HALLIBURTON

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

BC-140C

Revision Date: 01-Oct-2015 Revision Number: 18

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

1.1. Product Identifier

Product Name BC-140C Internal ID Code HM000110

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

Recommended Use Crosslinker

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

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

1.4. Emergency telephone number

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

Emergency telephone - §4	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

Not classified

2.2. Label Elements

Not classified

Hazard Pictograms

Signal Word None

Hazard Statements

Not Classified

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

None

Contains

Substances CAS Number

Contains no hazardous substances in concentrations above NA

cut-off values according to the competent authority

2.3. Other Hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

SECTION 3: Composition/information on Ingredients

3.2. Mixtures Mixture

Substances	EINECS	CAS Number	PERCENT (w/w)	EU - CLP Substance Classification	REACH No.
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	NA	60 - 100%	Not applicable	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, or suspected contact, immediately flush eyes with plenty of

water for at least 15 minutes and get medical attention immediately after

flushing.

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.

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

No significant hazards expected.

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

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. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. 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

Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Product has a shelf life of 36 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
Contains no hazardous	NA	Not applicable	Not applicable	Not applicable	Not applicable
substances in					
concentrations above					
cut-off values according to					
the competent authority					

Substances	CAS Number	Germany	Spain	Portugal	Finland
Contains no hazardous	NA	Not applicable	Not applicable	Not applicable	Not applicable
substances in					
concentrations above					
cut-off values according to					
the competent authority					

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Contains no hazardous	NA	Not applicable	Not applicable	Not applicable	Not applicable
substances in					
concentrations above					
cut-off values according to					
the competent authority					

Derived No Effect Level (DNEL)

No information available.

Worker

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 Not normally needed. But if significant exposures are possible then the following

respirator is recommended: Organic vapor respirator.

Hand Protection Impervious rubber gloves.

Skin ProtectionRubber apron.Eye ProtectionSafety glasses.Other PrecautionsNone 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 Color: Blue

Odor: Amine Odor Threshold: No information available

<u>Property</u> <u>Values</u>

Remarks/ - Method

pH: 7.9

Freezing Point/Range No data available Melting Point/Range No data available **Boiling Point/Range** No data available Flash Point No data available Flammability (solid, gas) No data available No data available upper flammability limit lower flammability limit No data available **Evaporation rate** No data available No data available **Vapor Pressure Vapor Density** No data available

Specific Gravity 1.16

Water Solubility
Solubility in other solvents
Partition coefficient: n-octanol/water
Autoignition Temperature
Decomposition Temperature
Viscosity
No data available
No information available

9.2. Other information

Oxidizing Properties

VOC Content (%)

Liquid Density

No data available
9.66 lbs/gal @ 20 C

No information available

SECTION 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

None anticipated

10.5. Incompatible Materials

Strong oxidizers. Dehydrating agents.

10.6. Hazardous Decomposition Products

Toxic fumes. Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity

InhalationMay cause mild respiratory irritation.Eye ContactMay cause mild eye irritation.Skin ContactMay cause mild skin irritation.

Ingestion None known.

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	LD50 Oral	LD50 Dermal	LC50 Inhalation
	Number			
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

SECTION 12: Ecological Information

12.1. Toxicity Ecotoxicity Effects

Substances	CAS	Toxicity to Algae	Toxicity to Fish	Toxicity to	Toxicity to
	Number		-	Microorganisms	Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

12.2. Persistence and degradability

	Substances	CAS Number	Persistence and Degradability
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Contains no hazardous substances in	NA	No information available
concentrations above cut-off values according to		
the competent authority		

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Contains no hazardous substances in	NA	No information available
concentrations above cut-off values according to		
the competent authority		

12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations	NA	No information available
above cut-off values according to the competent		
authority		

12.5. Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (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 Contaminated Packaging Disposal should be made in accordance with federal, state, and local regulations.

Follow all applicable national or local regulations.

SECTION 14: Transport Information

IMDG/IMO

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

<u>RID</u>

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:
UN Proper Shipping Name:
Transport Hazard Class(es):
Packing Group:
Not applicable
Not applicable
Not applicable
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
Canadian DSL Inventory
All components listed on inventory or are exempt.
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/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering

Classes (WGK)

WGK 1: Low hazard to waters.

15.2. Chemical Safety Assessment

No information available

SECTION 16: Other Information

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

None

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/

Revision Date: 01-Oct-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