

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

BARAZAN® L

Revision Date: 15-Sep-2015

Revision Number: 30

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name BARAZAN® L
Internal ID Code HM003536

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

Recommended Use Viscosifier
Sector of use Refer to the Annex for a listing of uses.

1.3. Details of the supplier of the safety data sheet

Halliburton Manufacturing Services, Ltd.
Halliburton House, Howemoss Crescent
Kirkhill Industrial Estate
Dyce
Aberdeen, AB21 0GN
United Kingdom

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961

Emergency telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	+210 7793777
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO):+ 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Romania	+40 21 318 36 06
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Serious Eye Damage / Eye Irritation Category 2 - (H319)

2.2. Label Elements

Hazard Pictograms

**Signal Word****Warning****Hazard Statements**

H319 - Causes serious eye irritation

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

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear eye protection/face protection

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

Contains**Substances**

Diethylene glycol monobutyl ether

CAS Number

112-34-5

2.3. Other Hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

SECTION 3: Composition/information on Ingredients
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3.2. Mixtures

Mixture

Substances	EINECS	CAS Number	PERCENT (w/w)	EU - CLP Substance Classification	REACH No.
Diethylene glycol monobutyl ether	203-961-6	112-34-5	30 - 60%	Eye Irrit. 2A (H319)	01-2119475104-44

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

SECTION 4: First aid measures

4.1. Description of first aid measures**Inhalation**

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

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

Wash with soap and water. Get medical attention if irritation persists.

Ingestion

Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Causes eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically

SECTION 5: Firefighting Measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Special Exposure Hazards

Decomposition in fire may produce harmful gases.

5.3. Advice for firefighters

Special Protective Equipment for Fire-Fighters

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas. Consult local authorities.

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.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Product has a shelf life of 12 months.

7.3. Specific End Use(s)

Exposure Scenario

Please refer to the attached Annex for a listing of exposure scenarios.

Other Guidelines

No information available

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Diethylene glycol monobutyl ether	112-34-5	TWA: 10 ppm TWA: 67.5 mg/m ³ STEL: 15 ppm STEL: 101.2 mg/m ³	TWA: 10 ppm TWA: 67.5 mg/m ³ STEL: 15 ppm STEL: 101.2 mg/m ³	TWA: 50 mg/m ³ STEL: 100 mg/m ³	TWA: 10 ppm TWA: 67.5 mg/m ³ STEL: 15 ppm STEL: 101.2 mg/m ³

Substances	CAS Number	Germany	Spain	Portugal	Finland
Diethylene glycol monobutyl ether	112-34-5	TWA: 10 ppm TWA: 67 mg/m ³	TWA: 10 ppm TWA: 67.5 mg/m ³ 15 ppm STEL [VLA-EC]; 101.2 mg/m ³ STEL [VLA-EC]	TWA: 10 ppm TWA: 67.5 mg/m ³ STEL: 15 ppm STEL: 101.2 mg/m ³	TWA: 10 ppm TWA: 68 mg/m ³

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Diethylene glycol monobutyl ether	112-34-5	TWA: 10 ppm TWA: 67.5 mg/m ³ STEL" 15 ppm STEL" 101.2 mg/m ³	10 ppm TWA; 67.5 mg/m ³ TWA 15 ppm STEL; 101.2 mg/m ³ STEL	TWA: 10 ppm TWA: 67 mg/m ³ STEL: 15 ppm STEL: 101 mg/m ³	TWA: 10 ppm TWA: 68 mg/m ³ STEL: 20 ppm STEL: 102 mg/m ³

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Diethylene glycol monobutyl ether	112-34-5	TWA: 10 ppm TWA: 67.5 mg/m ³ STEL: 15 ppm STEL: 101.2 mg/m ³	TWA: 67 mg/m ³ STEL: 100 mg/m ³	TWA: 67.5 mg/m ³ STEL: 101.2 mg/m ³	TWA: 100 mg/m ³

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Diethylene glycol monobutyl ether	112-34-5	TWA: 10 ppm TWA: 68 mg/m ³	TWA: 150 mg/m ³ STEL: 250 mg/m ³	TWA: 10 ppm TWA: 67.5 mg/m ³ STEL: 15 ppm STEL: 101.2 mg/m ³	TWA: 10 ppm TWA: 67.5 mg/m ³ STEL: 15 ppm STEL: 101.2 mg/m ³

Derived No Effect Level (DNEL)

Worker

Substances	Long-term exposure - systemic effects, Inhalation	Acute / short term exposure - systemic effects, Inhalation	Long-term exposure - local effects, Inhalation	Acute / short term exposure - local effects, Inhalation	Long-term exposure - systemic effects, Dermal	Acute / short term exposure - systemic effects, Dermal	Long-term exposure - local effects, Dermal	Acute / short term exposure - local effects, Dermal	Hazards for the eyes - local effects
Diethylene glycol monobutyl ether	67.5 mg/m ³	Not available	67.5 mg/m ³	101.2 mg/m ³	20 mg/kg bw/day	Not available	Not available	Not available	Not available

General Population

Substances	Long-term exposure - systemic effects, Inhalation	Acute / short term exposure - systemic effects, Inhalation	Long-term exposure - local effects, Inhalation	Acute / short term exposure - local effects, Inhalation	Long-term exposure - systemic effects, Dermal	Acute / short term exposure - systemic effects, Dermal	Long-term exposure - local effects, Dermal	Acute / short term exposure - local effects, Dermal	Long-term exposure - systemic effects, Oral	Acute / short term exposure - local effects, Oral	Hazards for the eyes - local effects
Diethylene glycol monobutyl ether	34 mg/m ³	Not available	34 mg/m ³	50.6 mg/m ³	10 mg/kg bw/day	Not available	Not available	Not available	1.25 mg/kg bw/day	Not available	Not available

Predicted No Effect Concentration (PNEC)

Substances	Freshwater	Marine water	Intermittent release	Sewage treatment plant	Sediment (freshwater)	Sediment (marine water)	Air	Soil	Secondary poisoning
Diethylene glycol monobutyl ether	1.0 mg/L	0.1 mg/L	3.9 mg/L	200 mg/L	4.0 mg/kg	0.4 mg/kg	Not available	0.4 mg/kg	56 mg/kg food

8.2. Exposure controls

Engineering Controls

Use in a well ventilated area.

Personal protective equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection

Not normally necessary.

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. Viton gloves Neoprene gloves. Butyl rubber gloves. (>= 0.7 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. Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):

Skin Protection

Normal work coveralls.

Eye Protection

Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions

Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls Do not allow material to contaminate ground water system

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid **Color:** Cream
Odor: Mild ether **Odor Threshold:** No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
pH:	7 @ 1%
Freezing Point/Range	No data available
Melting Point/Range	No data available
Boiling Point/Range	220 °C / 428 °F
Flash Point	104 °C / 219 °F PMCC
Flammability (solid, gas)	No data available
upper flammability limit	No data available
lower flammability limit	No data available
Evaporation rate	No data available
Vapor Pressure	0.4 mmHg
Vapor Density	5.1
Specific Gravity	1.1
Water Solubility	Miscible with water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	210 °C / 410 °F
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

SECTION 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.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity

Inhalation

May cause respiratory irritation.

Eye Contact

Causes eye irritation. May cause corneal injury.

Skin Contact

May cause skin defatting with prolonged exposure. Prolonged or repeated contact may cause slight skin irritation. Did not cause sensitization on laboratory animals (guinea pig)

Ingestion

May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity

No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Diethylene glycol monobutyl ether	112-34-5	3384 mg/kg (Rat) 6560 mg/kg (Rat)	2700 mg/kg (Rabbit) 2764 mg/kg (Rabbit)	No data available

		5660 mg/kg (Rat) 2406 mg/kg (Mouse) 2000 mg/kg (Guinea pig)		
Substances	CAS Number	Skin corrosion/irritation		
Diethylene glycol monobutyl ether	112-34-5	Mild skin irritation (Rabbit)		
Substances	CAS Number	Eye damage/irritation		
Diethylene glycol monobutyl ether	112-34-5	Causes moderate eye irritation. (Rabbit)		
Substances	CAS Number	Skin Sensitization		
Diethylene glycol monobutyl ether	112-34-5	Did not cause sensitization on laboratory animals (guinea pig)		
Substances	CAS Number	Respiratory Sensitization		
Diethylene glycol monobutyl ether	112-34-5	No information available		
Substances	CAS Number	Mutagenic Effects		
Diethylene glycol monobutyl ether	112-34-5	In vivo tests did not show mutagenic effects. In vitro tests did not show mutagenic effects		
Substances	CAS Number	Carcinogenic Effects		
Diethylene glycol monobutyl ether	112-34-5	No information available.		
Substances	CAS Number	Reproductive toxicity		
Diethylene glycol monobutyl ether	112-34-5	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.		
Substances	CAS Number	STOT - single exposure		
Diethylene glycol monobutyl ether	112-34-5	No significant toxicity observed in animal studies at concentration requiring classification.		
Substances	CAS Number	STOT - repeated exposure		
Diethylene glycol monobutyl ether	112-34-5	No significant toxicity observed in animal studies at concentration requiring classification.		
Substances	CAS Number	Aspiration hazard		
Diethylene glycol monobutyl ether	112-34-5	Not applicable		

SECTION 12: Ecological Information

12.1. Toxicity Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Diethylene glycol monobutyl ether	112-34-5	EC50 > 100 mg/L (Desmodesmus subspicatus)	LC50 1300 mg/L (Lepomis macrochirus)	EC10 >1995 mg/L (Activated sludge, industrial)	EC50 > 100 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability

Diethylene glycol monobutyl ether	112-34-5	Readily biodegradable (85% @ 28d)
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12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Diethylene glycol monobutyl ether	112-34-5	1.0

12.4. Mobility in soil

Substances	CAS Number	Mobility
Diethylene glycol monobutyl ether	112-34-5	No information available

12.5. Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Substances	PBT and vPvB assessment
Diethylene glycol monobutyl ether	Not PBT/vPvB

12.6. Other adverse effects**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

SECTION 13: Disposal Considerations**13.1. Waste treatment methods****Disposal Method**

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

Contaminated Packaging

Follow all applicable national or local regulations.

SECTION 14: Transport Information**IMDG/IMO**

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

RID

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

ADR

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

IATA/ICAO

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

14.1. UN Number: Not restricted

14.2. UN Proper Shipping Name: Not restricted

14.3. Transport Hazard Class(es): Not applicable

14.4. Packing Group: Not applicable

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User: None

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

SECTION 15: Regulatory Information

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

International Inventories

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.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering Classes (WGK) WGK 1: Low hazard to waters.

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Diethylene glycol monobutyl ether	112-34-5	Use restricted. See item 55. Conditions of restrictions 27 June 2010	Not applicable

15.2. Chemical Safety Assessment

Yes

SECTION 16: Other Information

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

H319 - Causes serious eye irritation

Key or legend to abbreviations and acronyms

ADR - The European Agreement concerning the International Carriage of Dangerous Goods by Road
 AS/NZS 1715 - New Zealand Standard on Selection, use and maintenance of respiratory protective equipment
 bw – body weight
 CAS – Chemical Abstracts Service
 C - Celsius
 CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
 d - day
 EC – European Commission
 EC10 – Effective Concentration 10%
 EC50 – Effective Concentration 50%
 EEC – European Economic Community
 EN 374 - European standard on Protective gloves against chemicals and micro-organisms
 EN 149 - European standard on filtering halfmasks to protect against particles
 ErC50 – Effective Concentration growth rate 50%
 FFP - Filtering Facepieces
 h - hour
 IATA/ICAO - International Air Transport Association / International Civil Aviation Organization
 IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IMDG/IMO - International Maritime Dangerous Goods / International Maritime Organization
 LC50 – Lethal Concentration 50%
 LD50 – Lethal Dose 50%
 LL0 – Lethal Loading 0%
 LL50 – Lethal Loading 50%
 MAK - Maximum Workplace Concentration
 MARPOL – International Convention for the Prevention of Pollution from Ships
 mg/kg – milligram/kilogram
 mg/L – milligram/liter
 mg/m³ - milligram/cubic meter

mm - millimeter
mmHg - millimeter mercury
NDS - OEL-TWA [Poland najwyższe dopuszczalne stężenie na stanowisku pracy]
NDS - najwyższe dopuszczalne stężenie na stanowisku pracy
NIOSH – National Institute for Occupational Safety and Health
NOEC – No Observed Effect Concentration
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
PC – Chemical Product category
PEL – Permissible Exposure Limit
ppm – parts per million
PROC – Process category
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RID - The European Agreement concerning the International Carriage of Dangerous Goods by Rail
R/H-phrases - Risk/Hazard-phrases
STEL – Short Term Exposure Limit
SU – Sector of Use category
SZW - Netherlands Ministry of Social Affairs and Employment
TWA – Time-Weighted Average
UN – United Nations
UK - United Kingdom
VLA-EC - short-time excursion limits [Spain valores límite ambientales para la exposición de corta duración]
VLA-ED - time-weighted average values for a whole work shift [Spain valores límite ambientales para la exposición diaria]
VOC – Volatile Organic Carbon
vPvB – very Persistent and very Bioaccumulative
w/w - weight/weight

Key literature references and sources for data

www.ChemADVISOR.com/

OSHA

ECHA C&L

Revision Date: 15-Sep-2015

Revision Note

SDS sections updated: 1

This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010

Disclaimer Statement

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End of Safety Data Sheet