

MATERIAL SAFETY DATA SHEET**Product Trade Name:** HR-25L**Revision Date:** 23-Apr-2014**Revision Number:** 19**1. Product and Company Identification****Product Identifier**

Product Trade Name: HR-25L
Synonyms: None
Chemical Family: Organic acid
Internal ID Code: HM000893

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
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2. Hazard(s) Identification**WHMIS Classification**

WHMIS Hazard Class E Corrosive Material

WHMIS Symbol(s)**Summary of hazards of the product**

Hazard Overview May cause severe eye irritation. May cause skin and respiratory irritation.

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	HMIRA Registry Number	Filing Date
Tartaric acid	87-69-4	30 - 60%	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, 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

Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

May cause severe eye irritation.

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

Treat symptomatically

5. Fire Fighting Measures

Extinguishing media**Suitable Extinguishing Media**

All standard fire fighting media

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

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. Neutralize to pH of 6-8. Scoop up and remove.

7. Handling and Storage

Precautions for safe handling

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

Conditions for safe storage and Incompatible materials for storage

Store away from alkalis. Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Product has a shelf life of 60 months.

8. Exposure Controls/Personal Protection

Occupational Exposure Limits Exposure Limits

Substances	CAS Number	ACGIH TLV-TWA	OSHA PEL-TWA
Tartaric acid	87-69-4	Not applicable	Not applicable

Appropriate engineering controls

Engineering Controls Use in a well ventilated area.

Personal Protective Equipment (PPE)

Respiratory Protection Dust/mist respirator. (N95, P2/P3)
Hand Protection Impervious rubber gloves.
Skin Protection Rubber apron.
Eye Protection Chemical goggles; also wear a face shield if splashing hazard exists.
Other Precautions Eyewash fountains and safety showers must be easily accessible.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State: Liquid
Odor: Odorless

Color: Light yellow-green
Odor Threshold: No information available

Property

Remarks/ - Method

Values

pH:	1.7
pH Concentration of Solution:	No information available.
Freezing Point/Range	No information available.
Melting Point/Range	No information available
Boiling Point/Range (C):	103 °C
Flash Point/Range (C):	No information available.
Flash Point Method:	Not Determined
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):	No information available.
Vapor Density (Air=1):	No information available.
Specific Gravity @ 20 C (Water=1):	1.2
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. Strong alkalis.

Hazardous Decomposition Products

Carbon monoxide and carbon dioxide.

11. Toxicological Information

Routes of entry

Eye or skin contact, inhalation.

Information on Toxicological Effects**Acute effects from exposure****Product Information****Inhalation****Eye Contact****Skin Contact****Ingestion**

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

May cause respiratory irritation.

May cause moderate to severe eye irritation.

May cause skin irritation.

Irritation of the mouth, throat, and stomach.

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**

Irritating to skin Severe eye irritant

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
Tartaric acid	87-69-4	> 2000 and < 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	No data available

12. Ecological Information

Toxicity
Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Tartaric acid	87-69-4	E(B)C50: 2575.2 mg/l (Skelettonema costatum) E(R)C50: 1198 mg/l (Skelettonema costatum) EC50: 791.25 mg/L (Skelettonema costatum) EC50(72h): 51.4043 mg/L (cell number) (Pseudokirchnerella subcapitata)	LC50: 250 mg/L (Scophthalmus maximus) LC50(96h): > 100 mg/L (Danio rerio)	EC50(3h): > 1000 mg/L (Activated sludge)	TLM96: 330-1000 ppm (Crangon crangon) EC50: 46.04 - 165.37 mg/L (Ceriodaphnia dubia) LC50: 3753.85 (Acartia tonsa) EC50(48h): 93.313 mg/L (Daphnia magna)

Persistence and Degradability

Readily biodegradable

Bioaccumulation potential

Does not bioaccumulate

Substances	Log Pow
Tartaric acid	-1.91

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. Incineration recommended in approved incinerator according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

Contaminated Packaging

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

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
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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.
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WHMIS Hazard Class	E Corrosive Material
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WHMIS Symbol(s)**US Regulations**

US TSCA Inventory	All components listed on inventory or are exempt.
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16. Other Information**Preparation Information**

Prepared By	Chemical Compliance Telephone: 1-580-251-4335 e-mail: fdunexchem@halliburton.com
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Revision Date:	23-Apr-2014
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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/
NZ CCID

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