

MATERIAL SAFETY DATA SHEET

Product Trade Name: LGC-VI UC

Revision Date: 09-Oct-2014

Revision Number: 12

SECTION 1. Product and Company Identification

Product Identifier

Product Trade Name: LGC-VI UC
Synonyms: None
Chemical Family: Blend
Internal ID Code: HM006194

Product Use

Application: Liquid Gel Concentrate Gelling Agent

Manufacturer's Name and Contact Details

Name and Address: Halliburton Energy Services
645 - 7th Ave SW Suite 2200
Calgary, AB
T2P 4G8
Canada

Emergency Telephone Number: (281) 575-5000

Prepared By

Chemical Compliance
Telephone: 1-580-251-4335
e-mail: fdunexchem@halliburton.com

SECTION 2. Hazard(s) Identification

WHMIS Classification

WHMIS Hazard Class: B3 Combustible Liquids
D2B Toxic Materials

WHMIS Symbol(s)Summary of hazards of the product

Hazard Overview: May cause eye, skin, and respiratory irritation. May cause headache, dizziness, and other central nervous system effects. May be harmful if swallowed.

SECTION 3: Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	HMIRA Registry Number	Decision Granted Date
Heavy aliphatic naphtha	64742-96-7	30 - 60%	Not applicable	Not applicable
Guar gum derivative	Proprietary	30 - 60%	8977	September 29, 2014
Ethoxylated alcohol	Proprietary	1 - 5%	8950	September 29, 2014

SECTION 4. First aid measures

Description of first aid measures

Inhalation

If inhaled, remove to fresh air. If not breathing give artificial respiration (AR), preferably mouth-to-mouth. If breathing is difficult, oxygen should be given by trained personnel. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation (CPR) immediately. Get medical attention immediately.

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. Remove contaminated clothing and laundry before reuse.

Ingestion

Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration.

Most important symptoms and effects, both acute and delayed

May cause eye and skin irritation.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically

SECTION 5. Fire Fighting Measures

Extinguishing media

Suitable Extinguishing Media

Carbon dioxide, dry chemical, foam.

Extinguishing media which must not be used for safety reasons

Do NOT spray pool fires directly with water. A solid stream of water directed into hot burning liquid can cause splattering.

Special hazards arising from the substance or mixture

Special Exposure Hazards

Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce toxic gases. Vapors are heavier than air and may accumulate in low areas. Vapors may travel along the ground to be ignited at distant locations.

Advice for firefighters

Special Protective Equipment for Fire-Fighters

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

Hazardous combustion products

Carbon monoxide and carbon dioxide. Other organic materials.

SECTION 6. Accidental release measures

Personal precautions and emergency procedures

Protective Equipment

Use appropriate protective equipment.

Environmental Precautionary Measures

Prevent from entering sewers, waterways, or low areas.

Procedure for Cleaning / Absorption

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

SECTION 7. Handling and Storage

Precautions for safe handling

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Avoid breathing mist. Launder contaminated clothing before reuse.

Conditions for safe storage and Incompatible materials for storage

Store away from oxidizers. Store in a cool well ventilated area. Keep from heat, sparks, and open flames. Keep container closed when not in use. Product has a shelf life of 24 months.

SECTION 8: Exposure Controls/Personal Protection

Occupational Exposure Limits

Exposure Limits

Substances	CAS Number	ACGIH TLV-TWA	OSHA PEL-TWA
Heavy aliphatic naphtha	64742-96-7	Not available	Not available
Guar gum derivative	Proprietary	Not available	Not available
Ethoxylated alcohol	Proprietary	Not available	Not available

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.

Not normally needed. But if significant exposures are possible then the following respirator is recommended:

Organic vapor respirator with a dust/mist filter. (A2P2/P3)

Hand Protection

Impervious rubber gloves. Neoprene gloves. Polyvinylchloride gloves. Nitrile gloves.

Skin Protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron, rain jacket, pants or coverall, as appropriate, to prevent skin contact.

Eye Protection

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

Other Precautions

Eyewash fountains and safety showers must be easily accessible.

SECTION 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State: Liquid

Odor: Mild hydrocarbon

Color: Off white

Odor Threshold: No information available

Property

Remarks/ - Method

pH:

Values

6.5 - 7.5

pH Concentration of Solution:

10%

Freezing Point/Range

No information available.

Melting Point/Range

No information available

Boiling Point/Range (C):

200 °C

Flash Point/Range (C):

82 °C

Flash Point Method:

PMCC

Autoignition Temperature (C):

No information available.

Flammability Limits in Air - Lower (%):

No information available.

Flammability Limits in Air - Upper (%):

No information available.

Evaporation Rate (Butyl Acetate=1):

No information available.

Vapor Pressure @ 20 C (mmHg):

< 0.15

Vapor Density (Air=1):

No information available.

Specific Gravity @ 20 C (Water=1):	1.086
Solubility in Water (g/100ml):	Soluble
Solubility in other solvents	No information available.
Partition Coefficient/n-Octanol/Water:	No information available.
Decomposition Temperature (C):	No information available.
Viscosity	No information available
Explosive Properties	No information available
Oxidizing Properties	No information available
Other Information	
Molecular Weight (g/mole):	No information available.
VOC Content (%)	No information available

SECTION 10. Stability and Reactivity

Conditions of Reactivity

Conditions to Avoid

Keep away from heat, sparks and flame.

Hazardous Polymerization:

Will Not Occur

Chemical Stability

Stable

Sensitivity to Static Discharge

Not available

Sensitivity to Mechanical Impact

Not available

Incompatible materials

Strong oxidizers.

Hazardous Decomposition Products

Carbon monoxide and carbon dioxide. Other organic materials.

SECTION 11. Toxicological Information

Routes of entry

Eye or skin contact, inhalation.

Information on Toxicological Effects

Acute effects from exposure

Product Information

Inhalation

Under certain conditions of use, some of the product ingredients may cause the following:

May cause respiratory irritation. May cause chemical pneumonia. If heated: May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

Eye Contact

May cause eye irritation

Skin Contact

Causes drying of the skin. May cause skin irritation.

Ingestion

Irritation of the mouth, throat, and stomach. Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation and central nervous system depression.

Chronic effects from exposure

Chronic Effects/Carcinogenicity

No data available to indicate any components present at greater than 0.1% may present a carcinogenic hazard.

Irritancy of product

Irritation

Irritating to eyes

Sensitization of product
Sensitization

Not confirmed to cause skin or respiratory sensitization.

Mutagenicity

Mutagenic Effects

Not regarded as mutagenic.

Carcinogenicity

Carcinogenic Effects

The full refining history is known and it can be shown that the production substance is not carcinogen, therefore the classification as a carcinogen need not apply.

Reproductive toxicity

Reproductive Toxicity

This product does not contain any known or suspected reproductive hazards

Teratogenicity/embryotoxicity

Teratogenic

Not a confirmed teratogen or embryotoxin.

Toxicologically synergistic material Not available**Acute Toxicity**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Heavy aliphatic naphtha	64742-96-7	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	5.28 mg/L (Rat) 4 h 7.5 mg/L (Rat) 6H
Guar gum derivative	Proprietary	> 5000 mg/kg (Rat) >10000 mg/kg (Rat) >2000 mg/kg (Rat) 17800 mg/kg (Rat)	No data available	No data available
Ethoxylated alcohol	Proprietary	1700 mg/kg (Rat) 1650 mg/kg (Dog) 1100 mg/kg (Rat) (similar substance) 2850 mg/kg (Rat)	> 2000 mg/kg (Rabbit) (similar substance)	> saturated concentration (similar substance)

SECTION 12. Ecological Information**Toxicity**

Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Heavy aliphatic naphtha	64742-96-7	EL50(72h): 1-3 mg/L (Pseudokirchnerella subcapitata)	LL50(96h): 2.5 mg/L (Oncorhynchus mykiss)	No information available	EL50(48h): 21 mg/L (Daphnia magna) EL50(48h): 1.4 mg/L (Daphnia magna)
Guar gum derivative	Proprietary	No information available	No information available	No information available	No information available
Ethoxylated alcohol	Proprietary	EC50(48h): 2-4 mg/L (Selenastrum capricornutum) (Similar substance) EC50(72h): 0.282 mg/L (growth rate) (Selenastrum capricornutum) (Similar substance) EC10: 0.137 mg/L (growth rate) (Scenedesmus subspicatus) (Similar substance)	2.6 mg/L (Brachydanio rerio) (Similar substance) LC50(96h): 1.1 mg/L (Salmo gairdneri) (Similar substance) NOEC: 0.88 mg/L (reproduction) (Lepomis macrochirus) (Similar substance)	No information available	EC50(48h): 1.2 mg/L (Daphnia magna) (Similar substance) EC50(48h): 0.6 mg/L (Daphnia magna) (Similar substance) NOEC(21d): 0.77 mg/L (reproduction) (Daphnia magna) (Similar substance)

Persistence and Degradability

No information available

Bioaccumulation potential

No information available

Substances	Log Pow
Ethoxylated alcohol	5.17

Mobility in soil

No information available

Results of PBT and vPvB assessment

No information available.

Other adverse effects**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

SECTION 13. Disposal Considerations

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**Canadian TDG u10**

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

IATA/ICAO

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

IMDG/IMO

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

Special Precautions for User: None

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

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

SECTION 15: Regulatory Information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canadian Regulations**Canadian DSL Inventory**

Product contains one or more components not listed on the inventory.

WHMIS Hazard Class	B3 Combustible Liquids D2B Toxic Materials
---------------------------	---

WHMIS Symbol(s)**US Regulations**
US TSCA Inventory

All components listed on inventory or are exempt.

SECTION 16. Other Information

Preparation Information
Prepared ByChemical Compliance
Telephone: 1-580-251-4335
e-mail: fdunexchem@halliburton.com**Revision Date:** 09-Oct-2014**The following sections have been revised since the last issue of this SDS**Section 3. Composition/Information of Ingredients Section 4. First Aid Measures Section 8. Exposure Control/Personal Protection Section 11. Toxicological Information
Not applicable**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 Compliance at 1-580-251-4335.

Key or legend to abbreviations and acronyms

WHMIS: Workplace Hazardous Materials Information System

Key literature references and sources for datawww.ChemADVISOR.com/**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

*****END OF MSDS*****