

Safety data sheet number MI10459

Version 7

Revision date 04/Dec/2014

Supercedes date 20/Nov/2014



## Safety Data Sheet VG-PLUS\*

### 1. Identification of the substance/preparation and of the Company/undertaking

#### 1.1 Product identifier

Product name	VG-PLUS*
Product code	MI10459
REACH Registration Name	Exempt
Denmark Pr. no.	1928223

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

Recommended use	Viscosifier.
Uses advised against	Consumer use

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

##### Supplier

M-I Drilling Fluids UK Limited  
C/O Schlumberger  
Enterprise Drive  
Westhill Industrial Estate  
Westhill, AB32 6TQ  
Scotland UK  
+47 51577424

MISDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, 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, New Zealand +64 9929 1483, USA 001 281 561 1600

### 2. Hazards identification

#### 2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Health hazards	Not classified
Environmental hazards	Not classified
Physical Hazards	Not classified

#### 2.2 Label Elements

##### Signal word

None

**Hazard statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary Statements - EU (§28, 1272/2008)**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

**Indication of danger**

Not classified

**Contains**

Crystalline silica (impurity)

*For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16.*

**2.3 Other data**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
 NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on ingredients**

**3.1 Substances**

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
Crystalline silica (impurity)	238-878-4	14808-60-7	< 1	Xn; R48/20	STOT Rep. 2 - H373	Exempt

**3.2 Mixtures**

Not Applicable

**Comments**

This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

The product contains other ingredients which do not contribute to the overall classification.

**4. First aid measures**

#### **4.1 First Aid**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
<b>Eye contact</b>	Remove contact lenses. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

#### **4.2 Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

#### **Main symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

#### **4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

## **5. Fire-fighting measures**

#### **5.1 Extinguishing media**

##### **Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

##### **Extinguishing media which shall not be used for safety reasons**

Do not use water jet.

#### **5.2 Special hazards arising from the substance or mixture**

##### **Unusual fire and explosion hazards**

Dust may form explosive mixture in air.

##### **Hazardous combustion products**

Thermal decomposition can lead to release of irritating gases and vapours.

#### **5.3 Advice for firefighters**

**Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental release measures

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

Use personal protective equipment. See also section 8. If spilled, take caution, as material can cause surfaces to become very slippery.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

### **Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

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

#### **Methods for Containment**

Prevent further leakage or spillage if safe to do so.

#### **Methods for cleaning up**

Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and storage

### 7.1 Precautions for safe handling

#### **Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Remove all sources of ignition. If spilled, take caution, as material can cause surfaces to become very slippery.

#### **Hygiene measures**

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing.

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

<b>Technical measures/precautions</b>	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition
<b>Storage class</b>	Chemical storage.
<b>Packaging material</b>	Use specially constructed containers only

**7.3 Specific end uses**

See Section 1.2.

**8. Exposure controls/personal protection**

**8.1 Control parameters**

**Exposure limits** No biological limit allocated

Component	EU OEL - Third List	Austria	Australia	Denmark
Crystalline silica (impurity)	Not determined	0.15 mg/m <sup>3</sup> TWA alveolar dust, respirable fraction	0.1 mg/m <sup>3</sup> TWA respirable dust	0.1 mg/m <sup>3</sup>

Component	Malaysia	France	Germany	Hungary
Crystalline silica (impurity)	0.1 mg/m <sup>3</sup> TWA	0.1 mg/m <sup>3</sup> TWA	Not determined	0.15 mg/m <sup>3</sup> TWA

Component	New Zealand	Italy	Netherlands	Norway
Crystalline silica (impurity)	0.2 mg/m <sup>3</sup> TWA Known or presumed human carcinogen	Not determined	0.075 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup> TWA total dust 0.1 mg/m <sup>3</sup> TWA respirable dust 0.3 mg/m <sup>3</sup> STEL total dust 0.1 mg/m <sup>3</sup> STEL respirable dust Carcinogen

Component	Poland	Portugal	Romania	Russia
Crystalline silica (impurity)	2 mg/m <sup>3</sup> TWA NDS >50% free crystalline silica 0.3 mg/m <sup>3</sup> TWA NDS >50% free crystalline silica 4.0 mg/m <sup>3</sup> TWA NDS 2% to 50% free crystalline silica 1.0 mg/m <sup>3</sup> TWA NDS 2% to 50% free crystalline silica	0.025 mg/m <sup>3</sup> TWA respirable fraction	0.1 mg/m <sup>3</sup> TWA respirable fraction, dust	3 mg/m <sup>3</sup> STEL disintegration aerosol 3 mg/m <sup>3</sup> STEL aerosol 1 mg/m <sup>3</sup> TWA disintegration aerosol 1 mg/m <sup>3</sup> TWA aerosol Fibrogenic substance and with its content in dust 2-10% and 10-70% Amorphous and vitreous silicon dioxide; Crystalline silicon dioxide

Component	Spain	Switzerland	Turkey	UK
Crystalline silica (impurity)	0.05 mg/m <sup>3</sup> TWA VLA-ED	0.15 mg/m <sup>3</sup> TWA MAK	Not determined	0.3 mg/m <sup>3</sup> STEL calculated respirable 0.1 mg/m <sup>3</sup> TWA respirable

## **8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

### **Engineering measures to reduce exposure**

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

### **Personal protective equipment**

#### **Eye protection**

It is good practice to wear goggles when handling any chemical. Tightly fitting safety goggles.

#### **Hand protection**

Repeated or prolonged contact:, Use protective gloves made of:, Neoprene, Nitrile.

#### **Respiratory protection**

Respirator must be worn if exposed to dust, Suitable mask with particle filter P3 (European Norm 143).

#### **Skin and body protection**

Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.

### **Hygiene measures**

Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.



## **9. Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

<b>Physical state</b>	Solid
<b>Appearance</b>	Powder Dust
<b>Odour</b>	Odourless
<b>Colour</b>	off-white
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	No information available	
pH @ dilution		
Melting/freezing point	No information available	

<b>Boiling point/range</b>	No information available	
<b>Flash Point</b>	No information available	
<b>Evaporation rate</b>	No information available	
<b>Flammability (solid, gas)</b>	Not Applicable	
<b>Flammability Limits in Air</b>		
<b>Upper flammability Limit</b>	Not applicable	
<b>Lower flammability limit</b>	> = 0.05 g/l	
<b>Vapor pressure</b>	No information available	
<b>Vapor density</b>	No information available	
<b>Specific gravity</b>	1.4 - 1.8 sg	20 °C
<b>Bulk density</b>	528 kg/m <sup>3</sup> (33 lb/ft <sup>3</sup> )	
<b>Relative density</b>	No information available	
<b>Water solubility</b>	Insoluble in water	
<b>Solubility in other solvents</b>	No information available	
<b>Autoignition temperature</b>	190 °C / 374 °F	
<b>Decomposition temperature</b>	200	
<b>Kinematic viscosity</b>	No information available	
<b>Viscosity, dynamic</b>	No information available	
<b>Log Pow</b>	No information available	

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available

**9.2 Other information**

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	No information available
<b>Density VALUE</b>	No information available

**10. Stability and reactivity**

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**

Hazardous polymerisation does not occur.

**10.4 Conditions to avoid**

Avoid heat, flames and other sources of ignition.

**10.5 Incompatible materials**

No materials to be especially mentioned.

**10.6 Hazardous decomposition products**

See also section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

<b>Product information</b>	This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis.
<b>Inhalation</b>	Inhalation of dust in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	May cause slight irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not Applicable.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Crystalline silica (impurity)	= 500 mg/kg ( Rat )	No data available	No data available

<b>Sensitisation</b>	This product does not contain any components suspected to be sensitizing.
<b>Mutagenic effects</b>	This product does not contain any known or suspected mutagens.
<b>Carcinogenicity</b>	Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.
<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards.
<b>Routes of exposure</b>	Inhalation. Ingestion.
<b>Routes of entry</b>	Inhalation. Ingestion.
<b>Specific target organ toxicity (single exposure)</b>	Not classified
<b>Specific target organ toxicity (repeated exposure)</b>	Not classified.
<b>Aspiration hazard</b>	No hazard from product as supplied.



**12. Ecological information**

**12.1 Toxicity**

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**

This product is not considered toxic to algae.

**Toxicity to fish**

This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Crystalline silica (impurity)	No information available	No information available	No information available

**12.2 Persistence and degradability**

Not readily biodegradable.

**12.3 Bioaccumulative potential**

Does not bioaccumulate.

**12.4 Mobility in soil**

**Mobility**

Insoluble in water.

**12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

## 13. Disposal considerations

### 13.1 Waste treatment methods

<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal.
<b>EWC waste disposal No.</b>	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 01 05 99

## 14. Transport information

### 14.1 UN number

Not regulated

### 14.2 Proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

### 14.3. Hazard class(es)

<b>ADR/RID/ADN/ADG Hazard class</b>	Not regulated
<b>IMDG Hazard class</b>	Not regulated
<b>ICAO Hazard class/division</b>	Not regulated

### 14.4 Packing group

<b>ADR/RID/ADN/ADG Packing Group</b>	Not regulated
<b>IMDG Packing group</b>	Not regulated
<b>ICAO Packing group</b>	Not regulated

### 14.5 Environmental hazard

No

### 14.6 Special precautions

Not Applicable

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

Please contact MISDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

<b>Germany, Water Endangering Classes (VwVwS)</b>	Water endangering class = 1
---	-----------------------------

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

No Poisons Schedule number allocated

**New Zealand hazard classification** Not classified.

**HSNO approval no.** Not required.

**Group number** Not required.

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by road or rail.

Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)

The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP) International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
European Union - EINECS and ELINCS	Complies
Canada, Domestic Substance List (DSL)	Complies
Philippines (PICCS)	Complies
Inventory - Japan - Existing and New Chemicals list	Does not Comply
China (IECSC)	Complies
Australia (AICS)	Complies
Korea (KECL)	Complies
Inventory - New Zealand - Inventory of Chemicals (NZIoC)	Complies

Contact REACH@miswaco.slb.com for REACH information.

### **15.2 Chemical Safety Report**

No information available

## **16. Other information**

<b>Prepared by</b>	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
<b>Supersedes date</b>	20/Nov/2014
<b>Revision date</b>	04/Dec/2014
<b>Version</b>	7
<b>The following sections have been revised:</b>	3. Composition/information on Ingredients, 13. Disposal considerations, Section 16: Other information.

### **Text of R phrases mentioned in Section 3**

R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation

### **Full text of H-Statements referred to under sections 2 and 3**

This product is not classified as hazardous therefore no (H) hazard statements assigned.  
H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

\*A mark of M-I L.L.C.

### **Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.