HALLIBURTON

SAFETY DATA SHEET

DCA-34002

Revision Date: 16-Dec-2015 **Revision Number:** 9

1. Product Identifier & Identity for the Chemical

Statement of Hazardous Nature Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

1.1. Product Identifier

Product Name DCA-34002

Other means of Identification

Synonyms: None

Product Code: HM007879

Recommended use of the chemical and restrictions on use

Recommended Use Flow Enhancer

Uses Advised Against No information available

Supplier's name, address and phone number

Manufacturer/Supplier

Halliburton Australia Pty. Ltd.
15 Marriott Road
Jandakot
WA 6164
Australia

ACN Number: 009 000 775
Telephone Number: + 61 1 800 686 951
Fax Number: 61 (08) 9455 5300

E-Mail address: fdunexchem@halliburton.com

Emergency phone number

+ 61 1 800 686 951

Australian Poisons Information Centre

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

2. Hazard Identification

Statement of Hazardous Nature Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

Classification of the hazardous chemical

Acute Inhalation Toxicity - Dusts and Mists	Category 4 - H332
Skin Corrosion / irritation	Category 2 - H315
Serious Eye Damage / Eye Irritation	Category 2 - H319
Reproductive Toxicity	Category 1B - H360
Flammable liquids.	Category 4 - H227

Label elements, including precautionary statements

Hazard Pictograms

Signal Word Warning

Hazard Statements

H227 - Combustible liquid
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H360 - May damage fertility or the unborn child
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements

Prevention

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/eye protection/face protection

Response

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P312 - Call a POISON CENTER or doctor/physician if you feel unwell
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P370 + P378 - In case of fire: Use water spray for extinction

Storage P403 + P235 - Store in a well-ventilated place. Keep cool

Disposal P501 - Dispose of contents/container to an approved incineration plant

Contains

Substances	**CAS Number**
Dipropylene glycol monomethyl ether	34590-94-8
Heavy aromatic petroleum naphtha	64742-94-5
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1
Methanol	67-56-1

Other hazards which do not result in classification
None known

Australia Classification
For the full text of the H-phrases mentioned in this Section, see Section 16

Classification Xn - Harmful.

Risk Phrases

R20 Harmful by inhalation.
R61 May cause harm to the unborn child.
R36/38 Irritating to eyes and skin.

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Dipropylene glycol monomethyl ether	34590-94-8	30 - 60%	Flam. Liq. 4 (H227)
Heavy aromatic petroleum naphtha	64742-94-5	5 - 10%	STOT SE 3 (H336) Asp. Tox. 1 (H304) Aquatic Acute 2 (H401) Aquatic Chronic 2 (H411)
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	1 - 5%	Acute Tox. 4 (H302) Acute Tox. 3 (H311) Acute Tox. 2 (H330) Skin Corr. 1B (H314) Eye Corr. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Methanol	67-56-1	0.1 - 1%	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Repr. 1B (H360) STOT SE 1 (H370) Flam. Liq. 2 (H225)

4. First aid measures

Description of necessary first aid measures

Inhalation If inhaled, move victim to fresh air and seek medical attention.

Eyes In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Skin In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.

Ingestion Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration. Rinse mouth. Never give anything by mouth to an unconscious person.

Symptoms caused by exposure

Causes eye irritation Causes skin irritation. Harmful if inhaled. Potential reproductive hazard. May cause birth defects.

Medical Attention and Special Treatment

Notes to Physician Treat symptomatically

5. Fire Fighting Measures

Suitable extinguishing equipment

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

Specific hazards arising from the chemical

Special Exposure Hazards

Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce harmful gases. Do not allow runoff to enter waterways.

Special protective equipment and precautions for fire fighters

Special Protective Equipment for Fire-Fighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Use appropriate protective equipment. Wear self-contained breathing apparatus in enclosed areas.

6.2. Environmental precautions
Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up
Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

7. Handling and storage

7.1. Precautions for Safe Handling
Handling Precautions
Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse.
Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities
Storage Information
Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use. Product has a shelf life of 24 months.
Other Guidelines
No information available

8. Exposure Controls/Personal Protection

Control parameters - exposure standards, biological monitoring
Exposure Limits

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Dipropylene glycol monomethyl ether	34590-94-8	TWA: 50 ppm TWA: 308 mg/m^3	TWA: 100 ppm STEL: 150 ppm
Heavy aromatic petroleum naphtha	64742-94-5	Not applicable	Not applicable
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	Not applicable	Not applicable
Methanol	67-56-1	TWA: 200 ppm TWA: 262 mg/m^3 STEL: 250 ppm STEL: 328 mg/m^3	TWA: 200 ppm STEL: 250 ppm

Appropriate engineering controls
Engineering Controls Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

Personal protective equipment (PPE)
Respiratory Protection If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.
Organic vapor respirator.

Hand Protection Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Nitrile gloves. (>= 0.4 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in

	practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types.
Skin Protection	Rubber apron.
Eye Protection	Chemical goggles; also wear a face shield if splashing hazard exists.
Other Precautions	None known.
Environmental Exposure Controls	No information available

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State:	Liquid	**Color:**	Dark brown
Odor:	Bland	**Odor Threshold:**	No information available

Property Remarks/ - Method	Values
pH:	7.4-8.8
Freezing Point/Range	No data available
Melting Point/Range	No data available
Boiling Point/Range	No data available
Flash Point	62 °C / 143 °F PMCC
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	0.963
Water Solubility	Insoluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

VOC Content (%)	No data available

10. Stability and Reactivity

10.1. Reactivity
Not expected to be reactive.
10.2. Chemical Stability
Stable
10.3. Possibility of Hazardous Reactions
Will Not Occur
10.4. Conditions to Avoid
None anticipated
10.5. Incompatible Materials
Strong oxidizers.
10.6. Hazardous Decomposition Products
Carbon monoxide and carbon dioxide.

11. Toxicological Information

Information on routes of exposure
Principle Route of Exposure Eye or skin contact, inhalation.

Symptoms related to exposure
Most Important Symptoms/Effects

Causes eye irritation Causes skin irritation. Harmful if inhaled. Potential reproductive hazard. May cause birth defects.

Numerical measures of toxicity

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Dipropylene glycol monomethyl ether	34590-94-8	5230 mg/kg (Rat) > 5000 mg/kg (Rat)	9500 mg/kg (Rabbit) > 19020 mg/kg (Rat)	> 3.03 mg/L (Rat) 4h
Heavy aromatic petroleum naphtha	64742-94-5	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 4.778 mg/L (Rat) 4h
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	304.5 mg/kg (Rat) 426 mg/kg (Rat)	930 mg/kg (Rat) 919 mg/kg (Mouse)	0.054 - 0.51 mg/L (Rat) 4h
Methanol	67-56-1	< 790 mg/kg (rat) 7300 mg/kg (mouse) 14200 mg/kg (rabbit) 300 mg/kg (Human) 6200 mg/kg (Rat)	15800 mg/kg (Rabbit) 393 mg/kg bw (primates) 1000 mg/kg (Human) 15800 mg/kg (Rabbit)	10 mg/L (Human) 4h (vapor) 22,500 ppm (Rat) 8h 64,000 ppm (Rat) 4h 83.2 mg/L (rat) 4h 128.8 mg/L (rat) 4h

Immediate, delayed and chronic health effects from exposure

Inhalation May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

Eye Contact Causes eye irritation.

Skin Contact Causes moderate skin irritation.

Ingestion May cause abdominal pain, vomiting, nausea, and diarrhea. Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

Chronic Effects/Carcinogenicity Prolonged or repeated exposure may cause reproductive system damage. May cause birth defects.

Exposure Levels

No data available

Interactive effects

None known.

Data limitations

No data available

Substances	CAS Number	Skin corrosion/irritation
Dipropylene glycol monomethyl ether	34590-94-8	Not irritating to skin in rabbits.
Heavy aromatic petroleum naphtha	64742-94-5	Non-irritating to the skin (Rabbit)
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	Causes severe irritation and or burns
Methanol	67-56-1	Non-irritating to the skin (Rabbit)

Substances	CAS Number	Eye damage/irritation
Dipropylene glycol monomethyl ether	34590-94-8	Non-irritating to rabbit's eye
Heavy aromatic petroleum naphtha	64742-94-5	Non-irritating to the eye (Rabbit)
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	Causes severe eye irritation which may damage tissue.

Methanol	67-56-1	Non-irritating to the eye (Rabbit)

Substances	CAS Number	Skin Sensitization
Dipropylene glycol monomethyl ether	34590-94-8	Patch test on human volunteers did not demonstrate sensitization properties
Heavy aromatic petroleum naphtha	64742-94-5	Patch test on human volunteers did not demonstrate sensitization properties
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	Did not cause sensitization on laboratory animals (guinea pig)
Methanol	67-56-1	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Dipropylene glycol monomethyl ether	34590-94-8	No information available
Heavy aromatic petroleum naphtha	64742-94-5	No information available
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	No information available
Methanol	67-56-1	No information available

Substances	CAS Number	Mutagenic Effects
Dipropylene glycol monomethyl ether	34590-94-8	In vitro tests did not show mutagenic effects
Heavy aromatic petroleum naphtha	64742-94-5	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects.
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects.
Methanol	67-56-1	The weight of evidence from available in vitro and in vivo studies indicates that this substance is not expected to be mutagenic.

Substances	CAS Number	Carcinogenic Effects
Dipropylene glycol monomethyl ether	34590-94-8	Did not show carcinogenic effects in animal experiments
Heavy aromatic petroleum naphtha	64742-94-5	Did not show carcinogenic effects in animal experiments
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	Did not show carcinogenic effects in animal experiments
Methanol	67-56-1	No data of sufficient quality are available.

Substances	CAS Number	Reproductive toxicity
Dipropylene glycol monomethyl ether	34590-94-8	No significant toxicity observed in animal studies at concentration requiring classification.
Heavy aromatic petroleum naphtha	64742-94-5	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Methanol	67-56-1	Experiments have shown reproductive toxicity effects on laboratory animals

Substances	CAS Number	STOT - single exposure
Dipropylene glycol monomethyl ether	34590-94-8	No information available
Heavy aromatic petroleum naphtha	64742-94-5	May cause disorder and damage to the Central Nervous System (CNS)
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	No information available
Methanol	67-56-1	May cause disorder and damage to the Central Nervous System (CNS)

Substances	CAS Number	STOT - repeated exposure
Dipropylene glycol monomethyl ether	34590-94-8	No significant toxicity observed in animal studies at concentration requiring classification.
Heavy aromatic petroleum naphtha	64742-94-5	No significant toxicity observed in animal studies at concentration requiring classification.
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	No significant toxicity observed in animal studies at concentration requiring classification.
Methanol	67-56-1	No data of sufficient quality are available.

Substances	CAS Number	Aspiration hazard
Dipropylene glycol monomethyl ether	34590-94-8	No information available
Heavy aromatic petroleum naphtha	64742-94-5	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	Not applicable
Methanol	67-56-1	Not applicable

12. Ecological Information

Ecotoxicity

Product Ecotoxicity Data

No data available

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Dipropylene glycol monomethyl ether	34590-94-8	EC50 (72h) > 969 mg/L (Pseudokirchnerella subcapitata)	No information available	No information available	NOEC 0.5 mg/L (Daphnia magna)
Heavy aromatic petroleum naphtha	64742-94-5	EC50 (72h) 7.8 mg/L (Pseudokirchneriella subcapitata)	LL50 (96h) 3.6 mg/L (Oncorhynchus mykiss) LC50 (96h) 357.7 mg/L (Scophthalmus maximus)	No information available	EL50 (48h) 1.1 mg/L (Daphnia magna) (similar substance)
Quaternary ammonium compounds, benzyl-C12-16-alkyldi methyl, chlorides	68424-85-1	No information available	LC50 (96h) 0.28 mg/L (Pimephales promelas) LC50 (96h) 0.515 mg/L (Lepomis macrochirus) LC50 (96h) 0.923 mg/L (Oncorhynchus mykiss) LC50 (96h) 0.86 mg/L (Cyprinidon variegatus)	No information available	EC50 (48h) 0.092 mg/L (Mysidosis Bahia) EC50 (48h) 0.0059 mg/L (Daphnia magna) NOEC (21d) 0.00415 mg/L (Daphnia magna)
Methanol	67-56-1	ErC50 (96h) 22000 mg/L (Pseudokirchnerella subcapitata)	LC50 28200 mg/L (Pimephales promelas) LC50 (96h) 12700 – 15400 mg/L (Lepomis macrochirus)	IC50 (3h) > 1000 mg/L (activated sludge)	EC50 (96h) 18260 mg/L (Daphnia magna) NOEC (21d) 122 mg/L (Daphnia magna, Reproduction)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Dipropylene glycol monomethyl ether	34590-94-8	Readily biodegradable (75% @ 10d)
Heavy aromatic petroleum naphtha	64742-94-5	Readily biodegradable (58% @ 28d)
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	(> 60% @ 28d)
Methanol	67-56-1	(95-97% @ 20d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow

Dipropylene glycol monomethyl ether	34590-94-8	0.0043
Heavy aromatic petroleum naphtha	64742-94-5	2.9 - 6.1
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	3.91
Methanol	67-56-1	-0.77 BCF = 1.0 – 4.5 (Cyprinus carpio) BCF < 10 (Leuciscus idus melanotus)

12.4. Mobility in soil

Substances	CAS Number	Mobility
Dipropylene glycol monomethyl ether	34590-94-8	No information available
Heavy aromatic petroleum naphtha	64742-94-5	No information available
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	No information available
Methanol	67-56-1	No information available

12.6. Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

13. Disposal Considerations

Safe handling and disposal methods

Disposal should be made in accordance with federal, state, and local regulations.

Disposal of any contaminated packaging

Follow all applicable national or local regulations.

Environmental regulations

Not applicable

14. Transport Information

Transportation Information

UN Number: Not restricted
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

Special precautions during transport

None

HazChem Code

None Allocated

15. Regulatory Information

Safety, health and environmental regulations specific for the product

International Inventories

Australian AICS Inventory All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.
New Zealand Inventory of Chemicals All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.
EINECS Inventory This product, and all its components, complies with EINECS
US TSCA Inventory All components listed on inventory or are exempt.
Canadian DSL Inventory All components listed on inventory or are exempt.

Poisons Schedule number
None Allocated

International Agreements

Montreal Protocol - Ozone Depleting Substances:	Does not apply
Stolkhom Convention - Persistent Organic Pollutants:	Does not apply
Rotterdam Convention - Prior Informed Consent:	Does not apply
Basel Convention - Hazardous Waste:	Does not apply

16. Other information

Date of preparation or review

Revision Date: 16-Dec-2015

Revision Note
Update to Format SECTION: 8

Full text of R-phrases referred to under Sections 2 and 3
R20 Harmful by inhalation.
R36/38 Irritating to eyes and skin.
R61 May cause harm to the unborn child.

Full text of H-Statements referred to under sections 2 and 3
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H311 - Toxic in contact with skin
H314 - Causes severe skin burns and eye damage
H315 - Causes skin irritation
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H330 - Fatal if inhaled
H332 - Harmful if inhaled
H360 - May damage fertility or the unborn child
H370 - Causes damage to organs
H400 - Very toxic to aquatic life
H401 - Toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H411 - Toxic to aquatic life with long lasting effects

Additional information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

Key abreviations or acronyms used
bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative
h - hour
mg/m^3 - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

Key literature references and sources for data
www.ChemADVISOR.com/

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End of Safety Data Sheet