

SAFETY DATA SHEET ZoneSeal® 4000 NS

according to Regulation (EC) No. 453/2010

Revision Date: 29-Sep-2017
Preparation Date 29-Sep-2017

Revision Number: 10
Internal ID Code HM006135

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

1.1. Product Identifier

Product Name ZoneSeal® 4000 NS
Internal ID Code HM006135

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

Recommended Use Foam Stabilizer
Sector of uses SU2 - Mining, (including offshore industries)
Product category(ies) 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

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

Global Incident Response Access Code: 334305

Contract Number: 14012

Emergency telephone - §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

SAFETY DATA SHEET
ZoneSeal® 4000 NS
according to Regulation (EC) No. 453/2010

Revision Date: 29-Sep-2017
Preparation Date 29-Sep-2017

Revision Number: 10
Internal ID Code HM006135

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin Corrosion/Irritation	Category 2 - H315
Serious Eye Damage/Irritation	Category 1 - H318
Chronic Aquatic Toxicity	Category 3 - H412

2.2. Label Elements

Hazard Pictograms



Signal Word: Danger

Hazard Statements:

H315 - Causes skin irritation
H318 - Causes serious eye damage
H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements:

P280 - Wear protective gloves/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash before reuse
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

CAS Number

Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8
Cocobetaine	61789-40-0
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4
Hexylene glycol	107-41-5

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 Reg. No
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	614-215-8	68037-05-8	10 - 30%	Skin Irrit. 2 (H315) Eye Corr. 1 (H318) Aquatic Chronic 3 (H412) Flam. Liq. 3 (H226)	No data available
Cocobetaine	263-058-8	61789-40-0	1 - 5%	Eye Corr. 1 (H318) Aquatic Chronic 2 (H411)	No data available
Hexadecanoic acid, 2-sulfo-, 1-methyl ester,	223-676-0	4016-24-4	1 - 5%	Acute Tox. 4 (H302) Aquatic Acute 1 (H400)	No data available

SAFETY DATA SHEET
ZoneSeal® 4000 NS
according to Regulation (EC) No. 453/2010

Revision Date: 29-Sep-2017
Preparation Date 29-Sep-2017

Revision Number: 10
Internal ID Code HM006135

sodium salt				Aquatic Chronic 3 (H412)	
Hexylene glycol	203-489-0	107-41-5	1 - 5%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	No data available

For the full text of the H-phrases mentioned in this Section, see Section 16

ACN No.	18-0000000365-78-0000
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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 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. Remove contaminated clothing and launder before reuse.
Ingestion If swallowed, do NOT induce vomiting. Give victim two glasses of water, Call a physician immediately. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Causes serious eye damage. Causes skin irritation.

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 in a fire

Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce harmful gases. Vapors are heavier than air and may accumulate in low areas. Vapors may travel along the ground to be ignited at distant locations.

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. Wear self-contained breathing apparatus in enclosed areas. 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.

SAFETY DATA SHEET
ZoneSeal® 4000 NS
 according to Regulation (EC) No. 453/2010

Revision Date: 29-Sep-2017
 Preparation Date 29-Sep-2017

Revision Number: 10
 Internal ID Code HM006135

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 breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Ground and bond containers when transferring from one container to another.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Keep container closed when not in use. Store away from oxidizers. Store at temperatures below 140 F (60 C). 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
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	Not applicable	Not applicable	Not applicable	Not applicable
Cocobetaine	61789-40-0	Not applicable	Not applicable	Not applicable	Not applicable
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	Not applicable	Not applicable	Not applicable	Not applicable
Hexylene glycol	107-41-5	Not applicable	TWA: 25 ppm TWA: 123 mg/m ³ STEL: 25 ppm STEL: 123 mg/m ³	Not applicable	STEL: 25 ppm STEL: 125 mg/m ³

Substances	CAS Number	Germany	Spain	Portugal	Finland
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	Not applicable	Not applicable	Not applicable	Not applicable
Cocobetaine	61789-40-0	Not applicable	Not applicable	Not applicable	Not applicable
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	Not applicable	Not applicable	Not applicable	Not applicable
Hexylene glycol	107-41-5	TWA: 10 ppm TWA: 49 mg/m ³ Peak: 20 ppm Peak: 98 mg/m ³	25 ppm STEL [VLA-EC]; 123 mg/m ³ STEL [VLA-EC]	Ceiling: 25 ppm	TWA: 25 ppm TWA: 120 mg/m ³ STEL: 40 ppm STEL: 200 mg/m ³

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	Not applicable	Not applicable	Not applicable	Not applicable
Cocobetaine	61789-40-0	Not applicable	Not applicable	Not applicable	Not applicable
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	Not applicable	Not applicable	Not applicable	Not applicable
Hexylene glycol	107-41-5	TWA: 10 ppm TWA: 49 mg/m ³ STEL" 10 ppm STEL" 49 mg/m ³ Ceiling: 10 ppm Ceiling: 49 mg/m ³	25 ppm STEL; 125 mg/m ³ STEL	TWA: 10 ppm TWA: 49 mg/m ³ STEL: 20 ppm STEL: 98 mg/m ³	Not applicable

SAFETY DATA SHEET
ZoneSeal® 4000 NS
 according to Regulation (EC) No. 453/2010

Revision Date: 29-Sep-2017
 Preparation Date 29-Sep-2017

Revision Number: 10
 Internal ID Code HM006135

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	Not applicable	Not applicable	Not applicable	Not applicable
Cocobetaine	61789-40-0	Not applicable	Not applicable	Not applicable	Not applicable
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	Not applicable	Not applicable	Not applicable	Not applicable
Hexylene glycol	107-41-5	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	Not applicable	Not applicable	Not applicable	Not applicable
Cocobetaine	61789-40-0	Not applicable	Not applicable	Not applicable	Not applicable
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	Not applicable	Not applicable	Not applicable	Not applicable
Hexylene glycol	107-41-5	Ceiling: 25 ppm Ceiling: 125 mg/m ³	Not applicable	TWA: 25 ppm TWA: 123 mg/m ³ STEL: 25 ppm STEL: 123 mg/m ³	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. 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

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. Organic vapor respirator.

Hand Protection

Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Nitrile gloves. (>= 0.35 mm thickness)
 This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types.

Skin Protection

Rubber apron.

Eye Protection

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

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

SAFETY DATA SHEET
ZoneSeal® 4000 NS
according to Regulation (EC) No. 453/2010

Revision Date: 29-Sep-2017
Preparation Date 29-Sep-2017

Revision Number: 10
Internal ID Code HM006135

9.1. Information on basic physical and chemical properties

Physical State: Liquid	Color: Light yellow
Odor: Sweet	Odor Threshold: No information available

<u>Property</u> Remarks/ - Method	<u>Values</u>
pH:	6-8
Freezing Point / Range	< 45 °C
Melting Point / Range	No data available
Boiling Point / Range	No data available
Flash Point	> 98 °C PMCC
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	> 1
Specific Gravity	1.046
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 sulfur. Carbon monoxide and carbon dioxide. Oxides of nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Inhalation

May cause mild respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

Eye Contact

Causes serious eye damage.

Skin Contact

Causes skin irritation. May cause skin defatting with prolonged exposure.

Ingestion

May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation and central nervous system depression.

Chronic Effects/Carcinogenicity

Repeated overexposure may cause liver and kidney effects.

Toxicology data for the components

SAFETY DATA SHEET
ZoneSeal® 4000 NS
according to Regulation (EC) No. 453/2010

Revision Date: 29-Sep-2017
Preparation Date 29-Sep-2017

Revision Number: 10
Internal ID Code HM006135

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	4100 mg/kg (Rat) (Similar substance)	>5000 mg/kg (Rabbit (Similar substance))	No data available
Cocobetaine	61789-40-0	>5000 mg/kg-bw (rat)	>2000 mg/kg-bw (rat)	No data available
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	1819 mg/kg (Rats) 700 - 1400 mg/kg (Rats)	No data available	No data available
Hexylene glycol	107-41-5	4700 mg/kg-bw (rat)	12,236 mg/kg-bw (rabbit)	LC50 > saturated vapour (rat, 8h)

Substances	CAS Number	Skin corrosion/irritation
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	Causes moderate skin irritation. (Rabbit) (similar substances)
Cocobetaine	61789-40-0	Non-irritating to the skin (Rabbit) Not irritating to skin in rabbits.
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	Non-irritating to the skin (49 % solution)
Hexylene glycol	107-41-5	Causes mild skin irritation (Rabbit) Non-irritating to the skin

Substances	CAS Number	Serious eye damage/irritation
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	Causes severe eye irritation (Rabbit) (similar substances)
Cocobetaine	61789-40-0	Causes severe eye irritation (Rabbit)
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	No information available
Hexylene glycol	107-41-5	Causes eye irritation. (Rabbit)

Substances	CAS Number	Skin Sensitization
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Cocobetaine	61789-40-0	Did not cause sensitization on laboratory animals (guinea pig)
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	Did not cause sensitization on laboratory animals (mouse)
Hexylene glycol	107-41-5	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	No information available
Cocobetaine	61789-40-0	No information available
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	No information available
Hexylene glycol	107-41-5	No information available

Substances	CAS Number	Mutagenic Effects
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. (similar substances)
Cocobetaine	61789-40-0	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	In vitro tests did not show mutagenic effects.
Hexylene glycol	107-41-5	In vitro tests did not show mutagenic effects.

SAFETY DATA SHEET
ZoneSeal® 4000 NS
according to Regulation (EC) No. 453/2010

Revision Date: 29-Sep-2017
Preparation Date 29-Sep-2017

Revision Number: 10
Internal ID Code HM006135

Substances	CAS Number	Carcinogenic Effects
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	Did not show carcinogenic effects in animal experiments (similar substances)
Cocobetaine	61789-40-0	Did not show carcinogenic effects in animal experiments
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	No information available
Hexylene glycol	107-41-5	No information available

Substances	CAS Number	Reproductive toxicity
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	Did not show teratogenic effects in animal experiments. (similar substances)
Cocobetaine	61789-40-0	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Hexylene glycol	107-41-5	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Cocobetaine	61789-40-0	No significant toxicity observed in animal studies at concentration requiring classification.
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	No significant toxicity observed in animal studies at concentration requiring classification.
Hexylene glycol	107-41-5	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Cocobetaine	61789-40-0	No significant toxicity observed in animal studies at concentration requiring classification.
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	No significant toxicity observed in animal studies at concentration requiring classification.
Hexylene glycol	107-41-5	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	Not applicable
Cocobetaine	61789-40-0	Not applicable
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	No information available
Hexylene glycol	107-41-5	No information available Not applicable

SECTION 12: Ecological information

12.1. Toxicity

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Polyethylene glycol (C6-C10) alkyl ether,	68037-05-8	EC50 (72h) 73.52 mg/L (Skeletonema costatum)	LC50 (96h) 1 - 2.5 mg/L (Salmo trutta) (similar)	No information available	EC50 (48h) 1.17 mg/L (Daphnia magna)

SAFETY DATA SHEET
ZoneSeal® 4000 NS
according to Regulation (EC) No. 453/2010

Revision Date: 29-Sep-2017
Preparation Date 29-Sep-2017

Revision Number: 10
Internal ID Code HM006135

sulfate ammonium salt		ErC50 (72h) 32 mg/L (Selenstrum capricornutum) (similar substance) NOErC (72h) 9 mg/L (Selenastrum capricornutum) NOEC (72h) 32 mg/L (Skeletonema costatum)	substance) LC50 (96h) 7.8 mg/L (Scophthalmus maximus) LC50 (96h) 350 mg/L (Scophthalmus maximus) NOEC (30d) 0.88 mg/L (Pimephales promelas) (similar substance)		(similar substance) LC50 (96h) 232.5 mg/L (Acartia tonsa) NOEC (21d) 0.37 mg/L (Daphnia magna) (similar substance)
Cocobetaine	61789-40-0	EC50 (96 h) 0.55 mg/L (Desmodesmus subspicatus) EC50 (72 h) 17.2 mg/L (Scenedesmus subspicatus) EC50 (72 h) 9.86 mg/L (Scenedesmus subspicatus) EC50 (72 h) 30 mg/L (Scenedesmus subspicatus) EC50 (72h) 0.68 mg/L (Skeletonema costatum)	LC50 (96 h) 2 mg/L (Brachydanio rerio) LC50 (96h) 7.43 mg/L (Scophthalmus maximus) NOEC (28 d) 16 mg/L (Oncorhynchus mykiss)	No information available	EC50 (48 h) 6.5 mg/L (Daphnia magna) EC50 (48h) 6.6 mg/L (Acartia tonsa) NOEC (21 d) 0.9 mg/L (Daphnia magna) NOEC (21 d) 0.932 mg/L (Daphnia magna) NOEC (21 d) 2.98 mg/L (Daphnia magna) NOEC (21 d) 0.03 mg/L (Daphnia magna) NOEC (21 d) 0.065 mg/L (Daphnia magna)
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	EC50 (72h) 0.41 mg/L (Skeletonema costatum) ErC50 (72h) > 9 mg/L (Selenastrum capricornutum) NOErC (72h) 9 mg/L (Selenastrum capricornutum)	LC50 (96h) 0.33 mg/L (Scophthalmus maximus) LC50 (96h) 1.5 mg/L (Oryzias latipes)	No information available	LC50 (48h) 0.45 mg/L (Acartia tonsa) EC50 (48h) 1.24 mg/L (Daphnia magna) LC50 (10d) 287.13 mg/kg (Corophium volutator) NOEC (21d) 0.24 mg/L (Daphnia magna)
Hexylene glycol	107-41-5	EC50 (72 h) 8682.73 mg/L (Skeletonema costatum)	LC50 (96 h) >1800 mg/L (Scophthalmus maximus)	Inhibitory Concentration (10d) > 1000 mg/L (Pseudomonas aeruginosa)	LC50 (48 h) 6615.38 mg/L (Acartia tonsa) EC50 (48 h) 2800 mg/L (Ceriodaphnia reticulata)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	No information available
Cocobetaine	61789-40-0	Readily biodegradable (90% @ 28d)
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	(91-94% @ 28d)
Hexylene glycol	107-41-5	Readily biodegradable (60% @ 14d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	No information available
Cocobetaine	61789-40-0	Log Pow =0.9
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	No information available
Hexylene glycol	107-41-5	Log Pow =0

12.4. Mobility in soil

Substances	CAS Number	Mobility
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	68037-05-8	No information available
Cocobetaine	61789-40-0	No information available
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	4016-24-4	No information available
Hexylene glycol	107-41-5	No information available

SAFETY DATA SHEET
ZoneSeal® 4000 NS
according to Regulation (EC) No. 453/2010

Revision Date: 29-Sep-2017
Preparation Date 29-Sep-2017

Revision Number: 10
Internal ID Code HM006135

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
Polyethylene glycol (C6-C10) alkyl ether, sulfate ammonium salt	Not PBT/vPvB
Cocobetaine	Not PBT/vPvB
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt	Not PBT/vPvB
Hexylene glycol	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 methods

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: 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

SAFETY DATA SHEET
ZoneSeal® 4000 NS
according to Regulation (EC) No. 453/2010

Revision Date: 29-Sep-2017
Preparation Date 29-Sep-2017

Revision Number: 10
Internal ID Code HM006135

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 Existing Chemical Substances) This product, and all its components, complies with EINECS

US TSCA Inventory All components listed on inventory or are exempt.

Canadian Domestic Substances List (DSL) Product contains one or more components not listed on the inventory.

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

Norway PR No.: 602707

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

H226 - Flammable liquid and vapor

H302 - Harmful if swallowed

H315 - Causes skin irritation

H318 - Causes serious eye damage

H319 - Causes serious eye irritation

H400 - Very toxic to aquatic life

H411 - Toxic to aquatic life with long lasting effects

H412 - Harmful to aquatic life with long lasting effects

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%

SAFETY DATA SHEET
ZoneSeal® 4000 NS
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Revision Date: 29-Sep-2017
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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/

Revision Date: 29-Sep-2017

Revision Note

SDS sections updated:

2

This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010

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End of Safety Data Sheet