HALLIBURTON

SAFETY DATA SHEET

WellLock H1

Revision Date: 26-Oct-2015 **Revision Number:** 11

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 WellLock H1

Other means of Identification

Synonyms: None

Product Code: HM007347

Recommended use of the chemical and restrictions on use

Recommended Use Curing Agent

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 1 800 686 951
Fax Number: 61 (08) 9455 5300

E-Mail address: fdunexchem@halliburton.com

Emergency phone number

+ 61 1 800 686 951

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

Acute Oral Toxicity	Category 4 - H302
Serious Eye Damage / Eye Irritation	Category 2 - H319
Specific Target Organ Toxicity - (Repeated Exposure)	Category 2 - H373

Label elements, including precautionary statements

Hazard Pictograms

Signal Word Warning

Hazard Statements
H302 - Harmful if swallowed
H319 - Causes serious eye irritation
H373 - May cause damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements

Prevention
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P273 - Avoid release to the environment
P280 - Wear eye protection/face protection

Response
P301+ P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 - Rinse mouth
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention
P314 - Get medical attention/advice if you feel unwell
P391 - Collect spillage

Storage None

Disposal P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

Contains Substances	**CAS Number**
Diethyltoluenediamine	68479-98-1

Other hazards which do not result in classification
This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

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

Classification
Xn - Harmful.
N - Dangerous For The Environment.
Xi - Irritant.

Risk Phrases
R22 Harmful if swallowed.
R36 Irritating to eyes.
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Diethyltoluenediamine	68479-98-1	60 - 100%	Acute Tox. 4 (H302) Eye Irrit. 2A (H319) STOT RE 2 (H373) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

4. First aid measures

Description of necessary first aid measures

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

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 Wash with soap and water. Get medical attention if irritation persists. 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 eye irritation Harmful if swallowed. Prolonged or repeated exposure may cause damage to organs.

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. Use water spray to cool fire exposed surfaces.

Extinguishing media which must not be used for safety reasons

None known.

Specific hazards arising from the chemical

Special Exposure Hazards

Product will not burn unless preheated. Decomposition in fire may produce harmful 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. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation. Evacuate all persons from the area.

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. Contain spill with sand or other inert materials.

7. Handling and storage

7.1. Precautions for Safe Handling

Handling Precautions

Avoid contact with eyes, skin, or clothing. Wash hands after use. Avoid breathing vapors. Ensure adequate ventilation. Launder contaminated clothing before reuse. Use appropriate protective equipment.

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. Keep from excessive heat. Store in a cool well ventilated area. Keep container closed when not in use. Store locked up. Product has a shelf life of 36 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
Diethyltoluenediamine	68479-98-1	Not applicable	Not applicable

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)

Respiratory Protection Not normally needed. But if significant exposures are possible then the following respirator is recommended:
Organic vapor/acid gas respirator with a dust/mist filter.

Hand Protection Neoprene gloves. Nitrile gloves.

Skin Protection Butyl coated apron or clothing.

Eye Protection Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions None known.

Environmental Exposure Controls Do not allow material to contaminate ground water system

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid
Color: Clear
Odor: Amine
Odor Threshold: No information available

Property Remarks/ - Method	Values
pH:	No data available
Freezing Point/Range	No data available
Melting Point/Range	No data available
Boiling Point/Range	307 °C / 586 °F
Flash Point	> 135 °C / > 275 °F PMCC
Evaporation rate	No data available
Vapor Pressure	0.97 mmHg
Vapor Density	5.2
Specific Gravity	1.02
Water Solubility	Partly soluble
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

Molecular Weight	178.27 g/mol
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. Strong acids. Reducing agents. Violent, explosive reaction with sulfur trioxide, decaborane, silver perchlorate, triethenyl aluminum, and hydrogen in presence of nickel catalyst at temperatures above 200 C.

10.6. Hazardous Decomposition Products
Oxides of nitrogen. Carbon monoxide and carbon dioxide.

11. Toxicological Information

Information on routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation. Ingestion.

Symptoms related to exposure

Most Important Symptoms/Effects

Causes eye irritation Harmful if swallowed. Prolonged or repeated exposure may cause damage to organs.

Numerical measures of toxicity

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Diethyltoluenediamine	68479-98-1	472 mg/kg (Rat) 485 mg/kg (Rat)	700 mg/kg (Rabbit) >2000 mg/kg (Rabbit)	No data available

Immediate, delayed and chronic health effects from exposure

Inhalation	May cause mild respiratory irritation.
Eye Contact	Causes eye irritation.
Skin Contact	May cause mild skin irritation.
Ingestion	Harmful if swallowed. Irritation of the mouth, throat, and stomach.

Chronic Effects/Carcinogenicity A two year feeding study in rats showed DETDA caused effects in the pancreas, liver, thyroid, and eyes. An increase in the number of tumors in the liver and thyroid of male rats and in the liver and possibly mammary gland of female rats was found.

Exposure Levels
No data available

Interactive effects
Diseases of the pancreas. Eye ailments. Skin disorders.

Data limitations
No data available

Substances	CAS Number	Skin corrosion/irritation
Diethyltoluenediamine	68479-98-1	Not irritating to skin in rabbits.

Substances	CAS Number	Eye damage/irritation
Diethyltoluenediamine	68479-98-1	Causes moderate eye irritation. (Rabbit)

Substances	CAS Number	Skin Sensitization
Diethyltoluenediamine	68479-98-1	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Diethyltoluenediamine	68479-98-1	No information available

Substances	CAS Number	Mutagenic Effects
Diethyltoluenediamine	68479-98-1	Not regarded as mutagenic.

Substances	CAS Number	Carcinogenic Effects
Diethyltoluenediamine	68479-98-1	Did not show carcinogenic effects in animal experiments

Substances	CAS Number	Reproductive toxicity
Diethyltoluenediamine	68479-98-1	No information available

Substances	CAS Number	STOT - single exposure
Diethyltoluenediamine	68479-98-1	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Diethyltoluenediamine	68479-98-1	Causes damage to organs through prolonged or repeated exposure if swallowed: Pancreas, bone marrow (spleen) (Kidney)

Substances	CAS Number	Aspiration hazard
Diethyltoluenediamine	68479-98-1	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
Diethyltoluenediamine	68479-98-1	ErC50 (72h) 104 mg/L (Desmodesmus subspicatus)	LC50 (48h) 200 mg/L (Leuciscius idus)	EC50 (24h) > 170 mg/L (Pseudomonas putida)	EC50 (48h) 0.5 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Diethyltoluenediamine	68479-98-1	(1% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Diethyltoluenediamine	68479-98-1	1.4 BCF = 2.75 (Modeled)

12.4. Mobility in soil

Substances	CAS Number	Mobility
Diethyltoluenediamine	68479-98-1	No information available

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

Disposal of any 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.

Environmental regulations
Not applicable

14. Transport Information

Transportation Information

UN Number:	UN3082
UN Proper Shipping Name:	Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Diethyltoluenediamine)
Transport Hazard Class(es):	9
Packing Group:	III
Environmental Hazards:	Marine Pollutant

Special precautions during transport
None

HazChem Code
None Allocated

15. Regulatory Information

Safety, health and environmental regulations specific for the product

International Inventories

Australian AICS Inventory	All components listed on inventory or are exempt.
New Zealand Inventory of Chemicals	All components listed on inventory or are exempt.
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	All components listed on inventory or are exempt.

Poisons Schedule number
None Allocated

International Agreements

Montreal Protocol - Ozone Depleting Substances:	Does not apply
Stolkhom Convention - Persistent Organic Pollutants:	Does not apply
Rotterdam Convention - Prior Informed Consent:	Does not apply
Basel Convention - Hazardous Waste:	Does not apply

16. Other information

Date of preparation or review

Revision Date: 26-Oct-2015

Revision Note

Full text of R-phrases referred to under Sections 2 and 3
R22 Harmful if swallowed.

R36 - Irritating to eyes
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of H-Statements referred to under sections 2 and 3
H302 - Harmful if swallowed
H319 - Causes serious eye irritation
H373 - May cause damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

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
bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
vPvB – very Persistent and very Bioaccumulative
h - hour
mg/m^3 - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

Key literature references and sources for data
www.ChemADVISOR.com/
NZ CCID
OSHA
ECHA C&L

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End of Safety Data Sheet