

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

HEC-10

Revision Date: 14-Sep-2015

Revision Number: 14

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

1.1. Product Identifier

Product Name HEC-10
Internal ID Code HM002099

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

Recommended Use Gelling Agent
Sector of use SU2 - Mining, (including offshore industries)
Product category PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents, other unspecific
Process categories PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises

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 - §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**

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

CAS Number

NA

2.3. Other Hazards

Dust can form an explosive mixture in air

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. |
|--------------------------------------------------------------------------------------------------------------|--------|------------|---------------|-----------------------------------|-------------------|
| 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, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

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 with soap and water. Get medical attention if irritation persists.

Ingestion

Under normal conditions, first aid procedures are not required.

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

May cause mild eye irritation.

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. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

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.

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| SECTION 6: Accidental release measures |
|-----------------------------------------------|

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

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

Scoop up and remove.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

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|----------------------------------------|
| SECTION 7: Handling and Storage |
|----------------------------------------|

7.1. Precautions for Safe Handling

Avoid creating or inhaling dust. Ensure adequate ventilation. Avoid contact with eyes, skin, or clothing. 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, dry location.

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 substances in concentrations above cut-off values according to the competent authority | NA | Not applicable | Not applicable | Not applicable | Not applicable |

| Substances | CAS Number | Germany | Spain | Portugal | Finland |
|--------------------------------------------------------------------------------------------------------------|------------|----------------|----------------|----------------|----------------|
| 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 | 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 | NA | Not applicable | Not applicable | Not applicable | Not applicable |

| | | | | | |
|--------------------------------------------------------------------------------------------------------------|-------------------|----------------|----------------|----------------|----------------|
| substances in concentrations above cut-off values according to the competent authority | | | | | |
| Substances | CAS Number | Denmark | Romania | Croatia | Cyprus |
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | 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.

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. Dust/mist respirator. (N95, P2/P3)

Hand Protection

Normal work gloves.

Skin Protection

Normal work coveralls.

Eye Protection

Wear safety glasses or goggles to protect against exposure.

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: Solid

Color: White

Odor: Mild

Odor Threshold: No information available

Property

Values

Remarks/ - Method

pH:

7

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

upper flammability limit

No data available

lower flammability limit

No data available

Evaporation rate

No data available

Vapor Pressure

No data available

Vapor Density

No data available

Specific Gravity

0.6

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

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.

10.6. Hazardous Decomposition Products

Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological Information**11.1. Information on Toxicological Effects****Acute Toxicity****Inhalation**

None known.

Eye Contact

May cause mild eye irritation.

Skin Contact

None known.

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 Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|--------------------------------------------------------------------------------------------------------------|------------|-------------------|-------------------|-------------------|
| 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 Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to 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

Readily biodegradable

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

12.3. Bioaccumulative potential

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

12.4. Mobility in soil

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

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).

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**

Bury in a licensed landfill according to federal, state, and local regulations.

Contaminated Packaging

Follow all applicable national or local regulations.

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 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: 14-Sep-2015

Revision Note

SDS sections updated: 1

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

Disclaimer Statement

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End of Safety Data Sheet