

MATERIAL SAFETY DATA SHEET

Product Trade Name: HAI-85M ACID INHIBITOR

Revision Date: 18-Feb-2014

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Statement of Hazardous Nature Hazardous according to the criteria of NOHSC, Dangerous Goods according to the criteria of ADG.

Manufacturer/Supplier Halliburton Australia Pty. Ltd.
15 Marriott Road
Jandakot
WA 6164
Australia

ACN Number: 009 000 775
Telephone Number: 61 (08) 9455 8300
Fax Number: 61 (08) 9455 5300

Product Emergency Telephone
Australia: 08-64244950
Papua New Guinea: 05 1 281 575 5000
NewZealand: 06-7559274

Fire, Police & Ambulance - Emergency Telephone
Australia: 000
Papua New Guinea: 000
New Zealand: 111

Identification of Substances or Preparation

Product Trade Name: HAI-85M ACID INHIBITOR
Synonyms: None
Chemical Family: Blend
UN Number: , UN2924
Dangerous Goods Class: 3
Subsidiary Risk: 8
Hazchem Code: 3W
Poisons Schedule: S5
Application: Corrosion Inhibitor

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

2. HAZARDS IDENTIFICATION

Hazard Overview May cause eye, skin, and respiratory burns. May cause headache, dizziness, and other central nervous system effects. May be fatal if swallowed. May be absorbed through the skin. May cause allergic skin reaction. May cause birth defects. Flammable.

Classification	C - Corrosive. Xn - Harmful.
Risk Phrases	R10 Flammable. R34 Causes burns. R43 May cause sensitization by skin contact. R61 May cause harm to the unborn child. R21/22 Harmful in contact with skin and if swallowed. R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Phrases	S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S38 In case of insufficient ventilation wear suitable respiratory equipment. S45 In case of accident or if you feel unwell, seek medical advice immediately. S24/25 Avoid contact with skin and eyes. S46 If swallowed, seek medical advice immediately and show this container or label. S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.
HSNO Classification	3.1C Flammable Liquids - Medium hazard 6.1C Acutely Toxic Substances 6.5B Contact sensitisers 6.8A Known or presumed human reproductive or developmental toxicants 8.2B Corrosive to dermal tissue if exposed for greater than 3 mins 8.3A Corrosive to ocular tissue 9.1B Ecotoxic in the aquatic environment

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT (w/w)	Australia NOHSC	New Zealand WES	ACGIH TLV-TWA
Poly(oxy-1,2-ethandiyl), a-(nonylphenyl)-w-hydroxy-	9016-45-9	10 - 30%	Not applicable	Not applicable	Not applicable
Isopropanol	67-63-0	10 - 30%	TWA: 400 ppm TWA: 983 mg/m ³ STEL: 500 ppm STEL: 1230 mg/m ³	STEL: 500 ppm STEL: 1230 mg/m ³ TWA: 400 ppm TWA: 983 mg/m ³	TWA: 200 ppm STEL: 400 ppm
Isoquinoline, reaction products with 1-(chloromethyl)naphthalene and quinoline	68909-81-9	10 - 30%	Not applicable	Not applicable	0.01 ppm
Dimethyl formamide	68-12-2	10 - 30%	TWA: 10 ppm 30 mg/m ³	TWA: 10 ppm 30 mg/m ³	TWA: 10 ppm
Propargyl alcohol	107-19-7	5 - 10%	TWA: 1 ppm 2.3 mg/m ³	TWA: 1 ppm 2.3 mg/m ³	TWA: 1 ppm
Copper iodide	7681-65-4	1 - 5%	1 mg/m ³	Not applicable	0.01 ppm
Ethyl octynol	5877-42-9	1 - 5%	Not applicable	Not applicable	Not applicable
Glycol	Proprietary	1 - 5%	TWA: 23 ppm 100 mg/m ³	TWA: 23 ppm 101 mg/m ³	Not applicable
Cuprous chloride	7758-89-6	0 - 1%	1 mg/m ³	Not applicable	1 mg/m ³

Non-Hazardous Substance to Total of 100%

4. FIRST AID MEASURES

Inhalation	If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.
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. Destroy or properly dispose of contaminated shoes.
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.
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.
Notes to Physician	Contains acetylenic alcohols, no known antidote. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

Special Exposure Hazards	May be ignited by heat, sparks or flames. Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Avoid spraying water directly into storage containers due to danger of boilover. Decomposition in fire may produce toxic gases.
Special Protective Equipment for Fire-Fighters	Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures	Use appropriate protective equipment. Wear self-contained breathing apparatus in enclosed areas.
Environmental Precautionary Measures	Prevent from entering sewers, waterways, or low areas.
Procedure for Cleaning / Absorption	Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. Contain spill with sand or other inert materials. Scoop up and remove.

7. HANDLING AND STORAGE

Handling Precautions	Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse. Ground and bond containers when transferring from one container to another.
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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls	Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.
Respiratory Protection	Organic vapor respirator. In high concentrations, supplied air respirator or a self-contained breathing apparatus.
Hand Protection	Impervious rubber gloves.
Skin Protection	Full protective chemical resistant clothing.
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

Physical State:	Liquid
Color:	Dark black red
Odor:	Pungent
pH:	4
Specific Gravity @ 20 C (Water=1):	1.02
Density @ 20 C (kg/l):	1.018
Bulk Density @ 20 C (kg/M3):	Not Determined
Boiling Point/Range (C):	82
Freezing Point/Range (C):	Not Determined
Pour Point/Range (C):	Not Determined
Flash Point/Range (C):	25
Flash Point Method:	Not Determined
Autoignition Temperature (C):	Not Determined
Flammability Limits in Air - Lower (g/m³):	Not Determined
Flammability Limits in Air - Lower (%):	2
Flammability Limits in Air - Upper (g/m³):	Not Determined
Flammability Limits in Air - Upper (%):	12
Vapor Pressure @ 20 C (mmHg):	56.87
Vapor Density (Air=1):	Not Determined
Percent Volatiles:	Not Determined
Evaporation Rate (Butyl Acetate=1):	Not Determined
Solubility in Water (g/100ml):	Disperses
Solubility in Solvents (g/100ml):	Not Determined
VOCs (g/l):	Not Determined
Viscosity, Dynamic @ 20 C (centipoise):	Not Determined
Viscosity, Kinematic @ 20 C (centistokes):	Not Determined
Partition Coefficient/n-Octanol/Water:	5.1
Molecular Weight (g/mole):	Not Determined
Decomposition Temperature (C):	Not Determined

10. STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid	Keep away from heat, sparks and flame.
Incompatibility (Materials to Avoid)	Strong oxidizers.

Hazardous Decomposition Products

Oxides of nitrogen. Carbon monoxide and carbon dioxide.

Additional Guidelines

Not Applicable

11. TOXICOLOGICAL INFORMATION**Principle Route of Exposure**

Eye or skin contact, inhalation.

Symptoms related to exposure**Acute Toxicity****Inhalation**

This material is an anesthetic. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

Eye Contact

May cause eye burns.

Skin Contact

Causes severe burns. May be absorbed through the skin and produce effects similar to those caused by inhalation and/or ingestion. May cause an allergic skin reaction.

Ingestion

Causes burns of the mouth, throat and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea. May cause central nervous system depression including headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions.

Chronic Effects/Carcinogenicity

Prolonged or repeated exposure may cause liver, kidney and spleen damage. Contains dimethylformamide (DMF) which has been shown to cause birth defects and fetal deaths in laboratory animals. Chronic exposure to DMF may result in liver and kidney damage. DMF has been classified as a b2 carcinogen by IARC. May contain ethylene oxide in the headspace of the drum. Ethylene oxide is a cancer and reproductive hazard. This product contains trace amounts of benzyl chloride, which has been evaluated by International Agency for Research on Cancer (IARC) and found to be possibly carcinogenic to humans.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Poly(oxy-1,2-ethandiyl), a-(nonylphenyl)-w-hydroxy-	9016-45-9	1310 mg/kg (Rat) 4290-5000 mg/kg (Rat) 4290 mg/kg (Mouse) (similar substance)	2 mL/kg (Rabbit) 2500 mg/kg (Rabbit)	> 0.0213 mL/L (Rat)
Isopropanol	67-63-0	4396 mg/kg (Rat) 5840 mg/kg (Rat) 3600 mg/kg (Mouse)	12800 mg/kg (Rat) 12870 mg/kg (Rabbit) 16.4 mL/kg (Rabbit)	72.6 mg/L (Rat) 4h >1000 ppm(24.6 mg/L) (Rat)
Isoquinoline, reaction products with 1-(chloromethyl)naphthalene and quinoline	68909-81-9	No data available	No data available	No data available
Dimethyl formamide	68-12-2	3010 mg/kg (Rat)	3.2 g/kg (Rat) > 3160 mg/kg (Rat)	> 5.85 mg/L (Rat) 4 h (saturated concentration)
Propargyl alcohol	107-19-7	20 mg/kg (Rat) 20-50 mg/kg (Rat) 93-110 mg/kg (Rat) 54-55 mg/kg (Rat) 56.4 mg/kg (Rat) 145 mg/kg (Rat)	16 mg/kg (Rabbit) 88 mg/kg (Rabbit)	600 ppm (Rat) 4 h 520 ppm (Rat) 4 h 1.6 mg/L (Rat) 2 h
Copper iodide	7681-65-4	300 – 2000 mg/kg (Rat)	> 2000 mg/kg (Rat)	No data available
Ethyl octynol	5877-42-9	1200 mg/kg (Rat) 1420 mg/kg (Rat) (Similar substance, 2-methylbut-3-yn-2-ol)	200 µL/kg (Rabbit) 174 mg/kg (Rabbit)	> 21.3 mg/L (Rat) (Similar substance, 3-Butyn-2-ol, 2-methyl-)
Glycol	Proprietary	12565 - 19600 mg/kg (Rat)	11890 - 13300 mg/kg (Rabbit)	> 4.6 mg/L (Rat) 4h
Cuprous chloride	7758-89-6	140 mg/kg (Rat) 336 mg/kg (Rat)	1224 mg/kg (Rat)	No data available

12. ECOLOGICAL INFORMATION

Ecotoxicological Information

Ecotoxicity Product

Acute Fish Toxicity:	EC50: 4 ppm (Abra alba)
Acute Crustaceans Toxicity:	Not determined
Acute Algae Toxicity:	E(B)C50: 0.9 mg/l (Skeletonema costatum)

Ecotoxicity Substance

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity for Invertebrates
Poly(oxy-1,2-ethandiyl), a-(nonylphenyl)-w-hydroxy-	9016-45-9	EC50(48h) 20 mg/L (growth inhibition) (Pseudokirchnerella subcapitata) EC50(48h) 50 mg/L (growth rate) (Pseudokirchnerella subcapitata)	LC50(96h): 5.6 mg/L (Brachydanio rerio) LC50(96h): 1.3 mg/L (Lepomis macrochirus) LC50(96h): 5 mg/L (Danio rerio)	No information available	EC50(48h): 1.821 mg/L (Daphnia sp.) (QSAR)
Isopropanol	67-63-0	EC50: > 1000 mg/L (Desmodesmus subspicatus) EC50(7d): 1800 mg/L (mean extinction value) (Scenedesmus quadricauda)	LC50: 9640 mg/l (Pimephales promelas)	TT(16h): 1050 mg/L (Pseudomonas putida)	EC50: 13299 mg/l (Daphnia magna) EC50(24h): > 10000 mg/L (Daphnia magna)
Isoquinoline, reaction products with 1-(chloromethyl)naphtalene and quinoline	68909-81-9	No information available	No information available	No information available	No information available
Dimethyl formamide	68-12-2	EC50(72h): > 1000 mg/L (Desmodesmus subspicatus) (growth rate)	LC50: 6300 mg/L (Lepomis macrochirus) LC50(96h): 7100 mg/L (Lepomis macrochirus) MATC (6mo): ca. 5 < 11 mg/L (Pimephales promelas)	EC50(5min): 12300 – 17500 mg/L (Vibrio fisheri) (growth inhibition)	EC50: 7500 mg/L (Daphnia magna) EC50(48h): 13100 mg/L (Daphnia magna) NOEC(21d): 1500 mg/L (Daphnia magna) (reproduction)
Propargyl alcohol	107-19-7	EC50(72h): > 98.1 mg/L (Desmodesmus subspicatus) (biomass and growth rate)	LC50: 1.49-1.56 mg/L (Pimephales promelas) LC50(96h): 1.53 mg/L (Pimephales promelas)	EC50(30 min) > 1000 mg/L (Activated sludge, domestic)	EC50:32 mg/L (Daphnia magna) EC50(48h): 3.36 mg/L (Daphnia magna)
Copper iodide	7681-65-4	EC50(72h): 0.13 mg/L (Desmodesmus subspicatus) (growth rate) (similar substance, elemental iodine)	LC50(96h): 1.67 mg/L (Oncorhynchus mykiss) (similar substance, elemental iodine)	EC50(3h) 280 mg/L (activated sludge, respiration rate) (similar substance, iodine)	LC50(48h): 0.55 mg/L (Daphnia magna) (similar substance, elemental iodine)
Ethyl octynol	5877-42-9	EC50(72h): 11.9 mg/L (green algae)	No information available	EC20(3h): ~ 63 mg/L (activated sludge, domestic)	EC50(48h): 14.9 mg/L (Daphnia magna)
Glycol	Proprietary	TGK(8d): 2700 mg/L (Scenedesmus quadricauda)	LC50: 75200 mg/L (Pimephales promelas)	EC20(30m): > 1995 mg/L (domestic activated sludge)	EC50: 84000 mg/L (Daphnia magna) EC50: >10000 mg/L (Daphnia magna)
Cuprous chloride	7758-89-6	NOEC(72h) 5.7 ug/L (growth rate) (Phaeodactylum tricornutum)	LC50(96h): 38.4 – 256.2 ug/L (Pimephales promelas) (similar substance – copper sulfate)	NOEC(30d) 0.23 – 0.45 mg/L (activated sludge) (heterotrophs) NOEC(30d) 0.26 – 0.29 mg/L (activated sludge) (nitrifiers) EC50(100d) 25 ug/L (sewage, domestic) (nitrate reduction)	LC50(48h) 30 – 63 ug/L (Daphnia magna)

12.2 Persistence and degradability

Substances	Persistence and Degradability
Poly(oxy-1,2-ethandiyl), a-(nonylphenyl)-w-hydroxy-	Readily biodegradable (98-99% @ 28d)

Isopropanol	Readily biodegradable (53% @ 5d)
Dimethyl formamide	Readily biodegradable (100% @ 28d)
Propargyl alcohol	Readily biodegradable (95% @ 28d)
Copper iodide	Not applicable
Ethyl octynol	Not readily biodegradable (0-10% @ 28d)
Glycol	Readily biodegradable (90-100% @ 28d)
Cuprous chloride	Not applicable

12.3 Bioaccumulative potential

Substances	Log Pow
Poly(oxy-1,2-ethandiyl), a-(nonylphenyl)-w-hydroxy-	3.7 @ 25°C
Isopropanol	0.05 @ 25°C
Dimethyl formamide	BCF: 0.3 – 1.2 L/kg (Cyprinus carpio)
Propargyl alcohol	-0.35 @ 25°C BCF: 3
Glycol	BCF: 100 (Leuciscus idus melanotus)

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

Substances	PBT and vPvB assessment
Poly(oxy-1,2-ethandiyl), a-(nonylphenyl)-w-hydroxy-	PBT & vPvB
Isopropanol	Not PBT/vPvB
Dimethyl formamide	Not PBT/vPvB
Copper iodide	Not PBT/vPvB
Cuprous chloride	Not PBT/vPvB

12.6 Other adverse effects

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

Land Transportation

ADR

UN2924, Flammable Liquid, Corrosive, N.O.S (Contains Isopropanol, Acetylenic Alcohol) , 3 , (8) , III

Air Transportation

ICAO/IATA

UN2924, Flammable Liquid, Corrosive, N.O.S , 3 , (8) , III (Contains Isopropanol, Acetylenic Alcohol)

Sea Transportation

IMDG

UN2924, Flammable Liquid, Corrosive, N.O.S (Contains Isopropanol, Acetylenic Alcohol) , 3 , (8) , III , (25 C)
EmS F-E, S-C

Other Transportation Information

Labels: Flammable Liquid

15. REGULATORY INFORMATION

Chemical Inventories

Australian AICS Inventory	Product contains one or more components not listed on inventory.
New Zealand Inventory of Chemicals	This product does not comply with NZIOC
US TSCA Inventory	All components listed on inventory or are exempt.
EINECS Inventory	This product, and all its components, complies with EINECS

Classification	C - Corrosive.
	Xn - Harmful.

Risk Phrases	R10 Flammable.
	R34 Causes burns.
	R43 May cause sensitization by skin contact.
	R61 May cause harm to the unborn child.
	R21/22 Harmful in contact with skin and if swallowed.
	R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases	S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	S38 In case of insufficient ventilation wear suitable respiratory equipment.
	S45 In case of accident or if you feel unwell, seek medical advice immediately.
	S24/25 Avoid contact with skin and eyes.
	S46 If swallowed, seek medical advice immediately and show this container or label.
	S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

16. OTHER INFORMATION

The following sections have been revised since the last issue of this SDS

Not applicable

Contact

Australian Poisons Information Centre

24 Hour Service: - 13 11 26

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

New Zealand National Poisons Centre

0800 764 766

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.

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*****