

# Chemicals Package

March 2015

---



## MSDS BENTONITE PELLETS

(Material Safety Data Sheet)

Revision Date: 15/01/2010 Number 2010 Page 1 of 2



### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/ UNDERTAKING

#### BENTONITE PELLETS

Mudtech Ltd, Morrison Mud Division, Wyburn House, 1 Crab Lane, Stafford, ST16 1SB UK  
Telephone 01929 551245 Fax 01929 554361 Sales@mudtech.co.uk

### 2. COMPOSITION/INFORMATION

Montmorillonite pellets

### 3. HAZARDS IDENTIFICATION

Not classified as hazardous. Avoid breathing dust.

### 4. FIRST AID MEASURES

First Aid  
Skin contact - Wash with water and soap  
Eye Contact - Flush with water for at least 5mins  
Ingestion - Rest, fresh air. If symptoms develop seek medical advice

### 5. FIRE FIGHTING MEASURES

Not flammable  
Slippery when wet.

### 6. ACCIDENTAL RELEASE MEASURES

Environmental care - Avoid dusting  
Cleaning methods - Scoop up spilled product

### 7. HANDLING AND STORAGE

Keep dry

### 8. EXPOSURE CONTROLS /PERSONAL PROTECTION

Exposure controls -10(dust)  
MAC value(mg/m3)  
PERSONAL PROTECTION  
Inhalation - Dustmask  
Eyes - Goggles

### 9. PHYSICAL AND CHEMICAL PROPERTIES

State of aggregation - Granules  
Colour - Grey/yellow  
Odour - Odourless  
pH - 7-8 (10% suspension)  
Boiling Point (°C) - N/a  
Melting Point (°C) - >1250  
Flashpoint (°C) - N/a  
Flammability

# SAFETY DATA SHEET

Creation Date 27-Apr-2009 Revision Date 10-Nov-2010 Revision Number 1

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier**  
**Product Description:** Methanol  
**Cat No.** M/4000/17, M/4000/PC17, M/4000/27, M/4000/PC25, M  
**Synonyms** Methyl alcohol

**Relevant identified uses of the substance or mixture and uses advised against**  
**Recommended Use** Laboratory chemicals  
**Uses advised against** No Information available

### Details of the supplier of the safety data sheet

**Company**  
 Fisher Scientific UK  
 Bishop Meadow Rd  
 Loughborough, Leicestershire, Great Britain  
 LE11 0RG  
 Tel: 01509 231100  
 E-mail address: [order.fish@fisher.com](mailto:order.fish@fisher.com)  
**Emergency Telephone Number**  
 Tel: 01509 251745 (Outside UK: +44 1509 251745)  
 Fax: 01509 251745

## 2. HAZARD IDENTIFICATION

Data derived from the following references:  
 REOCLAS (CERD) No. 02263548

Acute oral toxicity	Category 3
Acute dermal toxicity	Category 3
Acute inhalation toxicity (Data not available)	Category 3
Specific irritant or corrosive (single exposure)	Category 1
Flammable liquid	Category 2

Classification according to EU Directives 67/548/EEC or 1999/45/EC  
 or the full text of the R-phrases mentioned in this Section, see Section 16

**Symbol(s)** T - Toxic  
 F - Highly flammable  
**-phrases** R11 - Highly flammable  
**Risk Combination Phrases** R23/24/25 - Toxic by Inhalation, in contact with skin and if swallowed  
 R39/23/24/25 - Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed

GRACE

## Material Safety Data Sheet

Version Number 1.1

Reviewed on 10/19/2012

Printing date 10/19/2012

## 1 Identification of the substance/mixture and of the company/undertaking

**Product identifier**  
**Trade name:** GRACE FIBERS; GRACE MICRO FIBER; GILCO FIBERS  
**MSDS ID Number:** D-06926  
**Details of the supplier of the safety data sheet**

### Manufacturer/Supplier:

W.R. Grace & Co -Comm.  
 62 Whittemore Avenue  
 Cambridge, MA 02140 USA

**Other Country Contact Information:**  
 For products distributed beyond the country Manufacturer/Supplier identified above  
 Consult Section 16 for additional emergency contact information.

### Information department:

Environmental Health & Safety  
 USA: +1-617-876-1400 (24 hours)  
 +1-800-354-5414 (8AM - 5PM) Not functional within Massachusetts

**Transport Emergency:** Chemtree +1-800-424-9300 (24 hours)

## 2 Composition/information on ingredients

**Chemical characterization: Mixtures**

**Hazardous components:** Not applicable.

## 3 Hazards identification

**Inhalation:** May cause respiratory tract irritation.  
**Eye Contact:** May be slightly irritating to the eyes.  
**Skin Contact:** May be irritating to the skin on prolonged contact  
**Skin Absorption:** Not expected to be harmful if absorbed through the skin.  
**HFA ratings (scale 0 - 4)**



**HMIS-ratings (scale 0 - 4)**



GA-20

CUADRILLA  
RESOURCES

MATERIAL SAFETY DATA SHEET

CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: GA-20  
Chemical Name: Guer Gum Blend  
Chemical Family: Guer Gum  
Distributor: Cuadrilla Well Services Limited, BBO House, Stowe Court, Stowe Street, Lichfield, Staffordshire, WS13 6AQ, +44(0)1543 266444 (Phone), (003 71)030-2748888, Earl Parnell, +44(0)7560 849432, mark.miller@cuadrillaresources.com, 02/08/2009

HAZARDS IDENTIFICATION

Human health hazards: Eye irritant. May cause allergic respiratory reaction  
Acute health hazards: None known  
Chronic health hazards: None known  
Route(s) of entry: Eye, skin & inhalation  
Safety hazards: None known  
Environmental hazards: No information is available on the product  
European R-Phrases: Not applicable  
European S-Phrases: Not applicable  
Indications of Danger: Not applicable

COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient: This product does not contain any reportable hazardous components as defined in 29 CFR 1910.1200  
CAS No.: Not applicable  
EINECS: Not applicable  
Wt. Percent Range: Not applicable  
OSHA PEL: Not applicable  
ACGIH TLV: Not applicable  
LD50: Not applicable  
LC50: Not applicable  
European R-Phrases: Not applicable  
European S-Phrases: Not applicable  
Indications of Danger: Not applicable

FIRST AID MEASURES

Eye: Remove contact lenses at once. Immediately flush with copious amounts of water for at least 15 minutes while holding eyelids open. If irritation persists, seek medical attention.  
Skin: Wash affected area thoroughly with soap and water for at least 15 minutes or until product is removed. Remove contaminated clothing and launder before reuse. If irritation develops, seek medical attention.  
Inhalation: Remove to fresh air. If irritation is experienced, mouth and throat may be rinsed with water. Particles settling in the nasal cavity may be rinsed / diluted with saline / plain water. If irritation or asthma-like symptoms persist, seek prompt medical attention.  
Ingestion: Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

GA-20

CUADRILLA  
RESOURCES

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: GA-20  
Chemical Name: Guer Gum Blend  
Chemical Family: Guer Gum  
Distributor: Cuadrilla Well Services Limited, BBO House, Stowe Court, Stowe Street, Lichfield, Staffordshire, WS13 6AQ, +44(0)1543 266444 (Phone), (003 71)030-2748888, Earl Parnell, +44(0)7560 849432, mark.miller@cuadrillaresources.com, 02/08/2009

2. HAZARDS IDENTIFICATION

Human health hazards: Eye irritant. May cause allergic respiratory reaction  
Acute health hazards: None known  
Chronic health hazards: None known  
Route(s) of entry: Eye, skin & inhalation  
Safety hazards: None known  
Environmental hazards: No information is available on the product  
European R-Phrases: Not applicable  
European S-Phrases: Not applicable  
Indications of Danger: Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient: This product does not contain any reportable hazardous components as defined in 29 CFR 1910.1200  
CAS No.: Not applicable  
EINECS: Not applicable  
Wt. Percent Range: Not applicable  
OSHA PEL: Not applicable  
ACGIH TLV: Not applicable  
LD50: Not applicable  
LC50: Not applicable  
European R-Phrases: Not applicable  
European S-Phrases: Not applicable  
Indications of Danger: Not applicable

4. FIRST AID MEASURES

Eye: Remove contact lenses at once. Immediately flush with copious amounts of water for at least 15 minutes while holding eyelids open. If irritation persists, seek medical attention.  
Skin: Wash affected area thoroughly with soap and water for at least 15 minutes or until product is removed. Remove contaminated clothing and launder before reuse. If irritation develops, seek medical attention.  
Inhalation: Remove to fresh air. If irritation is experienced, mouth and throat may be rinsed with water. Particles adhering to the nasal cavity may be rinsed / diluted with saline / plain water. If irritation or asthma-like symptoms persist, seek prompt medical attention.  
Ingestion: Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

# MATERIAL SAFETY DATA SHEET

MIL-810 NS

Drilling Fluids



## 1. Product and Company Information

Material name  
Applications  
Supplier

MIL-810 NS  
Drilling Fluids  
Houston, TX 77033  
Emergency telephone number 713-430-6800

## 2. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.  
Composition comments: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

## 3. Hazards Identification

**Emergency overview:** Irritating to eyes, respiratory system and skin. May be harmful if swallowed.  
**Potential health effects:**  
**Eyes:** Contact with eyes may cause irritation.  
**Skin:** This product may cause irritation to the skin.  
**Inhalation:** This product may cause slight irritation to the respiratory system.  
**Ingestion:** May be harmful if swallowed. Health injuries are not always of expected level - ATMS use.

## 4. First Aid Measures

**First aid procedures:**  
**Eye contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.  
**Skin contact:** Wash off skin with soap and water. Get medical attention if irritation develops or persists.  
**Inhalation:** Remove to fresh air. If breathing is difficult, give oxygen. Call a physician if symptoms develop or persist.  
**Ingestion:** If conscious, drink plenty of water. Do not induce vomiting. Get medical attention immediately.  
**General advice:** If you feel unwell, seek medical advice (show the label where possible).

## 5. Fire Fighting Measures

**Extinguishing media:**  
 **Suitable extinguishing media:** Water spray or fog, CO2, dry chemical, dry sand, alcohol-resistant foam.  
**Protection of firefighters:**  
**Protective equipment for firefighters:** Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out.

## 6. Accidental Release Measures

**Methods for containment:** Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.  
**Methods for cleaning up:** Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean contaminated surface thoroughly.

## 7. Handling and Storage

**Handling:** Handle and open container with care. Do not get this material in your eyes, on your skin, or on your clothing. Keep this product from heat, sparks, or open flame.  
**Storage:** Keep away from heat, sparks, and flame. Keep containers tightly closed in a dry, cool and well-ventilated place.

Material Safety Data Sheet  
Material ID: 8102 Revision date: 29-OCT-2009 Print date: 20-OCT-2009

8806-26  
1/4

BA-2

**CUADRILLA**  
RESOURCES

# MATERIAL SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier : BA-2  
Chemical Name : Formic Acid  
Chemical Family : Carboxylic Acid  
Manufacturer : Cuadrilla Well Services Limited  
BBD House, Stows Court, Stows Street  
Lichfield, Staffordshire, WS13 6AQ

Manufacturer Phone : +44(0)1543 265444 (Phone)  
Emergency Phone : (0031)(0)30-2748888  
Prepared by : Denise Pattinson  
Phone : +44(0)7590 849432  
email : mark.miller@cuadrilaresources.com  
Issue Date : 10/13/2009  
Revision Date :

## 2. HAZARDS IDENTIFICATION

**Human health hazards:** Irritant  
**Acute health hazards:** Defatting and dermatitis of the skin  
**Chronic health hazards:** Eyes, skin, inhalation and ingestion  
**Route(s) of entry:** Eyes, skin, inhalation and ingestion  
**Safety hazards:** Corrosive liquid  
**Environmental hazards:** No information is available on the product.  
**European R-Phrases:** R35 Causes severe burns  
**European S-Phrases:** S1/2 Keep locked up and out of reach of children  
S23 Do not breath gas/fumes/vapour/spray  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
**Indications of Danger:** C Corrosive

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient : Formic Acid  
CAS No. : 64-18-8  
EINECS : 200-570-1  
Wt. Percent Range : 85-95  
OSHA PEL : 5 ppm  
ACGIH TLV : 10 ppm  
LODL : Conf 730 mg/kg (rat)  
LC50 : Inhalation (4 h) 7.4 mg/L (rat)  
European R-Phrases : R: 35  
European S-Phrases : S: 1/2, 23, 26, 45  
Indications of Danger : C

## 4. FIRST AID MEASURES

**Eye:** Remove contact lenses, if none, immediately flush with copious amounts of water for at least 15 minutes while holding eyelids open. If irritation persists, seek medical attention.  
**Skin:** Wash affected area thoroughly with soap and water for at least 15 minutes or until product is removed. Remove contaminated clothing and launder before reuse. If irritation develops, seek medical attention.  
**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek prompt medical attention.  
**Ingestion:** Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

Cuadrilla Resources BA-2-0

**SAFETY DATA SHEET**  
**DUO-VIS\* NS (ARAMCO)**

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**1.1. Product Identifier**

Product name : DUO-VIS\* NS (ARAMCO)

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Viscosifier

**1.3. Details of the supplier of the safety data sheet**

Supplier : M-I SWACO  
A Schlumberger Company  
Endeavour Drive  
Anhall Eskiners Park, Wexford  
Aberdeen AB32 8JF  
Scotland UK  
T = +44 (0)1224-742200  
F = +44 (0)1224-742288  
E-mail = MBXMSDS-EH@miawaco-slb.com

**1.4. Emergency telephone number**

(24 Hour) Australia +61 2501 44550, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, USA 001 281 561 1600.

**SECTION 2: HAZARDS IDENTIFICATION**

**2.1. Classification of the substance or mixture**

Classification (67/548/EEC) : Not classified

**2.2. Label elements**

Risk Phrases : NC  
Safety Phrases : NC  
Other hazards : NC

Not Classified as PBT/PvB by current EU criteria

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1. Substances**

XANTHAN GUM

Classification (EC 1272/2008) : Not classified  
Classification (67/548/EEC) : Not classified

The FDS Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

**Composition Comments**

The data shown is in accordance with the latest EC Directives.

**SECTION 4: FIRST AID MEASURES**

CS-1

**MATERIAL SAFETY DATA SHEET**

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Product Identifier : CS-1  
Chemical Name : Not Applicable, A Blend  
Chemical Family : Quaternary Ammonium Salt  
Distributor : Cuadrilla Well Services Limited  
 : BBD House, Stowe Court, Stowe Street  
 : Lichfield, Staffordshire, WS13 6AQ  
Manufacturer Phone : +44(0)1543 266444 (Phone)  
Emergency Phone : (0031)(0)30-2748888  
Prepared by : Earl Parnell  
Phone : +44(0)7590 849432  
E-mail : mark.miller@cuadrillaresources.com  
Issue Date : 09/08/2009  
Revised Date :

**2. HAZARDS IDENTIFICATION**

Human health hazards : None known  
Acute health hazards : None known  
Chronic health hazards : None known  
Route(s) of entry : Eyes and skin  
Safety hazards : None known  
Environmental hazards : None known  
European R-Phrases : Not Applicable  
European S-Phrase : Not Applicable  
Indications of Danger : Not Applicable

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Ingredient : Choline Bicarbonate  
CAS No. : 78-73-9  
EINECS : 201-137-0  
Wt. Percent Range : 35-50  
OSHA PEL : Not established for this product  
ACGIH TLV : Not established for this product  
LD50 : Not available  
LC50 : Not available  
European R-Phrases : Not Applicable  
European S-Phrase : Not Applicable  
Indications of Danger : Not Applicable

**4. FIRST AID MEASURES**

Eye : Immediately flush with copious amounts of water for at least 15 minutes while holding eyelids open. If irritation persists, seek medical attention.  
Inhalation : Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before reuse. If irritation develops, seek medical attention.  
Ingestion : Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek prompt medical attention. Only induce vomiting if instructed by a physician or poison control center immediately. Only induce vomiting if the instruction of medical personnel. Never give anything by mouth to an unconscious person.

**CUADRILLA**  
RESOURCES

**M-10**

PATENT 7,380,606

- R10 Flammable  
R36/37/38 Irritating to eyes, respiratory system and skin  
R43 May cause sensitization by skin contact  
R52/53 Harmful to aquatic organisms/May cause long-term adverse effects in the aquatic environment
- S2 Keep out of reach of children  
S7 Keep container tightly closed  
S16 Keep away from ignition sources. No Smoking  
S24/S25 Avoid contact with skin and eyes.  
S26 In case of contact with eyes, rinse with water and seek medical attention.

CONTAINS: Isopropanol and Citrus Terpenes  
EMERGENCY PHONE: (0031) (0)30-2748888  
NET CONTENTS: 330 gallons

Label(s) required: Flammable  
Hazard Class: 3  
UN Number: UN1993  
Packaging group: PG III

NOTE: CONTAINERS FILLED BY WEIGHT.  
LEFT FOR EXPANSION DUE TO TEMPERATURE

# LUBRA-GLIDE

MATERIAL SAFETY DATA SHEET  
LUBRA-GLIDE® CO-POLYMER BEAD  
(FINE AND COARSE)

SUN DRILLING PRODUCTS CORP. 581 Main Street Belle Chasse, LA 70037 (504) 393-2778	HMS HEALTH: 1 HMS FLAMMABILITY: 0 HMS REACTIVITY: 0 PERSONAL PROTECTION: B
CHEMICAL EMERGENCY - Spill, Leak, Fire, Accident USA/Canada Call 1-800-424-9300 CHEMTREC - Outside USA/Canada Call 1-703-527-3887	

## SECTION 1 - IDENTIFICATION OF CHEMICAL PRODUCT

PRODUCT NAME:	LUBRA-GLIDE®
EFFECTIVE DATE:	May 8, 2012
CHEMICAL FAMILY:	Drilling Fluid Additive
FORMULA:	Proprietary Co-Polymer Composition
Harmonized/Tariff Code:	Inert 3903.90

## SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENT	PERCENT	CAS NUMBER PEL
This product is not considered hazardous as per 29 CFR 1916.12(N)		None Established

The criteria for listing components in the composition are as follows: Carcinogens are listed when present at 0.1% or greater; components which are either not hazardous according to OSHA are listed when present at 1.0% or greater. Non-hazardous components may be listed at 3.0% or greater if not proprietary in nature. This is not intended to be a complete compositional disclosure. Refer to section 14 for applicable states Right-to-Know and other regulatory information.

## SECTION 3 - HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

APPEARANCE/ODOR:  
SHORT TERM EXPOSURE

Clear to White bead/Mild Odor  
**GENERAL:** No significant adverse health effects are expected to develop with normal use. **EYES:** Slight to moderate irritant.  
**SKIN:** Persons with pre-existing skin disorders may experience slight irritation. **INHALATION:** No adverse effects with normal use. **INGESTION:** No significant adverse health effects expected to develop if only small amounts (less than a mouthful) are swallowed.

OSHA REGULATED:  
LISTED CARCINOGEN:  
IARC MONOGRAPHS:

No  
NA  
NA

**clear solutions**  
international ltd

Clear Solutions International Ltd  
Unit B3  
Wern Industrial Estate  
Soulton Road  
Wern  
Shropshire  
SY4 5SD UK

**SECTION 1. IDENTIFICATION OF THE SUBSTANCE AND DETAILS OF THE COMPANY**

**Product Name:** Drill-Slip™  
**Product Description:** Liquid solution of nonionic surfactants  
**Manufacturer's Name and Address:**  
Clear Solutions International Ltd  
Unit B3, Wern Industrial Estate  
Soulton Road  
Wern  
Shropshire SY4 5SD

**Safety Data Sheet No:** 60021EC  
*Page 1 of 4*  
**Date Prepared:** February 01, 2005  
**Telephone:** +44 (0)1939 235754  
**Fax:** +44 (0)1939 232399

**SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS**

**PRODUCT IDENTIFICATION:**  
**Chemical Name:** Proprietary mixture of anionic and nonionic surfactants  
**Rating:** Health - 0, Flammability - 0, Reactivity - 0, Protective Equipment - See Section 8

CHEMICAL IDENTITY	CAS No.	EXPOSURE LIMITS		
		OSHA PEL (TWA)	ACGIH TLV (TWA)	UK HSE EH 40 (TWA)
Liquid solution of nonionic surfactants	Mixture	NE	NE	NE

PEL - OSHA Permissible Exposure Limit, 8 hour Time-Weighted Average  
TLV - American Conference of Governmental Industrial Hygienists Threshold Limit Value, 8 hr. TWA, 40 hr. week  
EH 40 - UK Health and Safety Executive / Environmental Health Occupational Exposure Limits, 8 hr. TWA  
NE = Not Established

**SECTION 3. HAZARDS IDENTIFICATION**

**Description:** Clear red liquid with mild odour.  
**Classification of Hazards:** This product contains no hazardous ingredients.  
**Preventive Measures:** Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Avoid repeated or prolonged inhalation of mists or sprays and skin contact. Very slippery when wet.  
**Primary Route(s) of Entry:** Skin contact.  
**Signs and Symptoms of Exposure:** Eye contact may produce irritation and/or redness. Inhaled mist may cause respiratory irritation. Prolonged and frequent skin contact may lead to rashes or dermatitis.  
**Toxicity:** Not listed as a carcinogen by IARC, NTP, OSHA, or ACGIH.  
**Special Conditions Aggravated by Exposure:** None known.  
**Organ(s):** Not Applicable

**SECTION 4. FIRST AID MEASURES**

**Remove contaminated clothing and laundry before re-use. Wash affected area with soap and water. If mists or sprays are inhaled, move to fresh air and clear any blocked airways. Keep casualty at rest and consult physician. Immediately flush eyes with plenty of water for at least 15 minutes. Consult physician if irritation occurs. If illness or adverse effects occur, seek medical attention.**

**clear solutions**  
international ltd

Clear Solutions  
Unit B3  
Wern Industrial Estate  
Soulton Road  
Wern  
Shropshire  
SY4 5SD UK

**LIME** Page 1 of 4

**SECTION 1. IDENTIFICATION OF THE SUBSTANCE AND DETAILS OF THE COMPANY**

**Product Name:** LIME  
**Product Description:** Alkali  
**Manufacturer's Name and Address:**  
Clear Solutions International Limited  
Unit B3, Wern Industrial Estate  
Soulton Road  
Wern  
Shropshire, SY4 5SD

**Safety Data Sheet No:** 5036  
**Date Prepared:** February 7, 2005  
**Telephone:** +44 (0) 1939 235754  
**Fax:** +44 (0) 1939 232399

**SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS**

**PRODUCT IDENTIFICATION:**  
**Chemical Name:** CALCIUM HYDROXIDE  
**Use of substance/preparation:** An alkali for use in pH control of potable water, effluent treatment, flue gas treatment and construction

**SECTION 3. HAZARDS IDENTIFICATION**

**Main Hazards:** Irritating to skin. Risk of serious damage to eyes.

**SECTION 4. FIRST AID MEASURES (SYMPTOMS)**

**Eye Contact:** Causes painful irritation and may cause serious damage to eyes.  
**Ingestion:** Unlikely to cause reactions. Larger doses may irritate gastrointestinal tract.  
**Skin Contact:** Irritant, may cause burns in the presence of moisture.  
**Inhalation:** Irritating to the respiratory tract in high concentrations.

**SECTION 4. FIRST AID MEASURES (ACTION)**

**Eye Contact:** SPEED IS ESSENTIAL. Bathe the eye with running water for 15 minutes. Transfer to hospital for examination.  
**Ingestion:** Do not induce vomiting. Wash out mouth with water. Transfer to hospital as soon as possible.  
**Skin Contact:** Irritant, may cause burns in the presence of moisture.  
**Inhalation:** Remove casualty from exposure ensuring one's own safety whilst doing so. Seek medical attention if necessary.

A Schlumberger Company

**SAFETY DATA SHEET**  
SAFE-COR™ EN

---

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**1.1. Product identifier**  
Product name: SAFE-COR™ EN

**1.2. Relevant identified uses of the substance or mixture and uses advised against**  
Identified uses: Corrosion inhibitor.

**1.3. Details of the supplier of the safety data sheet**  
Supplier: M-I SWACO  
A Schlumberger Company  
Woodlands Drive  
Kirkhill Industrial Estate  
Dyce, Aberdeen AB21 0GW  
Scotland UK  
Tel: +44 (0) 1224 246600  
Fax: +44 (0) 1224 246699  
Email: MSDS@efb.com



**1.4. Emergency telephone numbers**  
24 Hour Australia +61 2801 44550, Asia Pacific +65 3156 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9026 1493, USA 001 281 561 1600.

---

**SECTION 2: HAZARDS IDENTIFICATION**

**2.1. Classification of the substance or mixture**  
Xn R36/38 R43

**2.2. Labeling**

Code	Signal	Phrases	Pictograms
R36/38	Warning	Irritating to eyes and skin.	
R43	Warning	May cause sensitisation by skin contact.	
S24/25	Warning	Avoid contact with skin and eyes.	
S26	Warning	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.	
S37	Warning	Wear suitable gloves.	
P001	Warning	This material and its container must be disposed of as hazardous waste.	

**2.3. Other hazards**  
Not Classified as PBT/PvP by current EU criteria

---

**SECTION 3: COMPOSITION INFORMATION ON INGREDIENTS**

**3.2. Mixtures**

# Microblend A

## (Microfine Cement)

### 20 kg (44 lbs)

**A cement containing product**

**Risk phrases**

- Eye Irritant
- Skin Irritant
- Skin Sensitizer
- Causes Burns

**Precautionary measures**

- Avoid prolonged or repeated contact with skin
- Avoid prolonged or repeated breathing of dust
- Wear suitable protective clothing
- Avoid contact with eyes
- Wear suitable gloves

**First aid measures**

- If cement powder or wet mixtures get in eyes, flush immediately with water for at least 25 minutes
- Skin areas exposed to wet mixtures should be thoroughly and immediately washed with water
- Persistent discomfort (burns) requires prompt medical attention

Refer to Material Safety Data Sheet (MSDS) for further information

Microblend Solutions Inc.  
Box 43057, 23-1221 Canyon Meadows Drive SE  
Calgary, Alberta, Canada T2J 7A7  
Telephone 1 403 968 9819

# Microblend

## Solutions Inc.

Made in Canada

**SECTION 1. IDENTIFICATION OF THE SUBSTANCE AND DETAILS OF THE COMPANY**

**Product Name:** CLEAR-STABILISER LV™  
**Product Description:** Fluid Loss Control Additive

**Manufacturer's Name and Address:**  
Clear Solutions International Limited  
Unit 83, Wern Industrial Estate  
Soulton Road  
Wern  
Shropshire, SY4 5SD

**Safety Data Sheet No:** 5004aEC  
Page 1 of 4

**Date Prepared:** January 05, 2004

**Telephone:** +44 (0) 1827 283 810  
**Fax:** +44 (0) 1827 254921

**SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS**

**PRODUCT IDENTIFICATION:**  
**Chemical Name:** Polyamionic Cellulose  
**HMIS Rating:** Health - 0, Flammability - 0, Reactivity - 0, Protective Equipment - See Section 8

CHEMICAL IDENTITY	CAS No.	OSHA PEL (TWA)	EXPOSURE LIMITS	
			ACGIH TLV (TWA)	DFG MAK (TWA)
Polyamionic Cellulose	9004-32-4	NE	NE	NE
Particulate Not Otherwise Specified (PNOS)	Inhalable	15 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>
	Respirable	5 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>

**OSHA PEL** - OSHA Permissible Exposure Limit, 8 hour Time-Weighted Average  
**ACGIH TLV** - American Conference of Governmental Industrial Hygienists Threshold Limit Value, 8 hr, TWA, 40 hr, week  
**DFG MAK** - Federal Republic of Germany Maximum Concentration Values in the Workplace.

NE = Not Established

**SECTION 3. HAZARDS IDENTIFICATION**

**Description:** White/off white powder, odourless  
**Statement of Hazards:** This product is not classified as dangerous under EEC directives 67/548/EEC or 85/337/EEC

**Precautionary Measures:**  
**Eye Contact** - Dry powder may cause foreign body irritation in some individuals. Solutions are non-irritating.  
**Skin Contact** - Prolonged contact with dry powder may cause drying or chapping of the skin. No evidence of adverse effects known.  
**Inhalation** - No evidence of adverse effects from available information. However, excessive inhalation of dust can mechanically impede respiration.  
**Ingestion** - No evidence of adverse effects from available information.  
**Medical Conditions Aggravated by Exposure:** Existing respiratory conditions.

**SECTION 4. FIRST AID MEASURES**

**Contact:** Flush with water. **Inhalation:** Move to fresh air.  
**Ingestion:** Drink large quantities of water.  
**Skin:** Remove contaminated clothing and launder before re-use. Wash affected area with soap and water.

**MasterLife® CI 30**  
Corrosion-Inhibiting Admixture

**Description**  
MasterLife CI 30 calcium nitrite based corrosion-inhibiting admixture is used in reinforced concrete. MasterLife CI 30 admixture forms a minimum of 10% active ingredients by weight and meets ASTM C 494M requirements for Type G, accelerating admixtures.

**Features**

- Effective corrosion protection against chlorides in concrete

**Benefits**

- Extended service life of reinforced concrete structures
- Set acceleration, which may be desirable in cold weather applications

**Performance Characteristics**

In the alkaline environment of concrete, a natural passive ferric oxide layer forms on the surface of embedded reinforcing steel and protects the steel from corrosion. This passive oxide layer may break down in the presence of chlorides and moisture resulting in corrosion of the steel.

MasterLife CI 30 admixture delays corrosion by repassivating defects on the steel surface. These defects are ferrous oxide ions that are susceptible to chloride attack. When chloride ions attack the ferrous ions, they combine to create a ferrous chloride complex (rust) and initiate pitting corrosion on the reinforcing steel. If untreated, chloride ions continue to attack newly exposed ferrous ions and form additional expansive corrosion products leading to staining, cracking and spalling of the concrete.

Nitrite ions contained in MasterLife CI 30 admixture are effective in preventing ferrous chloride complex formation by reacting with defective ferrous oxide ions prior to chloride attack and stabilizing the passive layer. Nitrite ions surround the defective ferrous oxide ion and convert it to a more stable ferric ion species less susceptible to corrosion. This oxidation reaction serves to repassivate the reinforcing steel and re-establish the barrier between the steel and chlorides that initiate corrosion.

**Concrete Setting Time:** Concrete setting times may be accelerated with the use of MasterLife CI 30 admixture. In most applications a retarding or hydration control admixture must be added to the concrete mixture to offset the acceleration effects of MasterLife CI 30 admixture. Please contact your local sales representative for additional information on the proper choice of retarding admixture for concrete to be treated with MasterLife CI 30 admixture.

## MATERIAL SAFETY DATA SHEET

### SECTION I: IDENTIFICATION OF PRODUCT

COMPANY: Diversity Technologies Corp. DATE: June 27, 2010  
 8750 - 33<sup>rd</sup> Ave. PHONE: 780-468-4061  
 Edmonton, AB T6E 5G2 FAX: 780-469-1899

PRODUCT NAME: Extra High Yield Bentonite

PRODUCT USE: Drilling fluid & cement additive  
 CHEMICAL FAMILY: Bentonite clay CAS#: 1302-78-9

### WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION: D2A  
 WORKPLACE HAZARD: Potential carcinogen; contains crystalline silica

### TRANSPORTATION OF DANGEROUS GOODS (TDG)

PROPER SHIPPING NAME: Not regulated under TDG  
 TDG CLASSIFICATION: Not applicable  
 UN NUMBER (PIN): Not applicable  
 PACKING GROUP: Not applicable

### SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	% (w/w)	CAS NUMBER	LD50 (mg/kg)	Acute Toxicity	ACGIH-TLV
Crystalline silica, quartz	2 - 6	14808-60-7	Not available	Not available	0.425 mg/m <sup>3</sup>

### SECTION III: HEALTH HAZARDS

ROUTE OF ENTRY: [ ] EYE CONTACT [ ] SKIN [XX] INHALATION [ ] INGESTION  
 EYE CONTACT: May cause mechanical irritation  
 SKIN CONTACT: Possible drying resulting in dermatitis  
 INGESTION: No adverse effects expected.  
 INHALATION: Inhalation may cause irritation of the nose, throat and respiratory passages. Long-term inhalation may cause silicosis, a progressive, disabling and, sometimes, fatal lung disease. Chronic inhalation exposure to crystalline silica quartz has been observed to cause lymph node effects, kidney effects and auto-immune disease.

Buffer A



## MATERIAL SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: Buffer-A  
 Chemical Name: Formic Acid  
 Chemical Family: Carboxylic Acid  
 Product Use: Oilwell Treating Compound  
 Manufacturer: CESI Chemical, Holland Branch (a Flotek Industries, Inc. company)  
 Waanderweg 84  
 7812 HZ, Emmen,  
 The Netherlands  
 Manufacturer: +31 (0) 591-677550 (Phone)  
 +31 (0) 591-677507 (Fax)  
 (0031) (0) 591-2748888  
 Emergency Phone: Denise Patterson  
 Prepared by: (550) 858-6908 (U.S. Corporate Office)  
 U.S. Phone: information@cesichem.com  
 email: 09/01/2010  
 Issue Date: 09/30/2010  
 Revised Date:

### 2. HAZARDS IDENTIFICATION

Human health hazards: Eye, skin and inhalation irritant. Harmful if swallowed.  
 Acute health hazards: None known  
 Chronic health hazards: Eyes, skin, inhalation and ingestion.  
 Route(s) of entry: Corrosive  
 Safety hazards: No information is available on the product.  
 Environmental hazards: R35 Causes severe burns  
 European R-Phrases: S1/2 Keep locked up and out of reach of children  
 European S-Phrases: S23 Do not breath vapour.  
 S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 S45 In case of accident or if you feel unwell, seek medical advice immediately.

Indications of Danger: C

### 3. COMPOSITION INFORMATION ON INGREDIENTS

Ingredient: Formic Acid  
 CAS No: 64-70-6  
 EINECS: 200-579-1  
 Wt. Percent Range: 85-96  
 OSHA PEL: < 5 ppm  
 ACGIH TLV: 10 ppm  
 LD50: Oral 200 mg/kg (rat)  
 LC50: Inhalation (4 hrs) 7.4 mg/L (rat)  
 European R-Phrases: S: 1/2, 2/3, 2/5, 4/5  
 European S-Phrases: C  
 Indications of Danger:

### 4. FIRST AID MEASURES

Eye: Remove contact lenses at once. Immediately flush with copious amounts of water for at least 15 minutes while holding eyelids open. If irritation persists, seek medical attention.  
 Skin: Wash affected area thoroughly with soap and water for at least 15 minutes or until product is removed. Remove contaminated clothing and launder before reuse. If irritation develops, seek medical attention.  
 Inhalation: Remove to fresh air, if not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek prompt medical attention.  
 Ingestion: Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

Buffer-A-1

PRODUCT NAME: CLEAR-STABILISER HV™

Safety Data Sheet No: 5004EC, Page 1 of 5

SECTION 1. IDENTIFICATION OF THE SUBSTANCE AND DETAILS OF THE COMPANY

**Product Name:** CLEAR-STABILISER HV™  
**Product Description:** Fluid Loss Control Additive  
**Manufacturer's Name and Address:**  
 Clear Solutions International Ltd  
 Unit B3, Wern Industrial Estate  
 Soulton Road  
 Wern  
 Shropshire  
 SY4 5SD  
 ENGLAND

**Safety Data Sheet No:** 5004EC  
**Date Prepared:** January 05, 2008  
**Telephone:** +44 (0) 1939 23575  
**Fax:** +44 (0) 1939 232399

SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

PRODUCT IDENTIFICATION:

**Chemical Name:** Polyaniionic Cellulose  
**HMIS Rating:** Health - 0, Flammability - 0, Reactivity - 0, Protective Equipment - See Section 8

CHEMICAL IDENTITY	CAS No.	EXPOSURE LIMITS		
		OSHA PEL (TWA)	ACGIH TLV (TWA)	DFG MAK (TWA)
Polyaniionic Cellulose	9004-32-4	NE	NE	NE
Particulates Not Otherwise Specified (PNOS)		Inhalable	15 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>
		Respirable	5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>

OSHA PEL - OSHA Permissible Exposure Limit, 8 hour Time-Weighted Average  
 ACGIH TLV - American Conference of Governmental Industrial Hygienists Threshold Limit Value, 8 hr. TWA, 40 hr. week  
 DFG MAK - Federal Republic of Germany Maximum Concentration Values in the Workplace.  
 NE = Not Established

SECTION 3. HAZARDS IDENTIFICATION

**Description:** White/off white powder, odourless  
**Statement of Hazards:** This product is not classified as dangerous under EEC directives 67/548/EEC or 68/379/EEC  
**Precautionary Measures:**  
**Eye Contact** - Dry powder may cause foreign body irritation in some individuals. Solutions are non-irritating.  
**Skin Contact** - Prolonged contact with dry powder may cause drying or chapping of the skin. No evidence of adverse effects known.  
**Inhalation** - No evidence of adverse effects from available information. However, excessive inhalation of dust can mechanically impede respiration.  
**Ingestion** - No evidence of adverse effects from available information.  
**Medical Conditions Aggravated by Exposure:** Existing respiratory conditions.

FR 3

SECTION I. PRODUCT IDENTIFICATION	PRODUCT
Product Identifier	CEMBLEND FR-3
Supplier	CEMBLEND SYSTEMS INC 222 1000 40TH STREET SE CALGARY, ALBERTA T2B 3N5 Phone: (403) 816-1011
Chemical Family	FLUOROPOLYMER
Product Use	FRONT END FLUID

SECTION II. HAZARDOUS MATERIAL INFORMATION DISCLOSURE COMPONENTS			
Name	Hazard Class	LD <sub>50</sub> (Internal route)	LC <sub>50</sub> (Inhalation rat)

SECTION III. HEALTH INFORMATION	
Routes of Entry	Health Effects
Threshold Limit Values	Not determined
Skin Contact	No hazard expected under normal use.
Eye Contact	Dust may cause mechanical irritation.
Ingestion	May cause gastrointestinal irritation.
Inhalation	Dust may cause mechanical irritation.
Carcinogenicity	Not determined
Reproductive Toxicity	Not determined
Teratogenicity	Not determined
Mutagenicity	Not determined
Developmental Toxicity	Not determined

SECTION IV: FIRST AID MEASURES	
Skin Contact	In case of skin contact, wash with soap and water. If irritation develops or persists, seek medical attention.
Eye Contact	In case of eye contact, flush with water for 15 minutes. If irritation develops or persists, seek medical attention.
Ingestion	IF INGESTED DO NOT INDUCE VOMITING. If vomiting occurs naturally, have the victim lean forward to reduce the risk of aspiration. Seek medical attention if required. This product has a low oral toxicity and will act as a laxative.
Inhalation	In case of inhalation, remove patient to fresh air, if symptoms persist seek medical attention.

SECTION V: PHYSICAL DATA	
Appearance	Powder
Odour	Characteristic odour
Specific Gravity	Not determined
Boiling Point (°C)	Not determined
Melting Point (°C)	Not determined
Solubility in Water	Dispersible
Percent Volatile by Volume	Not determined
Evaporation Rate	Not determined
Vapour Pressure (mm Hg)	Not determined

Protective Equipment	Transportation of Dangerous Goods	WHMIS
Dust mask, Chemical resistant gloves and safety glasses recommended	Shipping Name: N/A Class: N/A UN Number: N/A Packing Group: N/A	Not WHMIS Regulated