HALLIBURTON

SAFETY DATA SHEET

ANHIB II INHIBITOR

Revision Date: 17-Apr-2015 **Revision Number:** 13

1. Product Identifier & Identity for the Chemical

Statement of Hazardous Nature Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Dangerous Goods according to the criteria of ADG.

1.1. Product Identifier

Product Name ANHIB II INHIBITOR

Other means of Identification

Synonyms: None

Product Code: HM000066

Recommended use of the chemical and restrictions on use

Recommended Use Corrosion Inhibitor

Uses Advised Against No information available

Supplier's name, address and phone number

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

E-Mail address: fdunexchem@halliburton.com

Emergency phone number

61 (08) 9455 8300

Australian Poisons Information Centre

24 Hour Service: - 13 11 26

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

2. Hazard Identification

Statement of Hazardous Nature Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Dangerous Goods according to the criteria of ADG.

Classification of the hazardous chemical

Serious Eye Damage / Eye Irritation	Category 1 - H318
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - H335
Acute Aquatic Toxicity	Category 3 - H402
Flammable liquids.	Category 3 - H226

Label elements, including precautionary statements

Hazard Pictograms

Signal Word
Danger

Hazard Statements
H226 - Flammable liquid and vapor
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H402 - Harmful to aquatic life

Precautionary Statements

Prevention
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P233 - Keep container tightly closed
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical/ventilating/lighting/equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P271 - Use only outdoors or in a well-ventilated area
P273 - Avoid release to the environment
P280 - Wear eye protection/face protection

Response
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P312 - Call a POISON CENTER or doctor/physician if you feel unwell
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P370 + P378 - In case of fire: Use water spray for extinction

Storage
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P403 + P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up

Disposal
P501 - Dispose of contents/container to an approved incineration plant

Contains

Substances	CAS Number
Ammonium bisulfite	10192-30-0
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4
Trimethylammonium chloride	593-81-7
Sodium phosphate, tribasic	7601-54-9
Isopropanol	67-63-0

Other hazards which do not result in classification
None known

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

Classification Xi - Irritant.

Risk Phrases
R10 Flammable.
R31 Contact with acids liberates toxic gas.
R37 Irritating to respiratory system.
R41 Risk of serious damage to eyes.

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Ammonium bisulfite	10192-30-0	10 - 30%	Eye Irrit. 2A (H319) STOT SE 3 (H335) Aquatic Acute 3 (H402)
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	10 - 30%	Eye Corr. 1 (H318)
Trimethylammonium chloride	593-81-7	1 - 5%	Skin Irrit. 2 (H315)
Sodium phosphate, tribasic	7601-54-9	1 - 5%	Skin Irrit. 2 (H315) Eye Corr. 1 (H318) STOT SE 3 (H335)
Isopropanol	67-63-0	5 - 10%	Eye Irrit. 2 (H319) STOT SE 3 (H336) Flam. Liq. 2 (H225)

4. First aid measures

Description of necessary first aid measures

Inhalation If inhaled, move victim to fresh air and seek medical attention.

Eyes Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt 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.

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

Symptoms caused by exposure
Causes severe eye irritation which may damage tissue. May cause respiratory irritation.

Medical Attention and Special Treatment
Notes to Physician Treat symptomatically

5. Fire Fighting Measures

Suitable extinguishing equipment
Suitable Extinguishing Media
Water fog, carbon dioxide, foam, dry chemical.
Extinguishing media which must not be used for safety reasons
None known.

Specific hazards arising from the chemical

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. Decomposition in fire may produce toxic gases.

Special protective equipment and precautions for fire fighters

Special Protective Equipment for Fire-Fighters

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

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment.

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

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

7.1. Precautions for Safe Handling

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.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Information

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.

Other Guidelines

No information available

8. Exposure Controls/Personal Protection

Control parameters - exposure standards, biological monitoring

Exposure Limits

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Ammonium bisulfite	10192-30-0	Not applicable	Not applicable
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	Not applicable	Not applicable
Trimethylammonium chloride	593-81-7	Not applicable	Not applicable
Sodium phosphate, tribasic	7601-54-9	Not applicable	Not applicable
Isopropanol	67-63-0	TWA: 400 ppm TWA: 983 mg/m^3 STEL: 500 ppm STEL: 1230 mg/m^3	TWA: 200 ppm STEL: 400 ppm

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)

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	Organic vapor respirator. In high concentrations, supplied air respirator or a self-contained breathing apparatus.
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. (>= 0.4 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. Manufacturer's directions for use should be observed because of great diversity of types.
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.
Environmental Exposure Controls	No information available

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State:	Liquid	**Color:**	Red
Odor:	Pungent	**Odor Threshold:**	No information available

Property Remarks/ - Method	Values
pH:	4.5 – 5.2
Freezing Point/Range	No data available
Melting Point/Range	No data available
Boiling Point/Range	No data available
Flash Point	23 °C / 74 °F PMCC
Evaporation rate	No data available
Vapor Pressure	89 mmHg @ 20C
Vapor Density	No data available
Specific Gravity	1.16
Water Solubility	Soluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
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

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

Keep away from heat, sparks and flame.

10.5. Incompatible Materials

Strong oxidizers.

10.6. Hazardous Decomposition Products

Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.

11. Toxicological Information

Information on routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation.

Sympotoms related to exposure

Most Important Symptoms/Effects

Causes severe eye irritation which may damage tissue. May cause respiratory irritation.

Numerical measures of toxicity

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ammonium bisulfite	10192-30-0	11200 mg/kg 2610 mg/kg (Rat) (similar substance)	> 2000 mg/kg (Rat) (similar substance)	> 5.5 mg/L (Rat) 4h (similar substance)
3-(Tridecyloxy)-2-hydroxy propyltrimethylammoniu m, chloride	68334-55-4	No data available	No data available	No data available
Trimethylammonium chloride	593-81-7	3090 mg/kg (Rat)	> 5000 mg/kg (Rat) (similar substance)	No data available
Sodium phosphate, tribasic	7601-54-9	2000 mg/kg (Rat)	2 mg/kg (Rabbit) > 2000 mg/kg (Rat) (similar substance)	2.16 mg/L (Rat) 1h > 0.83 mg/L (Rat) (similar substance)
Isopropanol	67-63-0	4396 mg/kg (Rat) 5840 mg/kg (Rat) 3600 mg/kg (Mouse)	12,800 mg/kg (Rat) 12,870 mg/kg (Rabbit) 6280 mg/kg (Rabbit)	72.6 mg/L (Rat) 4h > 10,000 mg/L (Rat) 6h

Immediate, delayed and chronic health effects from exposure

Inhalation May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

Eye Contact Causes severe eye irritation which may damage tissue.

Skin Contact May cause skin irritation.

Ingestion May cause abdominal pain, vomiting, nausea, and diarrhea. Irritation of the mouth, throat, and stomach.

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

Exposure Levels

No data available

Interactive effects

Skin disorders.

Data limitations

No data available

Substances	CAS Number	Skin corrosion/irritation
Ammonium bisulfite	10192-30-0	Not irritating to skin in rabbits.

3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	No data of sufficient quality are available.
Trimethylammonium chloride	593-81-7	Causes skin irritation.
Sodium phosphate, tribasic	7601-54-9	Causes moderate skin irritation. (Rabbit)
Isopropanol	67-63-0	Non-irritating to the skin (Rabbit)

Substances	**CAS Number**	**Eye damage/irritation**
Ammonium bisulfite	10192-30-0	Eye, rabbit: Causes mild eye irritation. (similar substances)
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	May cause moderate to severe eye irritation.
Trimethylammonium chloride	593-81-7	Causes eye irritation
Sodium phosphate, tribasic	7601-54-9	Causes severe eye irritation which may damage tissue.
Isopropanol	67-63-0	Causes severe eye irritation. (Rabbit)

Substances	**CAS Number**	**Skin Sensitization**
Ammonium bisulfite	10192-30-0	Did not cause sensitization on laboratory animals (mouse) (similar substances)
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	No information available
Trimethylammonium chloride	593-81-7	Not regarded as a sensitizer. (similar substances)
Sodium phosphate, tribasic	7601-54-9	Did not cause sensitization on laboratory animals (similar substances)
Isopropanol	67-63-0	Did not cause sensitization on laboratory animals (guinea pig)

Substances	**CAS Number**	**Respiratory Sensitization**
Ammonium bisulfite	10192-30-0	No information available
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	No information available
Trimethylammonium chloride	593-81-7	No information available
Sodium phosphate, tribasic	7601-54-9	No information available
Isopropanol	67-63-0	No information available

Substances	**CAS Number**	**Mutagenic Effects**
Ammonium bisulfite	10192-30-0	Did not show mutagenic effects in animal experiments (similar substances)
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	No information available
Trimethylammonium chloride	593-81-7	In vitro tests did not show mutagenic effects (similar substances)
Sodium phosphate, tribasic	7601-54-9	Not regarded as mutagenic. In vitro tests did not show mutagenic effects (similar substances)
Isopropanol	67-63-0	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.

Substances	**CAS Number**	**Carcinogenic Effects**
Ammonium bisulfite	10192-30-0	Did not show carcinogenic or teratogenic effects in animal experiments (similar substances)
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	No information available.
Trimethylammonium chloride	593-81-7	No information available.
Sodium phosphate, tribasic	7601-54-9	No information available.
Isopropanol	67-63-0	Did not show carcinogenic effects in animal experiments

Substances	**CAS Number**	**Reproductive toxicity**
Ammonium bisulfite	10192-30-0	Animal testing did not show any effects on fertility. (similar substances)
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	No information available
Trimethylammonium chloride	593-81-7	No data of sufficient quality are available.
Sodium phosphate, tribasic	7601-54-9	Did not show teratogenic effects in animal experiments. Animal testing did not show any effects on fertility. (similar substances)
Isopropanol	67-63-0	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	**CAS Number**	**STOT - single exposure**

Ammonium bisulfite	10192-30-0	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	No information available
Trimethylammonium chloride	593-81-7	No significant toxicity observed in animal studies at concentration requiring classification.
Sodium phosphate, tribasic	7601-54-9	May cause disorder and damage to the Respiratory system.
Isopropanol	67-63-0	May cause headache, dizziness, and other central nervous system effects.

Substances	**CAS Number**	**STOT - repeated exposure**
Ammonium bisulfite	10192-30-0	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	No information available
Trimethylammonium chloride	593-81-7	No data of sufficient quality are available.
Sodium phosphate, tribasic	7601-54-9	No significant toxicity observed in animal studies at concentration requiring classification.
Isopropanol	67-63-0	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

Substances	**CAS Number**	**Aspiration hazard**
Ammonium bisulfite	10192-30-0	Not applicable
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	Not applicable
Trimethylammonium chloride	593-81-7	Not applicable
Sodium phosphate, tribasic	7601-54-9	Not applicable
Isopropanol	67-63-0	Not applicable

12. Ecological Information

Ecotoxicity

Product Ecotoxicity Data

No data available

Substance Ecotoxicity Data

Substances	CAS Number	**Toxicity to Algae**	**Toxicity to Fish**	**Toxicity to Microorganisms**	**Toxicity to Invertebrates**
Ammonium bisulfite	10192-30-0	ErC50 (72h) 43.8 mg/L (Desmodesmus subspicatus) (similar substance)	LC50 5000 mg/L (Lepomis macrochirus) LC50 (96h) 681.2 mg/L (Danio rerio) (similar substance) LC50 (96h) 316 mg/L (Leuciscus idus) (similar substance) NOEC (34d) => 316 mg/L (Danio rerio) (similar substance)	EC50 (17h) 410 mg/L (Pseudomonas putida) (similar substance) EC50 (17h) 65 mg/L (Pseudomonas putida) (similar substance)	EC50 (48h) >1000 mg/L (Daphnia magna) EC50 (48 hr) 89 mg/L (Daphnia magna) (similar substance) NOEC (21d) > 10 mg/L (Daphnia magna) (reproduction) (similar substance)
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	No information available	No information available	No information available	No information available
Trimethylammonium chloride	593-81-7	EC50 (96h) 150 mg/L (Desmodesmus subspicatus) (similar substance)	EC50 (48h) 610 mg/L (Leuciscius idus) (similar substance) LC50 (48h) 1000 mg/L (Oryzias latipes) (similar substance)	No information available	EC50 (48h) 140 mg/L (Daphnia magna) (similar substance)
Sodium phosphate, tribasic	7601-54-9	EC50 (72h) > 100 mg/L (Desmodesmus subspicatus)	LC50 (96h) > 100 mg/L (Oncorhynchus mykiss)	NOEC (3h) > 1000 mg/L (Activated sludge)	EC50 (48h) > 100 mg/L (Daphnia magna)

Isopropanol	67-63-0	EC50 (72h) > 1000 mg/L (Desmodesmus subspicatus) EC50 (7d) 1800 mg/L (Scenedesmus quadricauda)	LC50 (96h) 9640 mg/L (Pimephales promelas) LC50 (7d) 7060 mg/L (Poecilia reticulata)	TT (16h) 1050 mg/L (Pseudomonas putida)	EC50 (48h) 13,299 mg/L (Daphnia magna) EC50 (24h) > 10,000 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Ammonium bisulfite	10192-30-0	The methods for determining biodegradability are not applicable to inorganic substances.
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	No information available
Trimethylammonium chloride	593-81-7	(92% @ 14d) (similar substance)
Sodium phosphate, tribasic	7601-54-9	No information available
Isopropanol	67-63-0	Readily biodegradable (53% @ 5d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Ammonium bisulfite	10192-30-0	No information available
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	No information available
Trimethylammonium chloride	593-81-7	-2.73
Sodium phosphate, tribasic	7601-54-9	No information available
Isopropanol	67-63-0	0.05

12.4. Mobility in soil

Substances	CAS Number	Mobility
Ammonium bisulfite	10192-30-0	No information available
3-(Tridecyloxy)-2-hydroxypropyltrimethylammonium, chloride	68334-55-4	No information available
Trimethylammonium chloride	593-81-7	No information available
Sodium phosphate, tribasic	7601-54-9	No information available
Isopropanol	67-63-0	KOC = 1.5

12.6. Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

13. Disposal Considerations

Safe handling and disposal methods

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

Disposal of any contaminated packaging

Follow all applicable national or local regulations.

Environmental regulations

Not applicable

14. Transport Information

Transportation Information

UN Number: UN1993

UN Proper Shipping Name: Flammable Liquid, N.O.S. (Contains Isopropanol)

Transport Hazard Class(es):	3
Packing Group:	III
Environmental Hazards:	Not applicable

Special precautions during transport
None

HazChem Code
2[S]E

15. Regulatory Information

Safety, health and environmental regulations specific for the product

International Inventories

Australian AICS Inventory	Product contains one or more components not listed on inventory.
New Zealand Inventory of Chemicals	Product contains one or more components not listed on inventory.
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	Product contains one or more components not listed on the inventory.

Poisons Schedule number
None Allocated

16. Other information

Date of preparation or review

Revision Date: 17-Apr-2015

Revision Note

Full text of R-phrases referred to under Sections 2 and 3
R10 Flammable.
R11 Highly flammable.
R31 Contact with acids liberates toxic gas.
R41 Risk of serious damage to eyes.
R36 - Irritating to eyes
R37 Irritating to respiratory system.
R38 Irritating to skin.
R67 Vapours may cause drowsiness and dizziness.
R52 Harmful to aquatic organisms.

Full text of H-Statements referred to under sections 2 and 3
H225 - Highly flammable liquid and vapor
H226 - Flammable liquid and vapor
H315 - Causes skin irritation
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H402 - Harmful to aquatic life

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 Stewardship at 1-580-251-4335.

Key abreviations or acronyms used

Not applicable

Key literature references and sources for data

www.ChemADVISOR.com/

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End of Safety Data Sheet