

FL-05L Liquid Fluid Loss

Version 1.5

Revision Date 2016-01-15

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

Product information

Product Name : FL-05L Liquid Fluid Loss

Use : Cement Additive

Company : Downhole Solutions
81694 Hwy 41
Bush, La 70431

Emergency telephone:

Health:

866.442.9628 (North America)

1.832.813.4984 (International)

Transport:

CHEMTREC 800.424.9300 or 703.527.3887(int'l)

Asia: +800 CHEMCALL (+800 2436 2255) China:+86-21-22157316

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

SECTION 2: Hazards identification

Classification of the substance or mixture

This product has been classified in accordance with the hazard communication standard 29 CFR 1910.1200; the SDS and labels contain all the information as required by the standard.

Emergency Overview

Warning

Form: Liquid **Physical state:** Liquid **Color:** Clear to light amber **Odor:** Slight

OSHA Hazards : Specific target organ systemic toxicity - single exposure

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Classification

: Specific target organ systemic toxicity - repeated exposure ,
Category 2 , Oral , Kidney

Labeling

Symbol(s)

:



Signal Word

: Warning

Hazard Statements

: H373: May cause damage to organs (Kidney) through
prolonged or repeated exposure if swallowed.

Precautionary Statements

: **Prevention:**
P260 Do not breathe dust/fume/gas/mist/vapor/spray.
Response:
P314 Get medical advice/ attention if you feel unwell.
Disposal:
P501 Dispose of contents/ container to an approved waste
disposal plant.

Carcinogenicity:**IARC**

No ingredient of this product present at levels greater than or
equal to 0.1% is identified as probable, possible or confirmed
human carcinogen by IARC.

NTP

No ingredient of this product present at levels greater than or
equal to 0.1% is identified as a known or anticipated carcinogen
by NTP.

ACGIH

No ingredient of this product present at levels greater than or
equal to 0.1% is identified as a carcinogen or potential carcinogen
by ACGIH.

SECTION 3: Composition/information on ingredients

Synonyms

: None Established

Molecular formula

: Mixture

Component	CAS-No.	Weight %
Ethylene Glycol	107-21-1	5 - 15

SECTION 4: First aid measures

General advice

: Move out of dangerous area. Show this material safety data
sheet to the doctor in attendance.

If inhaled

: If unconscious place in recovery position and seek medical

- advice. If symptoms persist, call a physician.
- In case of eye contact : Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5: Firefighting measures

- Flash point : > 101 °C (> 214 °F)
- Autoignition temperature : No data available
- Unsuitable extinguishing media : High volume water jet.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.
- Further information : Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Fire and explosion protection : Normal measures for preventive fire protection.
- Hazardous decomposition products : No data available.

SECTION 6: Accidental release measures

- Personal precautions : Use personal protective equipment.
- Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage**Handling**

- Advice on safe handling : Do not breathe vapors/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and

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drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Storage

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

US

Ingredients	Basis	Value	Control parameters	Note
Ethylene Glycol	OSHA Z-1-A	C	50 ppm, 125 mg/m ³	
	ACGIH	C	25 ppm, 10 mg/m ³	A4, Aerosol only

A4 Not classifiable as a human carcinogen

Engineering measures

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Personal protective equipment

Respiratory protection : Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Air-Purifying Respirator for Organic Vapors, Dusts and Mists. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. 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 discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye protection : Eye wash bottle with pure water. Tightly fitting safety goggles.

Skin and body protection : Choose body protection according to the amount and

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concentration of the dangerous substance at the work place.
Wear as appropriate: Protective suit. Safety shoes.

Hygiene measures : When using do not eat or drink. When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties****Appearance**

Form : Liquid
Physical state : Liquid
Color : Clear to light amber
Odor : Slight

Safety data

Flash point : > 101 °C (> 214 °F)

Lower explosion limit : No data available

Upper explosion limit : No data available

Oxidizing properties : no

Autoignition temperature : No data available

Molecular formula : Mixture

Molecular weight : Not applicable

pH : No data available

Freezing point : No data available

Pour point : No data available

Boiling point/boiling range : > 100 °C (> 212 °F)

Vapor pressure : No data available

Relative density : 1.12

Water solubility : Completely Soluble

Partition coefficient: n-octanol/water : No data available

Viscosity, kinematic : No data available

Relative vapor density : No data available

Evaporation rate : No data available

SECTION 10: Stability and reactivity

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Possibility of hazardous reactions

Conditions to avoid : No data available.
Hazardous decomposition products : No data available

Other data : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information**DIACEL® FL (Winterized) Cement Additive**

Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

DIACEL® FL (Winterized) Cement Additive

Skin irritation : May cause skin irritation in susceptible persons.

DIACEL® FL (Winterized) Cement Additive

Eye irritation : May irritate eyes.

Sensitization

Ethylene Glycol : Did not cause sensitization on laboratory animals.

Repeated dose toxicity

Ethylene Glycol : Species: Rat
Application Route: Oral
Dose: 0, 40, 200, or 1000 mg/kg/day
Exposure time: 2 yr
Number of exposures: daily
NOEL: 200 mg/kg
Lowest observable effect level: 1,000 mg/kg
Target Organs: Kidney

Species: Rat
Application Route: Oral
Dose: 0, 150, 300 or 400 mg/kg/day
Exposure time: 1 yr
Number of exposures: daily
NOEL: 150 mg/kg
Lowest observable effect level: 300 mg/kg
Target Organs: Kidney

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Carcinogenicity

Ethylene Glycol : Species: Mouse
 Sex: male
 Dose: 0, 1500, 3000, or 6000 mg/kg/d
 Exposure time: 2 yr
 Number of exposures: daily
 Remarks: No evidence of carcinogenicity

Species: Mouse
 Sex: female
 Dose: 0, 3000, 6000, 12000 mg/kg/d
 Exposure time: 2 yr
 Number of exposures: daily
 Remarks: No evidence of carcinogenicity

Reproductive toxicity

Ethylene Glycol : Species: Mouse
 Application Route: Oral diet
 Dose: 0, 410, 840, or 1640 mg/kg/day
 Number of exposures: daily
 NOAEL Parent: > 1640 mg/kg/day
 NOAEL F1: 840 mg/kg/day

Species: Rat
 Sex: male
 Application Route: Oral diet
 Dose: 0, 40, 200, 1000 mg/kg/d
 Number of exposures: daily
 NOAEL Parent: > 1000 mg/kg/day
 NOAEL F1: > 1000 mg/kg/day
 no abnormalities observed

Developmental Toxicity

Ethylene Glycol : Species: Mouse
 Application Route: oral gavage
 Dose: 0, 150, 500, or 1500 mg/kg/day
 Exposure time: GD 6-15
 NOAEL Teratogenicity: 150 mg/kg/day
 NOAEL Maternal: > 1500 mg/kg/day

DIACEL® FL (Winterized) Cement Additive

Aspiration toxicity : No aspiration toxicity classification.

DIACEL® FL (Winterized) Cement Additive

Further information : No data available.

SECTION 12: Ecological information**Toxicity to fish**

Ethylene Glycol : LC50: 22810-24591 mg/l
 Exposure time: 96 h
 Species: Oncorhynchus mykiss (rainbow trout)
 static test

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LC50: 49000-72860 mg/l
 Exposure time: 96 h
 Species: Pimephales promelas (fathead minnow)
 static test

Toxicity to daphnia and other aquatic invertebrates

Ethylene Glycol : LC50: 46300- 51000 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)

Toxicity to algae

Ethylene Glycol : EC50: 10,940 mg/l
 Exposure time: 96 h
 Species: Selenastrum capricornutum (algae)
 Growth inhibition
 EC50: 33130-47750 mg/l
 Exposure time: 96 h
 Species: Lemna minor (common duckweed)

Toxicity to fish (Chronic toxicity)

Ethylene Glycol : NOEC: 32,000 mg/l
 Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

Ethylene Glycol : NOEC: 24,000 mg/l
 Species: Daphnia

Elimination information (persistence and degradability)

Bioaccumulation

Ethylene Glycol : Species: Leuciscus idus (Golden orfe)
 Exposure time: 3 d
 Concentration: 0.05 mg/l
 Bioconcentration factor (BCF): 10

Biodegradability : Taking into consideration the properties of several ingredients, the product is estimated not to be readily biodegradable according to OECD classification.

Ecotoxicology Assessment

Additional ecological information : This material is not expected to be harmful to aquatic organisms.

SECTION 13: Disposal considerations

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product : Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14: Transport information

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information**National legislation**

SARA 311/312 Hazards : Chronic Health Hazard

SARA 302 Reportable Quantity : This material does not contain any components with a SARA 302 RQ.

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

SARA 304 Reportable Quantity : This material does not contain any components with a section 304 EHS RQ.

SARA 313 Ingredients : The following components are subject to reporting levels established by SARA Title III, Section 313:

: Ethylene Glycol - 107-21-1

Clean Air Act

Ozone-Depletion Potential : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

: Ethylene Glycol - 107-21-1

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

: Ethylene Glycol - 107-21-1

US State Regulations

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Pennsylvania Right To Know : Ethylene Glycol - 107-21-1

New Jersey Right To Know : Ethylene Glycol - 107-21-1

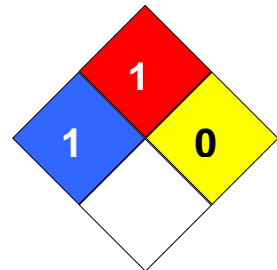
California Prop. 65 Ingredients : This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

Europe REACH : On the inventory, or in compliance with the inventory
 United States of America TSCA : On the inventory, or in compliance with the inventory
 Canada DSL : All components of this product are on the Canadian DSL
 Australia AICS : On the inventory, or in compliance with the inventory
 New Zealand NZIoC : On the inventory, or in compliance with the inventory
 Japan ENCS : Not in compliance with the inventory
 Korea KECI : Not in compliance with the inventory
 Philippines PICCS : On the inventory, or in compliance with the inventory
 China IECSC : On the inventory, or in compliance with the inventory

SECTION 16: Other information

NFPA Classification : Health Hazard: 1
 Fire Hazard: 1
 Reactivity Hazard: 0

**Further information**

Legacy SDS Number : 29150

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		