HALLIBURTON

MATERIAL SAFETY DATA SHEET

Product Trade Name: **HT BREAKER**

Revision Date: 23-Sep-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:	HT BREAKER
Synonyms:	None
Chemical Family:	Organic peroxide
UN Number:	UN3109
Dangerous Goods Class:	5.2
Subsidiary Risk:	8
Hazchem Code:	2[Y]E
Poisons Schedule:	None Allocated
Application:	Breaker

Prepared By

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

2. HAZARDS IDENTIFICATION

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

Hazard Overview

May cause eye, skin, and respiratory burns. May cause allergic skin reaction. May be absorbed through the skin. May be harmful if swallowed. May be harmful if inhaled organic peroxide

Classification

O - Oxidizing.
C - Corrosive.
T+ - Very toxic.

Risk Phrases

R8 Contact with combustible material may cause fire.
R10 Flammable.
R22 Harmful if swallowed.
R24 Toxic in contact with skin.
R26 Very toxic by inhalation.
R34 Causes burns.
R43 May cause sensitization by skin contact.
R68 Possible risk of irreversible effects.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases

S3 Keep in a cool place.

S14 Keep away from ....

S24 Avoid contact with skin.

S45 In case of accident or if you feel unwell, seek medical advice immediately.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

HSNO Classification

5.2F Organic Peroxides
6.1C (Dermal) Acutely Toxic Substances
6.1D (Oral) Acutely Toxic Substances
6.1D (Inhalation) Acutely Toxic Substances
6.6B Human mutagens
6.9B Harmful to human target organs or systems
8.2C Corrosive to dermal tissue if exposed for greater than 1 hour
8.3A Corrosive to ocular tissue
9.1B Ecotoxic in the aquatic environment
9.3B Ecotoxic to terrestrial invertebrates

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT (w/w)	Australia NOHSC	New Zealand WES	ACGIH TLV-TWA
tert-Butyl Hydroperoxide	75-91-2	60 - 100%	Not applicable	Not applicable	Not applicable

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.
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	Not Applicable

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	Oxidizer. May ignite combustibles. 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.
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.
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. Do NOT consume food, drink, or tobacco in contaminated areas. Wash hands after use. Launder contaminated clothing before reuse.
Storage Information	Store away from combustibles. Keep from heat, sparks, and open flames. Store in a cool well ventilated area. Keep container closed when not in use. Keep from freezing. Store away from direct sunlight. Store between 32 F (0 C) and 95 F (35 C). Product has a shelf life of 12 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	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. Full Facepiece Respirator with Organic vapor respirator with a dust/mist filter. (A2P2/P3) Organic vapor respirators have a short service life. 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Clear colorless
Odor:	Pungent
pH:	4.3
Specific Gravity @ 20 C (Water=1):	0.93
Density @ 20 C (kg/l):	0.928
Bulk Density @ 20 C (kg/M3):	Not Determined
Boiling Point/Range (C):	96
Freezing Point/Range (C):	-3
Pour Point/Range (C):	Not Determined
Flash Point/Range (C):	43
Flash Point Method:	TCC
Autoignition Temperature (C):	238
Flammability Limits in Air - Lower (g/m^3):	Not Determined
Flammability Limits in Air - Lower (%):	5.7
Flammability Limits in Air - Upper (g/m^3):	Not Determined
Flammability Limits in Air - Upper (%):	99.99
Vapor Pressure @ 20 C (mmHg):	23
Vapor Density (Air=1):	3.1
Percent Volatiles:	Not Determined
Evaporation Rate (Butyl Acetate=1):	Not Determined
Solubility in Water (g/100ml):	Soluble
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:	Not Determined
Molecular Weight (g/mole):	90.14
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. Avoid contact with organic materials.

Incompatibility (Materials to Avoid) Organic matter. All flammables, especially petroleum products, asphalt & other volatile flammables. Reducing agents. Sulfides. Ketones.

Hazardous Decomposition Products Oxygen. Carbon monoxide and carbon dioxide.

Additional Guidelines Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure Eye or skin contact, inhalation.

Sympotoms related to exposure

Acute Toxicity

Inhalation Causes severe respiratory irritation. May cause chemical pneumonia. May cause lungs to fill with fluids. May cause allergic respiratory reaction.

Eye Contact Causes severe eye burns.

Skin Contact Causes 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.

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

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
tert-Butyl Hydroperoxide	75-91-2	370 mg/kg (Rat) 560 mg/kg (Rat)	790 mg/kg (Rat) 440 mg/kg (Rabbit)	500 ppm (Rat, 4h) 1.85 mg/L (Rat, 4h)

12. ECOLOGICAL INFORMATION

Ecotoxicological Information

Ecotoxicity Product

Acute Fish Toxicity: Not determined

Acute Crustaceans Toxicity: Not determined

Acute Algae Toxicity: Not determined

Ecotoxicity Substance

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
tert-Butyl Hydroperoxide	75-91-2	EC50(72h): 1.5 mg/L (Pseudokirchnerella subcapitata)	LC50(96h): 29.61 mg/L (Pimephales promelas)	EC50(30m): 17 mg/L (activated sludge, domestic)	EC50(48h): 14.1 mg/L (Daphnia magna)

12.2. Persistence and degradability

No information available

Substances	CAS Number	Persistence and Degradability
tert-Butyl Hydroperoxide	75-91-2	Not readily biodegradable (0% @ 28d)

12.3. Bioaccumulative potential
No information available

Substances	CAS Number	Log Pow
tert-Butyl Hydroperoxide	75-91-2	0.846

12.4. Mobility in soil
No information available

12.5. Results of PBT and vPvB assessment
No information available.

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

Australia Dangerous Goods
UN Number: UN3109
UN Proper Shipping Name: Organic Peroxide Type F, Liquid (Contains < 72% tert-Butyl Hydroperoxide)
Transport Hazard Class(es): 5.2
Subsidiary Hazard: (8)
Packing Group: II
Environmental Hazards: , Marine Pollutant (tert-Butyl Hydroperoxide)

IMDG/IMO
UN Number: UN3109
UN Proper Shipping Name: Organic Peroxide Type F, Liquid (Contains < 72% tert-Butyl Hydroperoxide)
Transport Hazard Class(es): 5.2
Subsidiary Hazard: (8)
Packing Group: II
Environmental Hazards: , Marine Pollutant (tert-Butyl Hydroperoxide)
EMS: EmS F-J, S-R

IATA/ICAO
UN Number: UN3109
UN Proper Shipping Name: Organic Peroxide Type F, Liquid (Contains < 72% tert-Butyl Hydroperoxide)
Transport Hazard Class(es): 5.2
Subsidiary Hazard: (8)
Packing Group: II
Environmental Hazards: , Marine Pollutant (tert-Butyl Hydroperoxide)

Special Precautions for User: None
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

15. REGULATORY INFORMATION

Chemical Inventories

Australian AICS Inventory All components listed on inventory or are exempt.

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	O - Oxidizing. C - Corrosive. T+ - Very toxic.
Risk Phrases	R8 Contact with combustible material may cause fire. R10 Flammable. R22 Harmful if swallowed. R24 Toxic in contact with skin. R26 Very toxic by inhalation. R34 Causes burns. R43 May cause sensitization by skin contact. R68 Possible risk of irreversible effects. R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Phrases	S3 Keep in a cool place. S14 Keep away from .... S24 Avoid contact with skin. S45 In case of accident or if you feel unwell, seek medical advice immediately. S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

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*****