available.
Solubility(ies)	Water: dispersible
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature	> 150 °C
Decomposition temperature	> 150 °C
Viscosity	No data available.
Explosive properties	No data available.
Charge	Cationic
Oxidizing properties	The substance or mixture is not classified as oxidizing

### Other safety information

No data available.

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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

No dangerous reaction known under conditions of normal use.

#### 10.2 Chemical stability

Stable under normal storage conditions.

#### 10.3 Possibility of hazardous reactions

No data available.

#### 10.4 Conditions to avoid

Avoid alkaline conditions which will degrade the polymer. Avoid moisture when not in use.

#### 10.5 Incompatible materials

Strong oxidizing agent (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, permanganate)

#### 10.6 Hazardous decomposition products

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

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### SECTION 11: Toxicological information

#### Information on toxicological effects

##### Acute oral toxicity

Conclusion: The acute toxicological results displayed may not be the results of actual testing of this material but based on a similar tested material.

Acute toxicity estimate/Rat Oral > 1,000 mg/kg, Mouse Oral LD<sub>50</sub> 12950 mg/kg

##### Skin corrosion/irritation

Low : Based on available data.

##### Serious eye damage/irritation

Information on the product as supplied:

May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

##### Respiratory or skin sensitization

Based on available data:

Not sensitizing

##### Germ cell mutagenicity

Conclusion: Based on available data, the classification criteria are not met.

##### Carcinogenicity

Based on available data, the classification criteria are not met.

Conclusion: Based on available data, the classification criteria are not met.

/The substance or mixture is not classified as specific target organ toxicant, single exposure.

/The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

No aspiration toxicity classification

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### SECTION 12: Ecological information

#### Toxicity

No Data Available

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### **Persistence and degradability**

Avoid contaminating waterways.

### **Bioaccumulative potential**

This material is not classified as dangerous for the environment. The effects on aquatic organisms result from an external (non-systemic) mode of action and are significantly reduced within 30 minutes due to binding of the product to dissolved organic carbon and inorganic sorbents such as clays and silts.

48 Hrs. EC50 (Daphnia magna): > 200 mg/L

96 Hrs. LC50 (fish): > 300 mg/L

### **Mobility in soil**

No Data Available

### **Results of PBT and vPvB assessment**

No Data Available

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## **SECTION 13: Disposal considerations**

### **Disposal of the product**

Disposal should be in accordance with applicable Federal, State and local laws and regulations. Local regulations may be more stringent than State or Federal requirements.

### **Disposal of contaminated packaging**

Dispose of as unused product.

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## **SECTION 14: Transport information**

### **DOT (US)**

Not dangerous goods

### **IMDG**

Not dangerous goods

### **IATA**

Not dangerous goods

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## **SECTION 15: Regulatory information**

### **15.1 Safety, health and environmental regulations specific for the product in question**

#### **SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### **SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### **SARA 311/312 Hazards**

Acute Health Hazard

#### **California Prop. 65 Components**

WARNING! This product may contain a chemical known to the State of California to cause birth defects or other reproductive harm. (< 0.05%)

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Chemical name: Acrylamide  
CAS number: 79-06-1

WARNING! This product may contain a chemical known to the State of California to cause cancer.  
Chemical name: Acrylamide  
CAS number: 79-06-1

### HMIS Rating

HMIS RATINGS (Hazardous Materials Identification System)	
HEALTH	0
FLAMMABILITY	1
REACTIVITY	0
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 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

Version 1