

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

AS-10 ANTI-SLUDGING AGENT

Revision Date: 03-Dec-2014

Revision Number: 15

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

1.1. Product Identifier

Product Name AS-10 ANTI-SLUDGING AGENT

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

Recommended Use Anti-sludging Agent

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

Emergency Phone Number: +44 1224 795277 or +1 281 575 5000

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 1224 795277 or +1 281 575 5000

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
Skin Corrosion / irritation	Category 1 - H314
Serious Eye Damage / Eye Irritation	Category 1 - H318
Skin Sensitization	Category 1 - H317

Chronic Aquatic Toxicity	Chronic 1 - H410
Substances/mixtures corrosive to metal.	Category 1 - H290

Classification according to EU Directives 67/548/EEC or 1999/45/EC

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

Classification

C - Corrosive.
N - Dangerous For The Environment.

Risk Phrases

R22 Harmful if swallowed.
R34 Causes burns.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

H290 - May be corrosive to metals
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H410 - Very toxic to aquatic life with long lasting effects

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

P234 - Keep only in original container
P280 - Wear protective gloves/eye protection/face protection
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor/physician
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Contains**Substances**

Dodecylbenzene sulfonic acid
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%

CAS Number

27176-87-0
147732-60-3

2.3. Other Hazards

None known

SECTION 3: Composition/information on Ingredients**3.2. Mixtures**

Mixture

Substances	EINECS	CAS Number	PERCENT (w/w)	EEC Classification	EU - CLP Substance Classification	REACH No.
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Dodecylbenzene sulfonic acid	248-289-4	27176-87-0	30 - 60%	C; R34 Xn; R22 N; 51/53	Corrosive to metals (H290) Acute Tox. 4 (H302) Skin Corr. 1 (H314) Eye Dam. 1 (H318) Aquatic Chronic 2 (H411)	No data available
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	429-650-7	147732-60-3	10 - 30%	Xi; R36 N; R50-53	Eye Irrit. 2 (H319) Aquatic Chronic 1 (H410)	No data available

For the full text of the R/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 to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get 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	In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.
Ingestion	Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

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

May cause eye and skin burns. May cause respiratory irritation May be harmful if swallowed. May cause headache, dizziness, and other central nervous system effects.

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

May deflagrate or explode in a fire due to heat and/or confinement. Evacuate area. Fight fire from a safe distance and from a protected location. Decomposition in fire may produce toxic gases.

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.
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. Neutralize to pH of 6-8. 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 breathing vapors. 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 alkalis. Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use. Product has a shelf life of 36 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
Dodecylbenzene sulfonic acid	27176-87-0	Not applicable	Not applicable	Not applicable	Not applicable
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Dodecylbenzene sulfonic acid	27176-87-0	Not applicable	Not applicable	Not applicable	Not applicable
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Dodecylbenzene sulfonic acid	27176-87-0	Not applicable	Not applicable	Not applicable	Not applicable
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Dodecylbenzene sulfonic acid	27176-87-0	Not applicable	Not applicable	Not applicable	Not applicable
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Dodecylbenzene sulfonic acid	27176-87-0	Not applicable	Not applicable	Not applicable	Not applicable
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	Not applicable	Not applicable	Not applicable	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/acid gas respirator with a dust/mist filter.

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. (>= 0.4 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 No information available

SECTION 9: Physical and Chemical Properties**9.1. Information on basic physical and chemical properties**

Physical State: Liquid

Color: Dark brown

Odor: Characteristic

Odor Threshold: No information available

Property**Values**

Remarks/ - Method

pH:

< 1

Freezing Point/Range

-31 °C

Melting Point/Range

No data available

Boiling Point/Range

No data available

Flash Point

No data available

Evaporation rate

No data available

Vapor Pressure

No data available

Vapor Density

No data available

Specific Gravity

1.083

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 applicable

10.2. Chemical Stability

Stable

10.3. Possibility of Hazardous Reactions

Will Not Occur

10.4. Conditions to Avoid

Keep away from heat, sparks and flame.

10.5. Incompatible Materials

Strong oxidizers. Strong alkalis.

10.6. Hazardous Decomposition Products

Oxides of sulfur. Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity

Inhalation

Causes severe respiratory burns. May cause Central Nervous System effects. Excessive inhalation causes headache, dizziness, nausea and incoordination.

Eye Contact

Causes severe eye burns.

Skin Contact

Causes severe burns. Harmful if absorbed through the skin.

Ingestion

Causes burns of the mouth, throat and stomach.

Chronic Effects/Carcinogenicity

Prolonged or repeated exposure may cause liver, kidney and lung effects.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Dodecylbenzene sulfonic acid	27176-87-0	500 mg/kg (Rat)	No data available	No data available
Benzene, 1,1`-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	> 2000 mg/kg (Rat)	> 2000 mg/kg (Rat) (similar substance)	No data available

Substances	CAS Number	Skin corrosion/irritation
Dodecylbenzene sulfonic acid	27176-87-0	Causes severe irritation and or burns
Benzene, 1,1`-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	Non-irritating to the skin (rabbit)

Substances	CAS Number	Eye damage/irritation
Dodecylbenzene sulfonic acid	27176-87-0	Causes severe irritation and or burns
Benzene, 1,1`-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	Causes moderate eye irritation. (rabbit)

Substances	CAS Number	Skin Sensitization
Dodecylbenzene sulfonic acid	27176-87-0	No information available
Benzene, 1,1`-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Dodecylbenzene sulfonic acid	27176-87-0	No information available
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	No information available

Substances	CAS Number	Mutagenic Effects
Dodecylbenzene sulfonic acid	27176-87-0	No information available
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	In vitro tests did not show mutagenic effects

Substances	CAS Number	Carcinogenic Effects
Dodecylbenzene sulfonic acid	27176-87-0	No information available.
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	Did not show carcinogenic effects in animal experiments (similar substances)

Substances	CAS Number	Reproductive toxicity
Dodecylbenzene sulfonic acid	27176-87-0	No information available
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
Dodecylbenzene sulfonic acid	27176-87-0	No information available
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Dodecylbenzene sulfonic acid	27176-87-0	No information available
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Dodecylbenzene sulfonic acid	27176-87-0	Not applicable
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	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
Dodecylbenzene sulfonic acid	27176-87-0	EC50(72h): 29 mg/L (Pseudokirchneriella subcapitata)	LC50(96h): 10.8 mg/L (Oncorhynchus mykiss) LC50(96h): 3.5 - 10 mg/L (Brachydanio rerio) LC50(96h): 1 mg/L (Gadus morhua)	LC50: 0.9 mg/L (Microcystis)	EC50(48h): 5.88 mg/L (Daphnia magna)
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	EC50(72h): > 220 mg/L (Selenastrum capricornutum)	LC50(96h): 6.8 mg/L (Cyprinus carpio) LC50(96h): 13 mg/L (Pimephales promelas) NOEC(32d): 0.0025 mg/L (Pimephales promelas)	No information available	EC50(48h): 11.8 mg/L (Daphnia magna) NOEC(21d): 07. - 1.0 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Dodecylbenzene sulfonic acid	27176-87-0	No information available
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	(0% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Dodecylbenzene sulfonic acid	27176-87-0	No information available
Benzene, 1,1'-oxybis-, sec-hexyl derivatives, sulfonated sodium salts, 45%	147732-60-3	< -3.5

12.4. Mobility in soil

No information available

12.5. Results of PBT and vPvB assessment

No information available.

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**

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:	UN3265
UN Proper Shipping Name:	Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Dodecylbenzenesulfonic Acid)
Transport Hazard Class(es):	8
Packing Group:	III
Environmental Hazards:	Not applicable
EMS:	EmS F-A, S-B

RID

UN Number:	UN3265
UN Proper Shipping Name:	Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Dodecylbenzenesulfonic Acid)
Transport Hazard Class(es):	8

Packing Group:	III
Environmental hazard:	Not applicable

ADR

UN Number:	UN3265
UN Proper Shipping Name:	Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Dodecylbenzenesulfonic Acid)
Transport Hazard Class(es):	8
Packing Group:	III
Environmental hazard:	Not applicable

IATA/ICAO

UN Number:	UN3265
UN Proper Shipping Name:	Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Dodecylbenzenesulfonic Acid)
Transport Hazard Class(es):	8
Packing Group:	III
Environmental hazard:	Not applicable

14.1. UN Number: UN3265

14.2. UN Proper Shipping Name: Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Dodecylbenzenesulfonic Acid)

14.3. Transport Hazard Class(es): 8

14.4. Packing Group: III

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 does not comply 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 Classes (WGK) WGK 2: Hazard to waters.

15.2. Chemical Safety Assessment

No information available

SECTION 16: Other Information

Full text of R-phrases referred to under Sections 2 and 3

R22 Harmful if swallowed.

R34 Causes burns.

R36 - Irritating to eyes

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H410 - Very toxic to aquatic life with long lasting effects
H411 - Toxic to aquatic life with long lasting effects

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: 03-Dec-2014

Revision Note

Update to Format SECTION: 8

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