

# SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

## DCA-16002

Revision Date: 01-Oct-2015

Revision Number: 12

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

#### **1.1. Product Identifier**

**Product Name** DCA-16002  
**Internal ID Code** HM007656

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

**Recommended Use** Clay Stabilization 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](http://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**

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

### **SECTION 2: Hazards Identification**

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

REGULATION (EC) No 1272/2008

Acute Aquatic Toxicity	Acute 1 - H400
Chronic Aquatic Toxicity	Chronic 1 - H410

## 2.2. Label Elements

### Hazard Pictograms



### Signal Word

### Warning

### Hazard Statements

H410 - Very toxic to aquatic life with long lasting effects

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

P273 - Avoid release to the environment

P391 - Collect spillage

P501 - Dispose of contents/container to an approved waste disposal plant

### Contains

### Substances

Polydimethyl diallyl ammonium chloride

### CAS Number

26062-79-3

## 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.
Polydimethyl diallyl ammonium chloride	Not applicable	26062-79-3	30 - 60%	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	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, 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.

#### 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**

All standard fire fighting media

**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. Avoid breathing mist. 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 24 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
Polydimethyl diallyl ammonium chloride	26062-79-3	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Polydimethyl diallyl ammonium chloride	26062-79-3	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Polydimethyl diallyl ammonium chloride	26062-79-3	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Polydimethyl diallyl ammonium chloride	26062-79-3	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Polydimethyl diallyl ammonium chloride	26062-79-3	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.

Not normally needed. But if significant exposures are possible then the following respirator is recommended:

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

Impervious rubber gloves.

Normal work coveralls.

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

#### **Hand Protection**

#### **Skin Protection**

#### **Eye Protection**

#### **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

**Color:** Yellow to brown

**Odor:** Sweet

**Odor Threshold:** No information available

#### Property

#### Remarks/ - Method

#### Values

**pH:**

6-9

**Freezing Point/Range**

-12 °C

**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**

0.5

**Vapor Density**

1

**Specific Gravity**

1.09

**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**

Oxides of nitrogen. Carbon monoxide and carbon dioxide.

## SECTION 11: Toxicological Information

### **11.1. Information on Toxicological Effects**

#### **Acute Toxicity**

<b>Inhalation</b>	May cause mild respiratory irritation.
<b>Eye Contact</b>	May cause mild eye irritation.
<b>Skin Contact</b>	May cause mild skin irritation.
<b>Ingestion</b>	Irritation of the mouth, throat, and stomach.

<b>Chronic Effects/Carcinogenicity</b>	No data available to indicate product or components present at greater than 0.1% are chronic health hazards.
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### **Toxicology data for the components**

<b>Substances</b>	<b>CAS Number</b>	<b>LD50 Oral</b>	<b>LD50 Dermal</b>	<b>LC50 Inhalation</b>
Polydimethyl diallyl ammonium chloride	26062-79-3	3093 mg/kg (Rat) (similar substance)	> 2000 mg/kg (Rat) (similar substance)	No data available

<b>Substances</b>	<b>CAS Number</b>	<b>Skin corrosion/irritation</b>
Polydimethyl diallyl ammonium chloride	26062-79-3	Non-irritating to the skin (Rabbit) (similar substances)

<b>Substances</b>	<b>CAS Number</b>	<b>Eye damage/irritation</b>
Polydimethyl diallyl ammonium chloride	26062-79-3	Non-irritating to the eye (Rabbit) (similar substances)

<b>Substances</b>	<b>CAS Number</b>	<b>Skin Sensitization</b>
Polydimethyl diallyl ammonium chloride	26062-79-3	Did not cause sensitization on laboratory animals (mouse) (similar substances)

<b>Substances</b>	<b>CAS Number</b>	<b>Respiratory Sensitization</b>
Polydimethyl diallyl ammonium chloride	26062-79-3	No information available

<b>Substances</b>	<b>CAS Number</b>	<b>Mutagenic Effects</b>
Polydimethyl diallyl ammonium chloride	26062-79-3	In vivo tests did not show mutagenic effects. In vitro tests did not show mutagenic effects (similar substances)

<b>Substances</b>	<b>CAS Number</b>	<b>Carcinogenic Effects</b>
Polydimethyl diallyl ammonium chloride	26062-79-3	No information available.

<b>Substances</b>	<b>CAS Number</b>	<b>Reproductive toxicity</b>
Polydimethyl diallyl ammonium chloride	26062-79-3	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
Polydimethyl diallyl ammonium chloride	26062-79-3	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

  

Substances	CAS Number	STOT - repeated exposure
Polydimethyl diallyl ammonium chloride	26062-79-3	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

  

Substances	CAS Number	Aspiration hazard
Polydimethyl diallyl ammonium chloride	26062-79-3	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
Polydimethyl diallyl ammonium chloride	26062-79-3	ErC50 (72h) 0.07 mg/L (Skeletonema costatum) NOEC (72h) 0.03 mg/L (Skeletonema costatum)	LC50 (96h) >0.07 mg/L (Scophthalmus maximus)	No information available	EC50 (48h) 1475.78 mg/L (Acartia tonsa)

### 12.2. Persistence and degradability

Not readily biodegradable

Substances	CAS Number	Persistence and Degradability
Polydimethyl diallyl ammonium chloride	26062-79-3	Not readily biodegradable

### 12.3. Bioaccumulative potential

Does not bioaccumulate

Substances	CAS Number	Log Pow
Polydimethyl diallyl ammonium chloride	26062-79-3	< 10

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Polydimethyl diallyl ammonium chloride	26062-79-3	No information available

### 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** Disposal should be made in accordance with federal, state, and local regulations.  
**Contaminated Packaging** Follow all applicable national or local regulations.

## SECTION 14: Transport Information

### IMDG/IMO

**UN Number:**

UN3082

**UN Proper Shipping Name:**

Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Polydimethyl diallyl ammonium chloride)

**Transport Hazard Class(es):**

9

<b>Packing Group:</b>	III
<b>Environmental Hazards:</b>	Marine Pollutant
<b>RID</b>	
<b>UN Number:</b>	UN3082
<b>UN Proper Shipping Name:</b>	Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Polydimethyl diallyl ammonium chloride)
<b>Transport Hazard Class(es):</b>	9
<b>Packing Group:</b>	III
<b>Environmental Hazards:</b>	Marine Pollutant
<b>ADR</b>	
<b>UN Number:</b>	UN3082
<b>UN Proper Shipping Name:</b>	Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Polydimethyl diallyl ammonium chloride)
<b>Transport Hazard Class(es):</b>	9
<b>Packing Group:</b>	III
<b>Environmental Hazards:</b>	Marine Pollutant
<b>IATA/ICAO</b>	
<b>UN Number:</b>	UN3082
<b>UN Proper Shipping Name:</b>	Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Polydimethyl diallyl ammonium chloride)
<b>Transport Hazard Class(es):</b>	9
<b>Packing Group:</b>	III
<b>Environmental Hazards:</b>	Marine Pollutant
<b>14.1. UN Number:</b>	UN3082
<b>14.2. UN Proper Shipping Name:</b>	Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Polydimethyl diallyl ammonium chloride)
<b>14.3. Transport Hazard Class(es):</b>	9
<b>14.4. Packing Group:</b>	III
<b>14.5. Environmental Hazards:</b>	Marine Pollutant
<b>14.6. Special Precautions for User:</b>	None
<b>14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:</b>	Not applicable

## SECTION 15: Regulatory Information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Inventories

<b>EINECS Inventory</b>	This product, and all its components, complies with EINECS
<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>Canadian DSL Inventory</b>	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

<b>Germany, Water Endangering Classes (WGK)</b>	WGK 2: Hazard to waters.
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### 15.2. Chemical Safety Assessment

No information available

## SECTION 16: Other Information

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

H400 - Very toxic to aquatic life

H410 - Very toxic 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:** 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**