

MATERIAL SAFETY DATA SHEET



Flowzan® Biopolymer

Version 1.7

Revision Date 2012-03-29

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product information

Trade name : Flowzan® Biopolymer
Material : 1016765, 1016826, 1017888, 1017889, 1016827

Use : Drilling Fluid Additive

Company : Drilling Specialties Company
10001 Six Pines Drive
The Woodlands, TX 77380

Emergency telephone:

Health:

866.442.9628 (North America)

1.832.813.4984 (International)

Transport:

North America: CHEMTREC 800.424.9300 or 703.527.3887

Asia: +800 CHEMCALL (+800 2436 2255) China: 0532.8388.9090

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

Chemcare Asia: Tel: +65 6848 9048 - Mob: +65 8382 9188 - Fax: +65 6848

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

Responsible Department : Product Safety and Toxicology Group

E-mail address : MSDS@CPChem.com

Website : www.CPChem.com

2. HAZARDS IDENTIFICATION

Emergency Overview

Physical state: Solid **Color:** Cream to light yellow **Odor:** Slight

OSHA Hazards : No OSHA Hazards

GHS Classification

Not a dangerous substance according to Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

GHS-Labeling

Not a dangerous substance according to Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Carcinogenicity:

Flowzan® Biopolymer

Version 1.7

Revision Date 2012-03-29

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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : None Established

Molecular formula : Mixture

Component	CAS-No.	Weight %
Saturated monocarboxylic acid, calcium salt	Proprietary	1 - 5

Contains no hazardous ingredients according to GHS.

4. FIRST AID MEASURES

General advice	: Do not leave the victim unattended.
If inhaled	: Keep respiratory tract clear. If symptoms persist, call a physician.
In case of skin contact	: Wash off with soap and water.
In case of eye contact	: Remove contact lenses. Protect unharmed eye. 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.

5. FIRE-FIGHTING MEASURES

Flash point	: Not applicable
Autoignition temperature	: No data available
Special protective equipment for fire-fighters	: Wear self contained breathing apparatus for fire fighting 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	: Provide appropriate exhaust ventilation at places where dust is formed.
Hazardous decomposition	: No data available.

Flowzan® Biopolymer

Version 1.7

Revision Date 2012-03-29

products

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Avoid dust formation.
- Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up : Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE**Handling**

- Advice on safe handling : For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
- Advice on protection against fire and explosion : Provide appropriate exhaust ventilation at places where dust is formed.

Storage

- Requirements for storage areas and containers : Electrical installations / working materials must comply with the technological safety standards.
- Advice on common storage : No materials to be especially mentioned.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Ingredients with workplace control parameters****US**

Ingredients	Basis	Value	Control parameters	Note
Saturated monocarboxylic acid, calcium salt	ACGIH	TWA	10 mg/m3	J, A4,

A4 Not classifiable as a human carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.

J Does not include stearates of toxic metals.

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.

Flowzan® Biopolymer

Version 1.7

Revision Date 2012-03-29

- 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 : Safety glasses. Eye wash bottle with pure water.
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate:. Lightweight protective clothing. Safety shoes.
- Hygiene measures : General industrial hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties****Appearance**

- Physical state : Solid
 Color : Cream to light yellow
 Odor : Slight

Safety data

- Flash point : Not applicable
 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 : 5.5 - 8.5

Pour point : No data available

Boiling point/boiling range : Not applicable

Vapor pressure : Not applicable

Relative density : 1.4 - 1.6

Water solubility : Completely Soluble

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

Flowzan® Biopolymer

Version 1.7

Revision Date 2012-03-29

Viscosity, kinematic : No data available

Relative vapor density : Not applicable

Evaporation rate : No data available

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.

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

11. TOXICOLOGICAL INFORMATION

Flowzan® Biopolymer
Acute oral toxicity : LC50: not known

Flowzan® Biopolymer
Acute inhalation toxicity : LC50: not known

Flowzan® Biopolymer
Acute dermal toxicity : LD50: not known

Flowzan® Biopolymer
Skin irritation : No skin irritation

Flowzan® Biopolymer
Eye irritation : No eye irritation

Flowzan® Biopolymer
Aspiration toxicity : No aspiration toxicity classification.

Flowzan® Biopolymer
Further information : No data available.

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradability : Not applicable

Additional ecological information : No data available

Flowzan® Biopolymer

Version 1.7

Revision Date 2012-03-29

13. DISPOSAL CONSIDERATIONS

The information in this MSDS 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.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

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 MSDS 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)

Flowzan® Biopolymer

Version 1.7

Revision Date 2012-03-29

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

15. REGULATORY INFORMATION**National legislation**

SARA 311/312 Hazards : No SARA Hazards

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO – KNOW

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

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

SARA 302 Threshold Planning Quantity : SARA 302: 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 : SARA 313: 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.

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).

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.

Flowzan® Biopolymer

Version 1.7

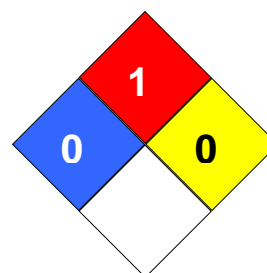
Revision Date 2012-03-29

Notification status

Europe REACH : On the inventory, or in compliance with the inventory
 United States of America US.TSCA : On the inventory, or in compliance with the inventory
 Canada DSL : On the inventory, or in compliance with the inventory
 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 : On the inventory, or in compliance with the inventory
 Korea KECI : On the inventory, or 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

16. OTHER INFORMATION

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

**Further information**

Legacy MSDS Number : 463650

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

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

The information provided in this Material 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

Flowzan® Biopolymer

Version 1.7

Revision Date 2012-03-29

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%		