

# SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

## OptiKleen-WF™

Revision Date: 08-Sep-2015

Revision Number: 21

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

#### 1.1. Product Identifier

**Product Name** OptiKleen-WF™  
**Internal ID Code** HM006037  
 Contains Sodium perborate tetrahydrate

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

**Recommended Use** Concentrate  
**Sector of use** SU2 - Mining, (including offshore industries)  
**Product category** PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents, other unspecific  
**Process categories** PROC 26 - Handling of solid inorganic substances at ambient temperature

#### 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](mailto: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

Acute Oral Toxicity	Category 4 - (H302)
Acute Inhalation Toxicity - Dusts and Mists	Category 4 - (H332)

Serious Eye Damage / Eye Irritation	Category 1 - (H318)
Reproductive Toxicity	Category 2 - (H361)

## 2.2. Label Elements

### Hazard Pictograms



### Signal Word

**Danger**

### Hazard Statements

H302 - Harmful if swallowed

H318 - Causes serious eye damage

H332 - Harmful if inhaled

H361 - Suspected of damaging fertility or the unborn child

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

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301+ P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/physician

### Contains

#### Substances

Sodium perborate tetrahydrate

#### CAS Number

10486-00-7

## 2.3. Other Hazards

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.
Sodium perborate tetrahydrate	231-556-4	10486-00-7	60 - 100%	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Eye Corr. 1 (H318) Repr. 2 (H361)	01-2119516039-43

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

Immediately flush eyes with large amounts of water for at least 30 minutes.

Seek prompt medical attention.

#### Skin

Wash with soap and water. Get medical attention if irritation persists. Remove contaminated clothing and laundry 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**

Causes serious eye damage. Harmful if inhaled. Harmful if swallowed. Potential reproductive hazard.

#### **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. Releases oxygen at high temperatures.

#### **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**

Use appropriate protective equipment. Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse.

##### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

#### **7.2. Conditions for safe storage, including any incompatibilities**

Store away from combustibles. Store in a cool, dry location. Store locked up.

#### **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
Sodium perborate tetrahydrate	10486-00-7	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Sodium perborate tetrahydrate	10486-00-7	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Sodium perborate tetrahydrate	10486-00-7	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Sodium perborate tetrahydrate	10486-00-7	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Sodium perborate tetrahydrate	10486-00-7	Not applicable	Not applicable	Not applicable	Not applicable

**Derived No Effect Level (DNEL)**

No information available.

**Worker**

Substances	Long-term exposure - systemic effects, Inhalation	Acute / short term exposure - systemic effects, Inhalation	Long-term exposure - local effects, Inhalation	Acute / short term exposure - local effects, Inhalation	Long-term exposure - systemic effects, Dermal	Acute / short term exposure - systemic effects, Dermal	Long-term exposure - local effects, Dermal	Acute / short term exposure - local effects, Dermal	Hazards for the eyes - local effects
Sodium perborate tetrahydrate	2 mg/m <sup>3</sup>	Not available	2 mg/m <sup>3</sup>	Not available	101 mg/kg bw/day	Not available	Not available	Not available	Not available

**General Population**

Substances	Long-term exposure - systemic effects, Inhalation	Acute / short term exposure - systemic effects, Inhalation	Long-term exposure - local effects, Inhalation	Acute / short term exposure - local effects, Inhalation	Long-term exposure - systemic effects, Dermal	Acute / short term exposure - systemic effects, Dermal	Long-term exposure - local effects, Dermal	Acute / short term exposure - local effects, Dermal	Long-term exposure - systemic effects, Oral	Acute / short term exposure - local effects, Oral	Hazards for the eyes - local effects
Sodium perborate tetrahydrate	0.5 mg/m <sup>3</sup>	Not available	0.5 mg/m <sup>3</sup>	Not available	36 mg/kg bw/day	Not available	Not available	Not available	0.36 mg/kg bw/day	Not available	Not available

**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**

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

**Hand Protection**

Impervious rubber gloves.

**Skin Protection**

Rubber apron.

**Eye Protection**

Dust proof goggles.

**Other Precautions**

Eyewash fountains and safety showers must be easily accessible.

**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:** Powder**Color:** White**Odor:** Odorless**Odor Threshold:** No information available**Property****Values****Remarks/ - Method****pH:**

10.2 (1%)

**Freezing Point/Range**

No data available

**Melting Point/Range**

No data available

**Boiling Point/Range**

130 °C / 266 °F

**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	6.2 mmHg
Vapor Density	No data available
Specific Gravity	0.82
Water Solubility	Partly soluble
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**

Molecular Weight	153.86 g/mol
VOC Content (%)	No data available

## SECTION 10: Stability and Reactivity

**10.1. Reactivity**

Heating may cause a fire

**10.2. Chemical Stability**

Stable

**10.3. Possibility of Hazardous Reactions**

Will Not Occur

**10.4. Conditions to Avoid**

Avoid contact with organic materials.

**10.5. Incompatible Materials**

Organic matter. All flammables, especially petroleum products, asphalt & other volatile flammables. Metal salts such as aluminum chloride. Contact with water.

**10.6. Hazardous Decomposition Products**

Oxygen.

## SECTION 11: Toxicological Information

**11.1. Information on Toxicological Effects****Acute Toxicity**

Inhalation	Harmful if inhaled. May cause respiratory irritation.
Eye Contact	Causes serious eye damage.
Skin Contact	May cause skin irritation.
Ingestion	Harmful if swallowed. Irritation of the mouth, throat, and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea.

**Chronic Effects/Carcinogenicity**

Prolonged or repeated exposure may cause gastrointestinal effects and muscular dysfunction. Prolonged or repeated exposure may cause blood forming system, nervous, urinary tract and reproductive system damage.

**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium perborate tetrahydrate	10486-00-7	1800 mg/kg (Rat)	> 2000 mg/kg (Rabbit) (similar substance)	1.164 mg/L (Rat) 4h

Substances	CAS Number	Skin corrosion/irritation
Sodium perborate tetrahydrate	10486-00-7	Not irritating to skin in rabbits.

Substances	CAS Number	Eye damage/irritation
Sodium perborate tetrahydrate	10486-00-7	Causes severe eye irritation. (Rabbit)

Substances	CAS Number	Skin Sensitization
Sodium perborate	10486-00-7	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)

tetrahydrate		
<b>Substances</b>	<b>CAS Number</b>	<b>Respiratory Sensitization</b>
Sodium perborate tetrahydrate	10486-00-7	No information available
<b>Substances</b>	<b>CAS Number</b>	<b>Mutagenic Effects</b>
Sodium perborate tetrahydrate	10486-00-7	While some in vitro tests were positive and/or equivocal, in vivo results were negative. (similar substances)
<b>Substances</b>	<b>CAS Number</b>	<b>Carcinogenic Effects</b>
Sodium perborate tetrahydrate	10486-00-7	Did not show carcinogenic effects in animal experiments (similar substances)
<b>Substances</b>	<b>CAS Number</b>	<b>Reproductive toxicity</b>
Sodium perborate tetrahydrate	10486-00-7	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
<b>Substances</b>	<b>CAS Number</b>	<b>STOT - single exposure</b>
Sodium perborate tetrahydrate	10486-00-7	May cause respiratory irritation.
<b>Substances</b>	<b>CAS Number</b>	<b>STOT - repeated exposure</b>
Sodium perborate tetrahydrate	10486-00-7	No significant toxicity observed in animal studies at concentration requiring classification.
<b>Substances</b>	<b>CAS Number</b>	<b>Aspiration hazard</b>
Sodium perborate tetrahydrate	10486-00-7	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
Sodium perborate tetrahydrate	10486-00-7	EC50 (96h) 19 mg/L (S. subspicatus)	LC50 (96h) 51 mg/L (Danio rerio) LOAEL (72h) 400 mg/L (Brachydanio rerio)	NOEC (3wks) 1.4 mg/L (Multi-species)	EC50 (48h) 30 mg/L (Daphnia magna)

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Sodium perborate tetrahydrate	10486-00-7	Readily biodegradable (86% @ 48h) (similar substances)

### 12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Sodium perborate tetrahydrate	10486-00-7	0.175 (similar substances) BCF 0.1 - 1.25 (similar substances)

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Sodium perborate tetrahydrate	10486-00-7	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).

Substances	PBT and vPvB assessment
Sodium perborate tetrahydrate	Not PBT/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. This bag may contain residue of a hazardous material. Some authorities may regulate such containers as hazardous waste. Dispose of container according to 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**  
**US TSCA Inventory**  
**Canadian DSL Inventory**

This product, and all its components, complies with EINECS  
 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/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**Germany, Water Endangering  
 Classes (WGK)**

WGK 1: Low hazard to waters.

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Sodium perborate tetrahydrate	10486-00-7	Use restricted. See item 30. containing <0.1% (w/w) of particles with an aerodynamic diameter of below 50 µm Use restricted. See item 30. containing >=0.1% (w/w) of particles with an aerodynamic diameter of below 50 µm	Not 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**

H302 - Harmful if swallowed

H318 - Causes serious eye damage

H332 - Harmful if inhaled

H361 - Suspected of damaging fertility or the unborn child

**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/

NZ CCID



**Revision Date:** 08-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**