

## SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

### WellLock R2

Revision Date: 22-Sep-2015

Revision Number: 10

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

##### 1.1. Product Identifier

**Product Name** WellLock R2  
**Internal ID Code** HM007351  
 Contains Cyclohexanedimethanol diglycidyl ether

##### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Resin

##### 1.3. Details of the supplier of the safety data sheet

Halliburton Energy Services  
 Halliburton House, Howemoss Place  
 Kirkhill Industrial Estate  
 Dyce  
 Aberdeen, AB21 0GN  
 United Kingdom

[www.halliburton.com](http://www.halliburton.com)

For further information, please contact

**E-Mail address:** [fdunexchem@halliburton.com](mailto:fdunexchem@halliburton.com)

##### 1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961

Emergency telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	+210 7793777
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): +47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Romania	+40 21 318 36 06
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

#### SECTION 2: Hazards Identification

##### 2.1. Classification of the substance or mixture

###### REGULATION (EC) No 1272/2008

Skin Corrosion / irritation	Category 2 - (H315)
Serious Eye Damage / Eye Irritation	Category 2 - (H319)
Skin Sensitization	Category 1 - (H317)
Chronic Aquatic Toxicity	Chronic 3 - (H412)

##### 2.2. Label Elements

**Hazard Pictograms****Signal Word****Warning****Hazard Statements**

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H317 - May cause an allergic skin reaction

H412 - Harmful to aquatic life with long lasting effects

**Precautionary Statements - EU (§28, 1272/2008)**

P273 - Avoid release to the environment

P280 - Wear protective gloves

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P332 + P313 - If skin irritation occurs: Get medical advice/attention

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

**Contains****Substances**

Cyclohexanedimethanol diglycidyl ether

**CAS Number**

14228-73-0

**2.3. Other Hazards**

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).

**SECTION 3: Composition/information on Ingredients****3.1. Substances****Substance**

Substances	EINECS	CAS Number	PERCENT (w/w)	EU - CLP Substance Classification	REACH No.
Cyclohexanedimethanol diglycidyl ether	238-098-4	14228-73-0	60 - 100%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317) Aquatic Chronic 3 (H412)	No data available

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

**SECTION 4: First aid measures****4.1. Description of first aid measures****Inhalation**

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

**Eyes**

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin**

Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Get medical attention if irritation persists.

**Ingestion**

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

**4.2. Most Important symptoms and effects, both acute and delayed**

Causes eye irritation Causes skin irritation. May cause allergic skin reaction.

#### **4.3. Indication of any immediate medical attention and special treatment needed**

**Notes to Physician**

Treat symptomatically

### **SECTION 5: Firefighting Measures**

#### **5.1. Extinguishing media**

##### **Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

##### **Extinguishing media which must not be used for safety reasons**

None known.

#### **5.2. Special hazards arising from the substance or mixture**

##### **Special Exposure Hazards**

Product will not burn unless preheated. Decomposition in fire may produce harmful gases.

#### **5.3. Advice for firefighters**

##### **Special Protective Equipment for Fire-Fighters**

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

### **SECTION 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.

See Section 8 for additional information

#### **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. Scoop up and remove.

#### **6.4. Reference to other sections**

See Section 8 and 13 for additional information.

### **SECTION 7: Handling and Storage**

#### **7.1. Precautions for Safe Handling**

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

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

#### **7.3. Specific End Use(s)**

##### **Exposure Scenario**

No information available

##### **Other Guidelines**

No information available

### **SECTION 8: Exposure Controls/Personal Protection**

#### **8.1. Control parameters**

##### **Exposure Limits**

Substances	CAS Number	EU	UK	Netherlands	France
Cyclohexanedimethanol diglycidyl ether	14228-73-0	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Cyclohexanedimethanol diglycidyl ether	14228-73-0	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
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Cyclohexanedimethanol diglycidyl ether	14228-73-0	Not applicable	Not applicable	Not applicable	Not applicable
Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Cyclohexanedimethanol diglycidyl ether	14228-73-0	Not applicable	Not applicable	Not applicable	Not applicable
Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Cyclohexanedimethanol diglycidyl ether	14228-73-0	Not applicable	Not applicable	Not applicable	Not applicable

**Derived No Effect Level (DNEL)**  
**Worker**

No information available.

**General Population**

**Predicted No Effect Concentration (PNEC)**

No information available.

**8.2. Exposure controls**

**Engineering Controls**

Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

**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**

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.

**Hand Protection**

Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace.

**Skin Protection**

Wear impervious protective clothing, including boots, gloves, lab coat, apron, rain jacket, pants or coverall, as appropriate, to prevent skin contact.

**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

## SECTION 9: Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Liquid  
**Odor:** Mild

**Color:** Clear  
**Odor Threshold:** No information available

Property  
Remarks/ - Method

Values

**pH:**  
**Freezing Point/Range**  
**Melting Point/Range**  
**Boiling Point/Range**  
**Flash Point**  
**Flammability (solid, gas)**  
    upper flammability limit  
    lower flammability limit  
**Evaporation rate**  
**Vapor Pressure**  
**Vapor Density**  
**Specific Gravity**  
**Water Solubility**  
**Solubility in other solvents**  
**Partition coefficient: n-octanol/water**  
**Autoignition Temperature**  
**Decomposition Temperature**

No data available  
No data available  
No data available  
> 148 °C / > 300 °F  
> 93 °C / > 200 °F PMCC  
No data available  
No data available  
No data available  
No data available  
1 mmHg  
No data available  
1.09  
Insoluble in water  
No data available  
No data available  
No data available  
No data available

**Viscosity**  
**Explosive Properties**  
**Oxidizing Properties**

No data available  
 No information available  
 No information available

**9.2. Other information****VOC Content (%)**

No data available

<b>SECTION 10: Stability and Reactivity</b>
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**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 acids. Strong alkalis. Mineral acids.

**10.6. Hazardous Decomposition Products**

Carbon monoxide and carbon dioxide. Aldehydes.

<b>SECTION 11: Toxicological Information</b>
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**11.1. Information on Toxicological Effects****Acute Toxicity****Inhalation**

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

**Eye Contact**

Causes eye irritation.

**Skin Contact**

Causes skin irritation. May cause an allergic skin reaction.

**Ingestion**

Irritation 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 0.1% are chronic health hazards.

**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cyclohexanedimethanol diglydicyl ether	14228-73-0	2189 mg/kg (Rat) (similar substance)	>2000 mg/kg (Rat) (similar substance)	>0.035 mg/L (Rat) 4h (saturated) (similar substance)

Substances	CAS Number	Skin corrosion/irritation
Cyclohexanedimethanol diglydicyl ether	14228-73-0	Skin, rabbit: Causes moderate skin irritation. (similar substances)

Substances	CAS Number	Eye damage/irritation
Cyclohexanedimethanol diglydicyl ether	14228-73-0	Eye, rabbit: Causes moderate eye irritation. (similar substances)

Substances	CAS Number	Skin Sensitization
Cyclohexanedimethanol diglydicyl ether	14228-73-0	May cause sensitization by skin contact (guinea pig) (mouse) (similar substances)

Substances	CAS Number	Respiratory Sensitization
Cyclohexanedimethanol diglydicyl ether	14228-73-0	No information available

Substances	CAS Number	Mutagenic Effects
Cyclohexanedimethanol diglydicyl ether	14228-73-0	While some in vitro tests were positive and/or equivocal, in vivo results were negative. (similar substances)

Substances	CAS Number	Carcinogenic Effects
Cyclohexanedimethanol diglycidyl ether	14228-73-0	No information available.
Substances	CAS Number	Reproductive toxicity
Cyclohexanedimethanol diglycidyl ether	14228-73-0	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)
Substances	CAS Number	STOT - single exposure
Cyclohexanedimethanol diglycidyl ether	14228-73-0	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Substances	CAS Number	STOT - repeated exposure
Cyclohexanedimethanol diglycidyl ether	14228-73-0	No significant toxicity observed in animal studies at concentration requiring classification.
Substances	CAS Number	Aspiration hazard
Cyclohexanedimethanol diglycidyl ether	14228-73-0	Not applicable

## SECTION 12: Ecological Information

### 12.1. Toxicity Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Cyclohexanedimethanol diglycidyl ether	14228-73-0	No information available	LC50 (96h) 30 mg/L (Oncorhynchus mykiss) (similar substance)	IC50 (3h) >100 mg/L (Activated sludge, domestic) (similar substance)	EC50 (48h) 47 mg/L (Daphnia magna) (similar substance)

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Cyclohexanedimethanol diglycidyl ether	14228-73-0	Not readily biodegradable (47% @ 28d)

### 12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Cyclohexanedimethanol diglycidyl ether	14228-73-0	0.822 BCF 3.57 (calculated)

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Cyclohexanedimethanol diglycidyl ether	14228-73-0	KOC = 962

### 12.5. Results of PBT and vPvB assessment

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).

Substances	PBT and vPvB assessment
Cyclohexanedimethanol diglycidyl ether	Not PBT/vPvB

### 12.6. Other adverse effects

#### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

## SECTION 13: Disposal Considerations

**13.1. Waste treatment methods****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.

**SECTION 14: Transport Information****IMDG/IMO**

UN Number: Not restricted  
 UN Proper Shipping Name: Not restricted  
 Transport Hazard Class(es): Not applicable  
 Packing Group: Not applicable  
 Environmental Hazards: Not applicable

**RID**

UN Number: Not restricted  
 UN Proper Shipping Name: Not restricted  
 Transport Hazard Class(es): Not applicable  
 Packing Group: Not applicable  
 Environmental Hazards: Not applicable

**ADR**

UN Number: Not restricted  
 UN Proper Shipping Name: Not restricted  
 Transport Hazard Class(es): Not applicable  
 Packing Group: Not applicable  
 Environmental Hazards: Not applicable

**IATA/ICAO**

UN Number: Not restricted  
 UN Proper Shipping Name: Not restricted  
 Transport Hazard Class(es): Not applicable  
 Packing Group: Not applicable  
 Environmental Hazards: Not applicable

**14.1. UN Number:** Not restricted

**14.2. UN Proper Shipping Name:** Not restricted

**14.3. Transport Hazard Class(es):** Not applicable

**14.4. Packing Group:** Not applicable

**14.5. Environmental Hazards:** Not applicable

**14.6. Special Precautions for User:** None

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable

**SECTION 15: Regulatory Information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories****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.

**Legend**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering WGK 1: Low hazard to waters.  
Classes (WGK)

### 15.2. Chemical Safety Assessment

No information available

## SECTION 16: Other Information

### Full text of H-Statements referred to under sections 2 and 3

H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation  
H412 - Harmful to aquatic life with long lasting effects

### Key or legend to abbreviations and acronyms

bw – body weight  
CAS – Chemical Abstracts Service  
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures  
EC – European Commission  
EC10 – Effective Concentration 10%  
EC50 – Effective Concentration 50%  
EEC – European Economic Community  
ErC50 – Effective Concentration growth rate 50%  
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
LC50 – Lethal Concentration 50%  
LD50 – Lethal Dose 50%  
LL0 – Lethal Loading 0%  
LL50 – Lethal Loading 50%  
MARPOL – International Convention for the Prevention of Pollution from Ships  
mg/kg – milligram/kilogram  
mg/L – milligram/liter  
NIOSH – National Institute for Occupational Safety and Health  
NOEC – No Observed Effect Concentration  
NTP – National Toxicology Program  
OEL – Occupational Exposure Limit  
PBT – Persistent Bioaccumulative and Toxic  
PC – Chemical Product category  
PEL – Permissible Exposure Limit  
ppm – parts per million  
PROC – Process category  
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals  
STEL – Short Term Exposure Limit  
SU – Sector of Use category

### Key literature references and sources for data

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

Revision Date: 22-Sep-2015

### Revision Note

SDS sections updated: 1

**This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010**

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**End of Safety Data Sheet**