

SAFETY DATA SHEET

Product Trade Name: OptiKleen-WF™

Revision Date: 11-Dec-2018

Revision Number: 30

1. Identification

1.1. Product Identifier

Product Trade Name: OptiKleen-WF™
Synonyms: None
Chemical Family: Not applicable
Internal ID Code: HM006037

1.2 Recommended use and restrictions on use

Application: Concentrate
Uses advised against: No information available

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier

Halliburton Energy Services, Inc.
P.O. Box 1431
Duncan, Oklahoma 73536-0431
Telephone: 1-281-871-6107

Halliburton Group Canada
645 - 7th Ave SW Suite 1800
Calgary, AB
T2P 4G8
Canada
Telephone: 1-403-231-9300

Prepared By

Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number:

Emergency Telephone Number: 1-866-519-4752 or 1-760-476-3962
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazards Identification

2.1 Classification in accordance with paragraph (d) of §1910.1200

Acute Oral Toxicity	Category 4 - H302
Acute inhalation toxicity - vapor	Category 4 - H332
Serious Eye Damage/Irritation	Category 1 - H318
Reproductive Toxicity	Category 2 - H361
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - H335
Acute Aquatic Toxicity	Category 3 - H402

2.2. Label Elements

Hazard Pictograms



Signal Word: Danger

Hazard Statements
 H302 - Harmful if swallowed
 H318 - Causes serious eye damage
 H332 - Harmful if inhaled
 H335 - May cause respiratory irritation
 H361 - Suspected of damaging fertility or the unborn child
 H402 - Harmful to aquatic life

Precautionary Statements

Prevention
 P201 - Obtain special instructions before use
 P202 - Do not handle until all safety precautions have been read and understood
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
 P264 - Wash face, hands and any exposed skin thoroughly after handling
 P270 - Do not eat, drink or smoke when using this product
 P271 - Use only outdoors or in a well-ventilated area
 P273 - Avoid release to the environment

Response
 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
 P330 - Rinse mouth
 P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P312 - Call a POISON CENTER or doctor/physician if you feel unwell
 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
 P308 + P313 - IF exposed or concerned: Get medical advice/attention

Storage
 P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
 P405 - Store locked up

Disposal
 P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Sodium perborate tetrahydrate	10486-00-7	60 - 100%	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Eye Corr. 1 (H318) Repr. 2 (H361) STOT SE 3 (H335) Aquatic Acute 3 (H402)

The exact percentage (concentration) of the composition has been withheld as proprietary.

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 launder before reuse.
Ingestion	Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

4.2. Most important symptoms/effects, acute and delayed

Causes severe eye irritation which may damage tissue. May cause respiratory irritation. Harmful if inhaled. Harmful if swallowed. Potential reproductive hazard. May cause birth defects.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Probable mucosal damage may contraindicate the use of gastric lavage.

5. Fire-fighting 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. Specific hazards arising from the substance or mixture

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases. Releases oxygen at high temperatures.

5.3. Special protective equipment and precautions for fire-fighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Ensure adequate ventilation. Avoid creating and breathing dust. 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.

7. Handling and storage

7.1. Precautions for safe handling

Handling Precautions

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

Storage Information

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

8. Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Sodium perborate tetrahydrate	10486-00-7	Not applicable	Not applicable

8.2 Appropriate engineering controls

Engineering Controls Use in a well ventilated area.

8.3 Individual protection measures, such as personal protective equipment

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 Impervious rubber gloves.

Skin Protection Rubber apron.

Eye Protection Dust proof goggles.

Other Precautions Eyewash fountains and safety showers must be easily accessible.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Powder	Color	White
Odor: Odorless	Odor	No information available
	Threshold:	

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
pH:	10.2 (1%)
Freezing Point / Range	No data available
Melting Point / Range	No data available
Pour 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

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.

11. Toxicological Information**11.1 Information on likely routes of exposure**

Principle Route of Exposure Eye or skin contact, inhalation.

11.2 Symptoms related to the physical, chemical and toxicological characteristics**Acute Toxicity****Inhalation**

Harmful if inhaled. Causes moderate respiratory irritation.

Eye Contact

Causes severe eye irritation which may damage tissue.

Skin Contact

May cause mild 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 reproductive system damage.

11.3 Toxicity data**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
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Sodium perborate tetrahydrate	10486-00-7	Not irritating to skin in rabbits.
Substances	CAS Number	Serious eye damage/irritation
Sodium perborate tetrahydrate	10486-00-7	Causes severe eye irritation (Rabbit)
Substances	CAS Number	Skin Sensitization
Sodium perborate tetrahydrate	10486-00-7	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Substances	CAS Number	Respiratory Sensitization
Sodium perborate tetrahydrate	10486-00-7	No information available
Substances	CAS Number	Mutagenic Effects
Sodium perborate tetrahydrate	10486-00-7	While some in vitro tests were positive and/or equivocal, in vivo results were negative. (similar substances)
Substances	CAS Number	Carcinogenic Effects
Sodium perborate tetrahydrate	10486-00-7	Did not show carcinogenic effects in animal experiments (similar substances)
Substances	CAS Number	Reproductive toxicity
Sodium perborate tetrahydrate	10486-00-7	Experiments have shown reproductive toxicity effects on laboratory animals
Substances	CAS Number	STOT - single exposure
Sodium perborate tetrahydrate	10486-00-7	May cause respiratory irritation.
Substances	CAS Number	STOT - repeated exposure
Sodium perborate tetrahydrate	10486-00-7	No significant toxicity observed in animal studies at concentration requiring classification.
Substances	CAS Number	Aspiration hazard
Sodium perborate tetrahydrate	10486-00-7	Not applicable

12. Ecological Information

12.1. Toxicity

Ecotoxicity effects

Harmful to aquatic life.

Product Ecotoxicity Data

Product is not classified as hazardous to the environment.

Substance Ecotoxicity Data

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	Bioaccumulation
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Sodium perborate tetrahydrate	10486-00-7	0.175 (similar substances) BCF 0.1 - 1.25 (similar substances)
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12.4. Mobility in soil

Substances	CAS Number	Mobility
Sodium perborate tetrahydrate	10486-00-7	No information available

12.5 Other adverse effects

No information available

13. Disposal Considerations**13.1. Waste treatment methods**

Disposal methods Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging 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.

14. Transport Information**US DOT**

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

Canadian TDG

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

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

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

Special Precautions for User None

15. Regulatory Information**US Regulations**

US TSCA Inventory

All components listed on inventory or are exempt.

TSCA Significant New Use Rules - S5A2

Substances	CAS Number	TSCA Significant New Use Rules - S5A2
Sodium perborate tetrahydrate	10486-00-7	Not applicable

EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Sodium perborate tetrahydrate	10486-00-7	Not applicable

EPA SARA (311,312) Hazard Class

Acute toxicity (any route of exposure)

Serious eye damage or eye irritation

Reproductive toxicity

Specific target organ toxicity (single or repeated exposure)

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Sodium perborate tetrahydrate	10486-00-7	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Sodium perborate tetrahydrate	10486-00-7	Not applicable

EPA RCRA Hazardous Waste Classification

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

California Proposition 65

Substances	CAS Number	California Proposition 65
Sodium perborate tetrahydrate	10486-00-7	Not applicable

U.S. State Right-to-Know Regulations

Substances	CAS Number	MA Right-to-Know Law	NJ Right-to-Know Law	PA Right-to-Know Law
Sodium perborate tetrahydrate	10486-00-7	Not applicable	Not applicable	Not applicable

NFPA Ratings: Health 2, Flammability 0, Reactivity 0**HMIS Ratings:** Health 2, Flammability 0, Reactivity 0**Canadian Regulations****Canadian Domestic Substances List (DSL)** All components listed on inventory or are exempt.**16. Other information****Preparation Information**

Prepared By: Chemical Stewardship
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 e-mail: fdunexchem@halliburton.com

Revision Date: 11-Dec-2018

Reason for Revision SDS sections updated:
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Additional information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight

CAS – Chemical Abstracts Service

d - day

EC50 – Effective Concentration 50%

ErC50 – Effective Concentration growth rate 50%

h - hour

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

mg/m³ - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

NIOSH – National Institute for Occupational Safety and Health

NTP – National Toxicology Program

OEL – Occupational Exposure Limit

PEL – Permissible Exposure Limit

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

UN – United Nations

w/w - weight/weight

Key literature references and sources for data

www.ChemADVISOR.com/

NZ CCID

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End of Safety Data Sheet