

# SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

## PAC™-RE

Revision Date: 30-Sep-2015

Revision Number: 20

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

#### 1.1. Product Identifier

Product Name PAC™-RE  
Internal ID Code HM006026

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

Recommended Use Fluid Loss Additive

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 Manufacturing Services, Ltd.  
Halliburton House, Howemoss Crescent  
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**

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. 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.

**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.

**SECTION 7: Handling and Storage****7.1. Precautions for Safe Handling**

Avoid creating or inhaling dust. Avoid dust accumulations. Ensure adequate ventilation. Slippery when wet. 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 dry location. 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 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 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 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)**

No information available.

**Worker****General Population****Predicted No Effect Concentration (PNEC)**

No information available.

**8.2. Exposure controls****Engineering Controls**

A well ventilated area to control dust levels. 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:

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

|                                                    |
|----------------------------------------------------|
| <b>SECTION 9: Physical and Chemical Properties</b> |
|----------------------------------------------------|

**9.1. Information on basic physical and chemical properties****Physical State:** Solid**Color:** White to off white**Odor:** Odorless**Odor Threshold:** No information available**Property****Values****Remarks/ - Method****pH:**

6.5-9 (1%)

**Freezing Point/Range**

No data available

**Melting Point/Range**

No data available

**Boiling Point/Range**

No data available

**Flash Point**

221 °C / 430 °F

**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**

1.6

**Water Solubility**

Soluble in water

**Solubility in other solvents**

No data available

**Partition coefficient: n-octanol/water**

No data available

**Autoignition Temperature**

400 °C / 752 °F

**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**

May cause mild respiratory irritation.

**Eye Contact**

May cause mild eye irritation.

**Skin Contact**

May 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 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**

Does not bioaccumulate

| 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

|                                            |
|--------------------------------------------|
| <b>SECTION 13: Disposal Considerations</b> |
|--------------------------------------------|

**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.

|                                          |
|------------------------------------------|
| <b>SECTION 14: Transport Information</b> |
|------------------------------------------|

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

**Revision Date:** 30-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**