HALLIBURTON

SAFETY DATA SHEET AQUA-CLEAR® PFD

according to Regulation (EC) No. 453/2010

Revision Date: 09-May-2018 Preparation Date 09-May-2018 Revision Number: 20 Internal ID Code HM004116

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

1.1. Product Identifier	
Product Name	AQUA-CLEAR® PFD
Internal ID Code	HM004116

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

Recommended UseAdditiveSector of usesSU2 - Mining, (including offshore industries)Product category(ies)PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents, other unspecificProcess categoriesPROC4 - 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 +44 1224 776888

www.halliburton.com <u>For further information, please contact</u> **E-mail Address:** fdunexchem@halliburton.com <u>1.4. Emergency telephone number</u> +44 8 08 189 0979 / 1-760-476-3961 Global Incident Response Access Code: 334305 Contract Number: 14012

Emergency telephone - A	rticle 45 - (EC)1272/2008
Turkey	Ulusal Zehir Danisma Merkezi (UZEM) :114
	Acil Saglik Hizmetleri : 112
Europe	112
Bulgaria	Bulgarian poison centre: +359 2 915-44-09 or +359 2 915-43-46
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	00357 22 88 7171
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
Portugal	CIAV - Centro de Informação Antivenenos (Portuguese Poison Centre): + 351 213 303 271
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

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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: None

Contains

Substances Contains no hazardous substances in concentrations above 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

NA

CAS Number

3.2. Mixtures

Mixture

Substances	EINECS	CAS	PERCENT	EU - CLP Substance	REACH Reg. No
		Number	(w/w)	Classification	
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	NA	60 - 100%	Not classified	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

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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 in a fire

Decomposition in fire may produce harmful gases. Spills produce extremely slippery surfaces.

5.3. Advice for firefighters

Special protective equipment for firefighters

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. Spills of this product are very slippery. 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. 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 oxidizers. Store in a cool, dry location. Product has a shelf life of 24 months.

7.3. Specific end use(s) Exposure scenario

Other Guidelines

No information available 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

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Substances	CAS Numbe	r l	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
the competent autionty	l					
Substances	CAS Numbe	r I	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 Numbe		Italy	Poland	Hungary	Czech Republic
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA		Italy Not applicable	Not applicable	Hungary Not applicable	Not applicable
Substances	CAS Numb	or	Denmark	Romania	Croatia	Cyprus
Contains no hazardous substances in concentratior above cut-off values according to the competent authority Derived No Effect Leve Worker			Not applicable	Not applicable	Not applicable	Not applicable
General Population						
Predicted No Effect Co	ncentration	(PNEC)	No	o information availab	le.	
8.2. Exposure controls Engineering Controls Personal protective e		Use in a well ventilated area. If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by a industrial hygienist or other qualified professional based on the specific application of product.				e determined by an
Respiratory Protect	ion	Not normally necessary.				
Hand Protection Skin Protection Eye Protection Other Precautions		Impervious rubber gloves. Normal work coveralls. Safety glasses. None known.				
Environmental Exposu	re Controls	Do not a	Ilow material to con	taminate ground wat	ter system	

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties Vellowish Physical State: Liquid Color: Yellowish Odor: Slight Odor Threshold: No information available Property Values Values Vellowish pH: 7 - 9 No data available

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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** Viscosity **Explosive Properties Oxidizing Properties**

No data available > 100 °C / > 212 °F Cleveland Open Cup (COC) No data available 1.3 Soluble in water No data available No information available No information available

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

No data available

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

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Acute Toxicity	
Inhalation	May cause mild respiratory irritation.
Eye Contact	Non-irritating to rabbit's eye
Skin Contact	Not irritating to skin in rabbits.
Ingestion	Swallowing a relatively large amount of this material is unlikely to produce serious illness or death.
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

	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

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SECTION 12: Ecological information

12.1. Toxicity

	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		No information available	No information available	No information available	No information available

12.2. Persistence and degradability

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

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).

Substances	PBT and vPvB assessment
Contains no hazardous substances in concentrations above	Not applicable
cut-off values according to the competent authority	

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

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SECTION 14: Transport information

IMDG/IMO UN Number UN proper shipping name: Transport Hazard Class(es): Packing Group: Environmental Hazards:	Not restricted Not restricted Not applicable Not applicable Not applicable
ADN UN Number UN proper shipping name: Transport Hazard Class(es): Packing Group Environmental Hazards:	Not restricted Not restricted Not applicable Not applicable Not applicable
<u>ADR/RID</u> UN Number UN proper shipping name: Transport Hazard Class(es): Packing Group Environmental Hazards:	Not restricted Not restricted Not applicable Not applicable Not applicable
IATA/ICAO UN Number UN proper shipping name: Transport Hazard Class(es): Packing Group: Environmental Hazards:	Not restricted Not restricted Not applicable Not applicable Not applicable
<u>14.1. UN Number</u>	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 (European Inventory of	This product, and all its components, complies with EINECS
Existing Chemical Substances)	
US TSCA Inventory	All components listed on inventory or are exempt.
Canadian Domestic Substances	All components listed on inventory or are exempt.
List (DSL)	

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

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

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable. Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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 used in the safety data sheet

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/ NZ CCID

Revision Date: Revision Note SDS sections updated: 2

This safety data sheet complies with the requirements of Regulation (EC) No. 2015/830

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End of Safety Data Sheet