

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

SUSPEND HT

Revision Date: 18-Nov-2015

Revision Number: 22

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

1.1. Product Identifier

Product Name SUSPEND HT
Internal ID Code HM001333

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

Recommended Use Suspending 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

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	
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

Skin Corrosion / irritation	Category 2 - H315
Serious Eye Damage / Eye Irritation	Category 1 - H318

Reproductive Toxicity

Category 2 - H361

2.2. Label Elements**Hazard Pictograms****Signal Word****Warning Danger****Hazard Statements**

H315 - Causes skin irritation

H318 - Causes serious eye damage

H361d - Suspected of damaging the unborn child

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

P280 - Wear protective gloves/eye protection/face protection

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P332 + P313 - If skin irritation occurs: Get medical advice/attention

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

Contains**Substances**

Sodium hydroxide

Sodium borate

CAS Number

1310-73-2

1303-96-4

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.
Sodium hydroxide	215-185-5	1310-73-2	2 - 5%	Skin Corr. 1A (H314) STOT SE 3 (H335) Met. Corr. 1 (H290)	01-2119457892-27
Sodium borate	Not applicable	1303-96-4	0.1 - 1%	Eye Irrit. 2A (H319) Repr. 1B (H360) STOT SE 1 (H370)	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	Under normal conditions, first aid procedures are not required.

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

Causes severe eye irritation which may damage tissue. Causes skin irritation. 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. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

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

None known.

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

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. 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, dry location. 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
Sodium hydroxide	1310-73-2	Not applicable	STEL: 2 mg/m ³	Not applicable	2 mg/m ³
Sodium borate	1303-96-4	Not applicable	TWA: 5 mg/m ³ STEL: 15 mg/m ³	Not applicable	5 mg/m ³

Substances	CAS Number	Germany	Spain	Portugal	Finland
Sodium hydroxide	1310-73-2	2 mg/m ³	2 mg/m ³ STEL [VLA-EC]	Not applicable	STEL: 2 mg/m ³
Sodium borate	1303-96-4	Not applicable	TWA: 2 mg/m ³ 6 mg/m ³ STEL [VLA-EC]	TWA: 2 mg/m ³ STEL: 6 mg/m ³	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Sodium hydroxide	1310-73-2	TWA: 2 mg/m ³ STEL: 4 mg/m ³	2 mg/m ³ STEL	TWA: 2 mg/m ³ STEL: 2 mg/m ³	Not applicable
Sodium borate	1303-96-4	Not applicable	5 mg/m ³ TWA; 5 mg/m ³ TWA 15 mg/m ³ STEL (calculated)	TWA: 5 mg/m ³ STEL: 5 mg/m ³	TWA: 5 mg/m ³ STEL: 10 mg/m ³

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Sodium hydroxide	1310-73-2	Not applicable	TWA: 0.5 mg/m ³ STEL: 1 mg/m ³	TWA: 2 mg/m ³ STEL: 2 mg/m ³	TWA: 1 mg/m ³
Sodium borate	1303-96-4	Not applicable	TWA: 0.5 mg/m ³ STEL: 2 mg/m ³	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Sodium hydroxide	1310-73-2	Not applicable	Not applicable	STEL: 2 mg/m ³	Not applicable
Sodium borate	1303-96-4	TWA: 2 mg/m ³	Not applicable	TWA: 5 mg/m ³	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 hydroxide	Not available	Not available	1 mg/m ³	Not available	Not available	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 hydroxide	Not available	Not available	1 mg/m ³	Not available	Not available	Not available	Not available	Not available	Not available	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

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

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

Hand Protection

Normal work gloves.

Skin Protection

Normal work coveralls.

Eye Protection

Wear safety glasses or goggles to protect against exposure.

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: Solid
Odor: Mild

Color: Cream to light yellow
Odor Threshold: No information available

PropertyValuesRemarks/ - Method**pH:**

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Freezing Point/Range

No data available

Melting Point/Range

No data available

Boiling Point/Range

No data available

Flash Point

> 93 °C / > 200 °F

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

No data available

Specific Gravity

0.6

Water Solubility

Soluble in water

Solubility in other solvents

No data available

Partition coefficient: n-octanol/water

No data available

Autoignition Temperature

510 °C / 950 °F

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

Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological Information

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

May cause respiratory irritation.

Eye Contact

Causes severe eye irritation which may damage tissue. May cause eye burns.

Skin Contact

Causes moderate skin irritation.

Ingestion

Causes burns of the mouth, throat and stomach.

Chronic Effects/Carcinogenicity

Prolonged or repeated exposure may cause reproductive system damage.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium hydroxide	1310-73-2	No data available	1350 mg/kg (Rabbit)	No data available
Sodium borate	1303-96-4	2660 mg/kg (Rat) 2403 mg/kg (Rat) > 2500 mg/kg (Rat) 2000 mg/kg (Mouse)	> 2000 mg/kg (Rabbit) >10,000 mg/kg (Rabbit) > 2000 mg/kg (Rabbit) (Similar substance)	> 2.04 mg/L (Rat) 4h (similar substance)

Substances	CAS Number	Skin corrosion/irritation
Sodium hydroxide	1310-73-2	Causes severe burns

Sodium borate	1303-96-4	Not irritating to skin in rabbits. (similar substances)
Substances	CAS Number	Eye damage/irritation
Sodium hydroxide	1310-73-2	Causes severe eye burns (Rabbit)
Sodium borate	1303-96-4	Causes moderate eye irritation. (Rabbit) (similar substances)
Substances	CAS Number	Skin Sensitization
Sodium hydroxide	1310-73-2	Did not cause sensitization on laboratory animals (guinea pig)
Sodium borate	1303-96-4	Patch test on human volunteers did not demonstrate sensitization properties
Substances	CAS Number	Respiratory Sensitization
Sodium hydroxide	1310-73-2	No information available
Sodium borate	1303-96-4	No information available
Substances	CAS Number	Mutagenic Effects
Sodium hydroxide	1310-73-2	Did not show mutagenic effects in animal experiments In vitro tests did not show mutagenic effects
Sodium borate	1303-96-4	Not regarded as mutagenic. (similar substances)
Substances	CAS Number	Carcinogenic Effects
Sodium hydroxide	1310-73-2	No data of sufficient quality are available.
Sodium borate	1303-96-4	Did not show carcinogenic effects in animal experiments
Substances	CAS Number	Reproductive toxicity
Sodium hydroxide	1310-73-2	No information available
Sodium borate	1303-96-4	Experiments have shown reproductive toxicity effects on laboratory animals
Substances	CAS Number	STOT - single exposure
Sodium hydroxide	1310-73-2	May cause respiratory irritation.
Sodium borate	1303-96-4	May cause disorder and damage to the (Kidney), Central Nervous System (CNS), Respiratory system.
Substances	CAS Number	STOT - repeated exposure
Sodium hydroxide	1310-73-2	No significant toxicity observed in animal studies at concentration requiring classification. Not applicable due to corrosivity of the substance.
Sodium borate	1303-96-4	No significant toxicity observed in animal studies at concentration requiring classification.
Substances	CAS Number	Aspiration hazard
Sodium hydroxide	1310-73-2	Not applicable
Sodium borate	1303-96-4	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 hydroxide	1310-73-2	No information available	LC50 (96h) 125 mg/L (Gambusia affinis) LC50 (48h) 189 mg/L (Leuciscus melanotus) LC50 (24h) 145 mg/L (Poecilia reticulata)	No information available	EC50 (48h) 40.4 mg/L (Ceriodaphnia sp.)
Sodium borate	1303-96-4	EC50 (96h) 15.4 mg/L (Pseudokirchnerella subcapitata) EC10 (3d) 35 mg/L (Pseudokirchnerella subcapitata)	LC50 (96h) 14.2 mg/L (Danio rerio) LC50 (96h) 27 mg/L (Oncorhynchus mykiss)	No information available	EC50 (48h) 102 mg/L (Ceriodaphnia dubia) LC50 (96h) > 447 mg/L (Sphaerium simile) LC50 (96h) > 544 mg/L (Megaloniais nervosa)

12.2. Persistence and degradability

Product is biodegradable

Substances	CAS Number	Persistence and Degradability
Sodium hydroxide	1310-73-2	The methods for determining biodegradability are not applicable to inorganic substances.
Sodium borate	1303-96-4	The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Does not bioaccumulate.

Substances	CAS Number	Log Pow
Sodium hydroxide	1310-73-2	No information available
Sodium borate	1303-96-4	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Sodium hydroxide	1310-73-2	No information available
Sodium borate	1303-96-4	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).

Substances	PBT and vPvB assessment
Sodium hydroxide	Not applicable
Sodium borate	Not applicable

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**

Bury in a licensed landfill according to 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

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 This product, and all its components, complies with EINECS
US TSCA Inventory All components listed on inventory or are exempt.
Canadian DSL Inventory 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 WGK 1: Low hazard to waters.
Classes (WGK)

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Sodium borate	1303-96-4	Use restricted. See item 30.	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

H290 - May be corrosive to metals
 H302 - Harmful if swallowed
 H314 - Causes severe skin burns and eye damage
 H315 - Causes skin irritation
 H318 - Causes serious eye damage
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation
 H360 - May damage fertility or the unborn child
 H370 - Causes damage to organs

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/

Revision Date: 18-Nov-2015

Revision Note

SDS sections updated: 2 11 14

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

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End of Safety Data Sheet