

MATERIAL SAFETY DATA SHEET**Product Trade Name:** HR-4L**Revision Date:** 02-Dec-2013**Revision Number:** 17**1. PRODUCT AND COMPANY IDENTIFICATION****Product Identifier**

Product Trade Name: HR-4L
Synonyms: None
Chemical Family: Lignosulfonate
Internal ID Code HM000898

Product Use

Application: Cement Retarder

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
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2. HAZARD(S) IDENTIFICATION**WHMIS Classification**

WHMIS Hazard Class Un-Controlled

WHMIS Symbol(s)

Summary of hazards of the product

Hazard Overview May cause eye irritation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT (w/w)	HMIRA Registry Number	Filing Date
Contains no hazardous substances	Mixture	60 - 100%	Not applicable	Not applicable

4. FIRST AID MEASURES**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, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Skin	Wash with soap and water. Get medical attention if irritation persists.
Ingestion	Under normal conditions, first aid procedures are not required.

Most important symptoms and effects, both acute and delayed

No significant hazards expected.

Indication of any immediate medical attention and special treatment needed**Notes to Physician** Treat symptomatically

5. FIRE FIGHTING MEASURES

Extinguishing media**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

Special hazards arising from the substance or mixture**Special Exposure Hazards**

Decomposition in fire may produce toxic gases.

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

Oxides of sulfur. Carbon monoxide and carbon dioxide.

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.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors.

Conditions for safe storage and Incompatible materials for storage

Store away from oxidizers. Keep container closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits**Exposure Limits**

Substances	CAS Number	ACGIH TLV-TWA	OSHA PEL-TWA
Contains no hazardous substances	Mixture	Not applicable	Not applicable

Appropriate engineering controls**Engineering Controls**

Use in a well ventilated area.

Personal Protective Equipment (PPE)**Respiratory Protection**

Not normally necessary.

Hand Protection

Normal work gloves.

Skin Protection

Normal work coveralls.

Eye Protection

Wear safety glasses or goggles to protect against exposure.

Other Precautions

None known.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties****Physical State:** Liquid**Color:** Dark brown**Odor:** Slight**Odor Threshold:** No information availablePropertyValuesRemarks/ - Method**pH:**

No information available.

pH Concentration of Solution:

No information available.

Freezing Point/Range

No information available.

Melting Point/Range

No information available

Boiling Point/Range (C):

100 °C

Flash Point/Range (C):

No information available.

Flash Point Method:

No information available.

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):

7.5

Vapor Density (Air=1):

No information available.

Specific Gravity @ 20 C (Water=1):

1.18 - 1.21

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

10. STABILITY AND REACTIVITY**Conditions of Reactivity****Conditions to Avoid**

None anticipated

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

Oxides of sulfur. Carbon monoxide and carbon dioxide.

11. TOXICOLOGICAL INFORMATION**Routes of entry**

Eye or skin contact, inhalation.

Information on Toxicological Effects**Acute effects from exposure**

Inhalation	None known.
Eye Contact	May cause mild eye irritation.
Skin Contact	None known.
Ingestion	None known

Chronic effects from exposure**Chronic Effects/Carcinogenicity**

No data available to indicate product or components present at greater than 1% are chronic health hazards.

Irritancy of product**Irritation**

Non-irritating to the skin Non-irritating to the eye

Sensitization of product**Sensitization**

Did not cause sensitization on laboratory animals

Mutagenicity**Mutagenic Effects**

Not regarded as mutagenic

Carcinogenicity**Carcinogenic Effects**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, NTP, or OSHA.

Reproductive Toxicity**Reproductive Toxicity**

This product does not contain any known or suspected reproductive hazards

Teratogenicity/embryotoxicity**Teratogenic**

Not a teratogen or embryotoxin.

Toxicologically synergistic material Not available**Acute Toxicity**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances	Mixture	No data available	No data available	No data available

12. ECOLOGICAL INFORMATION**Toxicity****Ecotoxicity Effects**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
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Contains no hazardous substances	Mixture	No information available	No information available	No information available	No information available
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Persistence and Degradability

No information available

Bioaccumulation potential

No information available

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

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.

14. TRANSPORT INFORMATION

Canadian TDG

UN Number: Not restricted.

UN Proper Shipping Name: Not restricted

Transport Hazard Class(es): Not applicable

IATA/ICAO

UN Number: Not restricted.

UN Proper Shipping Name: Not restricted

Transport Hazard Class(es): Not applicable

IMDG/IMO

UN Number: Not restricted.

UN Proper Shipping Name: Not restricted

Transport Hazard Class(es): 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

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**

All components listed on inventory or are exempt.

WHMIS Hazard Class

Un-Controlled

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

All components listed on inventory or are exempt.

16. OTHER INFORMATION**Preparation Information****Prepared By**

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

Revision Date:

02-Dec-2013

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 data

www.ChemADVISOR.com/

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