SDS no. MI10216
Version 8
Revision date 08/Aug/2014
Supersedes date 06/May/2014

Safety Data Sheet
DUO-VIS†

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

1.1 Product identifier

Product name DUO-VIS†
Product code MI10216

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 Australia Pty Ltd
Level 5
256 St. George Terrace
Perth
WA 6000
T= 08 9440 2900
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

Classification according to (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.

EU specific hazard statements
EUH208 - Contains (Glyoxal). May produce an allergic reaction

Precautionary Statements - EU (§28, 1272/2008)
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

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

Indication of danger
Not classified

Contains

Glyoxal

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

3. Composition/information on ingredients

3.1 Substances

Not Applicable

3.2 Mixtures

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
Glyoxal	203-474-9	107-22-2	<1	Xn; R20, Muta cat.3 68 Xi; R36/37/38, 43	Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1B (H317) Muta. 2 (H341) STOT SE 3 (H335)	No data available

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

4. First aid measures

4.1 First-Aid Measures

Inhalation — If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Ingestion — Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Skin contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.

Eye contact 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

Inhalation Please see Section 11. Toxicological Information for further information.

Ingestion Please see Section 11. Toxicological Information for further information.

Skin contact Please see Section 11. Toxicological Information for further information.

Eye contact 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
Water Fog, Alcohol Foam, CO_2, Dry Chemical.

Extinguishing media which shall not be used for safety reasons
None known.

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
Fire or high temperatures create:, Carbon oxides (COx).

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. Prevent dust cloud. 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.

Hygiene measures
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands before eating, drinking or smoking. Remove contaminated clothing.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions	Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Keep away from heat, sparks, and flame.
Storage precautions	Keep containers tightly closed in a dry, cool and well-ventilated place. Avoid contact with: Strong oxidizing agents Protect from moisture
Storage class	Chemical storage.
Packaging material	Use specially constructed containers only

7.3 Specific end uses

See Section 1.2.

8. Exposure controls/personal protection

8.1 Control parameters

Component	EU OEL	Austria	Australia	Denmark
Glyoxal	Not determined	Not determined	Not determined	0.2 ppm Ceiling 0.5 mg/m³ Ceiling

Component	Finland	France	Germany	Hungary
Glyoxal	Not determined	Not determined	Not determined	Not determined

Component	New Zealand	Italy	Netherlands	Norway
Glyoxal	Not Determined	Not determined	Not determined	Not determined

Component	Poland	Portugal	Romania	Russia
Glyoxal	Not determined	0.1 mg/m³ TWA inhalable fraction, aerosol and vapor	Not determined	Not determined

Component	Spain	Switzerland	Turkey	UK
Glyoxal	0.1 mg/m³ VLA-ED it is prohibited the partial or complete commercialization or use of this substance as a phytosanitary o biocide compound inhalable fraction and vapor	Not determined	Not determined	Not determined

Derived No Effect Level (DNEL)

Long term exposure local effects

Glyoxal

Inhalation	0.04 mg/m³

Long term exposure systemic effects

Glyoxal

Dermal	10.8 mg/kg
Inhalation	5.29 mg/m³

Predicted No Effect Concentration (PNEC)

Glyoxal

Fresh water	0.319 mg/l
Sea water	0.0319 mg/l
Fresh water sediment	0.685 mg/l
Sea sediment	0.0685 mg/l
Soil	4.06 mg/l
Impact on sewage treatment	4.1 mg/l
Intermittent release	1.1 mg/l

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. Local exhaust ventilation.

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:, Butyl, Neoprene, Nitrile.
Respiratory protection	No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181).
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

Physical state	Solid
Appearance	Powder Dust
Odor	Mild
Color	Cream - Tan
Odor threshold	Not applicable

Property	**Values**	**Remarks**
pH	Not applicable	
pH @ dilution	7	@ 1% sol.
Melting/freezing point		
Boiling point/range	No information available	
Flash point	No information available	
Evaporation rate (BuAc =1)		
Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	1.5	20 °C
Bulk density	50 lb/ft³ (800 kg/m³)	
Relative density	No information available	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	> 200 °C	
Decomposition temperature	No information available	
Kinematic viscosity		
Dynamic viscosity	No information available	
Log Pow	Not determined	

Explosive properties	Not Applicable
Oxidizing properties	None known.

9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	None
Density	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 polymerization does not occur.

10.4 Conditions to avoid

Heat, flames and sparks. Protect from moisture.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

See also section 5.2.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Inhalation Inhalation of dust in high concentration may cause irritation of respiratory system.

Eye contact May cause slight irritation.

Skin contact Prolonged contact may cause redness and irritation.

Ingestion Ingestion may cause stomach discomfort.

Unknown acute toxicity .

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glyoxal	= 3300 mg/kg (Rat)	No data available	= 2410 mg/m³, 3-4 hrs

Sensitization Repeated or prolonged contact may cause allergic reactions in very susceptible persons.

Mutagenic effects Contains no ingredients above reportable quantities listed as a mutagenic.

Carcinogenicity This product does not contain any known or suspected carcinogens.

Reproductive toxicity None known.

Routes of exposure None known.

Routes of entry No route of entry noted.

Specific target organ toxicity (single exposure) Not classified

Specific target organ toxicity (repeated exposure) Not classified.

Aspiration hazard 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
See component information below.

Toxicity to fish
See component information below.

Toxicity to daphnia and other aquatic invertebrates
See component information below.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Glyoxal	215 mg/L LC50 (Pimephales promelas) = 96 h 460 - 680 mg/L LC50 (Leuciscus idus) = 96 h	500 mg/L EC50 (Desmodesmus subspicatus) = 72 h 348.59 mg/L EC50 (Pseudokirchneriella subcapitata) = 96 h 500 mg/L EC50 (Desmodesmus subspicatus) = 96 h	404 mg/L EC50 (Daphnia magna) = 48 h

12.2 Persistence and degradability

The product contains substances which are not expected to be biodegradable.

12.3 Bioaccumulative potential

Does not bioaccumulate.

12.4 Mobility in soil

Mobility
Soluble 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

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken for local recycling, recovery or waste disposal.
EWC Waste disposal No.	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: 07 01 99.

14. Transport information

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA,ADR/RID/ADG).

14.1 UN Number
Not regulated

14.2 Proper shipping name
Not regulated

14.3 Hazard class(es)

ADR/RID/ADN Hazard class	Not regulated
IMDG Hazard class	Not regulated
ICAO Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN Packing Group	Not regulated
IMDG Packing group	Not regulated
ICAO Packing group	Not regulated

14.5 Environmental hazard

No

14.6 Special precautions
Not Applicable

14.7 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

Germany, Water Endangering Classes (VwVwS)	Water endangering class = 1

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.

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

International inventories

USA (TSCA)	Complies
European Union (EINECS and ELINCS)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

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

15.2 Chemical Safety Report

No information available

16. Other information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals)
Supersedes date	06/May/2014
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Version	8

The following sections have been revised	2. Hazards Identification, 3. Composition/information on Ingredients, 11. Toxicological information, Section 16: Other information.

Text of R phrases mentioned in Section 2 and 3
Not classified
R20 - Harmful by inhalation
R43 - May cause sensitization by skin contact
R68 - Possible risks of irreversible effects.

R36/37/38 - Irritating to eyes, respiratory system and skin

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.
H332 - Harmful if inhaled
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction
H341 - Suspected of causing genetic defects if inhaled
H335 - May cause respiratory irritation
EUH208 - Contains (Glyoxal). May produce an allergic reaction

Disclaimer
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.