

## SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

### OSI-1A

Revision Date: 13-May-2013

Revision Number: 10

#### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**Product Identifier**

**Product Name** OSI-1A

**Relevant identified uses of the substance or mixture and uses advised against**

<b>Recommended Use</b>	Inhibitor
<b>Sector of use</b>	SU2 - Mining, (including offshore industries)
<b>Product category</b>	PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents, other unspecific
<b>Process categories</b>	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
<b>Uses Advised Against</b>	No information available

**Details of the supplier of the safety data sheet**

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

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**E-Mail address:** [fdunexchem@halliburton.com](mailto:fdunexchem@halliburton.com)

**Emergency telephone number**

+44 1224 795277 or +1 281 575 5000

Emergency telephone §45 - (EC)1272/2008	
<b>Europe</b>	<b>112</b>
<b>Denmark</b>	Poison Control Hotline (DK): +45 82 12 12 12
<b>France</b>	ORFILA (FR): + 01 45 42 59 59
<b>Germany</b>	Poison Center Berlin (DE): +49 030 30686 790
<b>Italy</b>	Poison Center, Milan (IT): +39 02 6610 1029
<b>Netherlands</b>	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
<b>Norway</b>	Poisons Information (NO): + 47 22 591300
<b>Poland</b>	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
<b>Spain</b>	Poison Information Service (ES): +34 91 562 04 20
<b>United Kingdom</b>	NHS Direct (UK): +44 0845 46 47

#### 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

**REGULATION (EC) No 1272/2008**

Acute Oral Toxicity	Category 4- (H302)
Skin Corrosion / irritation	Category 2- (H315)

## 2. HAZARDS IDENTIFICATION

Serious Eye Damage / Eye Irritation	Category 1- (H318)
Germ Cell Mutagenicity	Category 1B- (H340)
Carcinogenicity	Category 1B- (H350)

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

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

#### Classification

Xn - Harmful.

Xi - Irritant.

#### Risk Phrases

R22 Harmful if swallowed.

R45 May cause cancer.

R46 May cause heritable genetic damage.

R38 Irritating to skin.

R41 Risk of serious damage to eyes.

#### Label Elements

##### Hazard Pictograms



#### Signal Word

**Danger**

#### Hazard Statements

H318 - Causes serious eye damage

H340 - May cause genetic defects

H350 - May cause cancer

H315 - Causes skin irritation

H302 - Harmful if swallowed

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

P280 - Wear protective gloves/eye protection/face protection

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

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

#### Contains

##### Substances

Ethoxylated decyl alcohol

Ethylene glycol

Heavy aromatic petroleum naphtha

Ethoxylated alkyl amines

Dibutyl thiourea

Acetic acid

Pyridine, alkyl derivatives

Ethoxylated lauryl alcohol (23 EO)

Naphthalene

##### CAS Number

Proprietary

107-21-1

64742-94-5

Proprietary

109-46-6

64-19-7

68391-11-7

Proprietary

91-20-3

**Other Hazards**

None known

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances	EINECS	CAS Number	PERCENT	EEC Classification	EU - CLP Substance Classification	REACH No.
Ethoxylated decyl alcohol	Listed	Proprietary	10 - 30%	Xi; R41	Eye Dam. 1 (H318)	No data available
Ethylene glycol	203-473-3	107-21-1	10 - 30%	Xn; R22	Acute Tox. 4 (H302)	No data available
Heavy aromatic petroleum naphtha	265-198-5	64742-94-5	10 - 30%	Xn; R65	Asp. Tox. 1 (H304)	No data available
Ethoxylated alkyl amines	Listed	Proprietary	5 - 10%	Xn; N; R22-41-51/53	Acute tox. 4 (H302) Eye Dam. 1 (H318) Aquatic Acute 2 (H401) Aquatic Chronic 2 (H411)	No data available
Dibutyl thiourea	203-674-6	109-46-6	5 - 10%	Not applicable	Acute Tox. 4 (H302)	No data available
Acetic acid	200-580-7	64-19-7	5 - 10%	R10 C; R35	Skin Corr. 1A (H314) Flam. Liq. 3 (H226)	01-2119475328-30
Pyridine, alkyl derivatives	269-929-9	68391-11-7	5 - 10%	Carc.Cat.2; R45 Muta.Cat.2; R46	Muta. 1B (H340) Carc. 1B (H350)	No data available
Ethoxylated lauryl alcohol (23 EO)	Listed	Proprietary	1 - 5%	Xn; R22	Acute Tox 4 (H302)	No data available
Naphthalene	202-049-5	91-20-3	1 - 5%	Carc.Cat.3; R40 Xn; R22 N; R50-53	Acute Tox. 4 (H302) Carc. 2 (H351) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	No data available

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

**4. FIRST AID MEASURES****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.

**Most Important symptoms and effects, both acute and delayed**

May cause severe eye irritation. May cause skin irritation. Potential carcinogen. May be harmful if swallowed.

**Indication of any immediate medical attention and special treatment needed****Notes to Physician**

Treat symptomatically

**5. FIREFIGHTING MEASURES****Extinguishing media****Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Special hazards arising from the substance or mixture****Special Exposure Hazards**

Use water spray to cool fire exposed surfaces. Decomposition in fire may produce toxic gases.

**Advice for firefighters****Special Protective Equipment for Fire-Fighters**

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

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Wear self-contained breathing apparatus in enclosed areas.  
See Section 12 for additional information

### Environmental precautions

Prevent from entering sewers, waterways, or low areas.

### 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.

### Reference to other sections

See Section 12 for additional information.

## 7. HANDLING AND STORAGE

### 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

### Conditions for safe storage, including any incompatibilities

Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use.

### Specific End Use(s)

#### Exposure Scenario

No information available

#### Other Guidelines

No information available

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Substances	EU	UK OEL	Netherlands	France OEL	Germany MAK/TRK
Ethoxylated decyl alcohol	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol	Not applicable	STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> STEL: 30 mg/m <sup>3</sup> TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup>	TWA: 52 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup> STEL: 104 mg/m <sup>3</sup>	20 ppm	TWA: 10 ppm TWA: 26 mg/m <sup>3</sup> MAK: 10 ppm MAK: 26 mg/m <sup>3</sup>
Heavy aromatic petroleum naphtha	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Ethoxylated alkyl amines	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Dibutyl thiourea	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Acetic acid	10 ppm	Not applicable	Not applicable	10 ppm	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> MAK: 10 ppm MAK: 25 mg/m <sup>3</sup>
Pyridine, alkyl derivatives	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Ethoxylated lauryl alcohol (23 EO)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Naphthalene	Not applicable	10 ppm	TWA: 50 mg/m <sup>3</sup> STEL: 80 mg/m <sup>3</sup>	10 ppm	10 ppm

Substances	Spain	Portugal	Finland	Austria	Ireland
Substances	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Substances	40 ppm VLA-EC; 104 mg/m <sup>3</sup> VLA-EC VLA-ED: 20 ppm VLA-ED: 52 mg/m <sup>3</sup>	Not applicable	STEL: 40 ppm STEL: 100 mg/m <sup>3</sup> TWA: 20 ppm TWA: 50 mg/m <sup>3</sup>	Not applicable	Not applicable
Substances	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Substances	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Substances	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Substances	15 ppm VLA-EC; 37 mg/m <sup>3</sup> VLA-EC VLA-ED: 10 ppm VLA-ED: 25 mg/m <sup>3</sup>	STEL: 15 ppm TWA: 10 ppm	STEL: 10 ppm STEL: 25 mg/m <sup>3</sup> TWA: 5 ppm TWA: 13 mg/m <sup>3</sup>	Not applicable	Not applicable
Substances	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Substances	Spain	Portugal	Finland	Austria	Ireland
Substances	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Substances	15 ppm VLA-EC; 80 mg/m <sup>3</sup> VLA-EC VLA-ED: 10 ppm VLA-ED: 53 mg/m <sup>3</sup>	STEL: 15 ppm TWA: 10 ppm	STEL: 2 ppm STEL: 10 mg/m <sup>3</sup> TWA: 1 ppm TWA: 5 mg/m <sup>3</sup>	Not applicable	Not applicable

Substances	Switzerland	Norway	Italy	Poland	Hungary
Ethoxylated decyl alcohol	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol	Not applicable	STEL: 20 ppm TWA: 10 mg/m <sup>3</sup>	STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> TWA: 20 ppm TWA: 52 mg/m <sup>3</sup>	NDSch: 50 mg/m <sup>3</sup> NDS: 15 mg/m <sup>3</sup>	TWA: 52 mg/m <sup>3</sup> STEL: 104 mg/m <sup>3</sup>
Heavy aromatic petroleum naphtha	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Ethoxylated alkyl amines	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Dibutyl thiourea	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Acetic acid	Not applicable	STEL: 20 ppm STEL: 37.5 mg/m <sup>3</sup> TWA: 10 ppm TWA: 25 mg/m <sup>3</sup>	10 ppm	NDSch: 30 mg/m <sup>3</sup> NDS: 15 mg/m <sup>3</sup>	TWA: 25 mg/m <sup>3</sup> STEL: 25 mg/m <sup>3</sup>
Pyridine, alkyl derivatives	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Ethoxylated lauryl alcohol (23 EO)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Naphthalene	Not applicable	STEL: 20 ppm STEL: 75 mg/m <sup>3</sup> TWA: 10 ppm TWA: 50 mg/m <sup>3</sup>	Not applicable	NDSch: 50 mg/m <sup>3</sup> NDS: 20 mg/m <sup>3</sup>	TWA: 50 mg/m <sup>3</sup>

Substances	Czech Republic	Denmark
Ethoxylated decyl alcohol	Not applicable	Not applicable
Ethylene glycol	TWA: 50 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 26 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup>
Heavy aromatic petroleum naphtha	Not applicable	Not applicable
Ethoxylated alkyl amines	Not applicable	Not applicable
Dibutyl thiourea	Not applicable	Not applicable
Acetic acid	TWA: 25 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup>
Pyridine, alkyl derivatives	Not applicable	Not applicable
Ethoxylated lauryl alcohol (23 EO)	Not applicable	Not applicable
Naphthalene	TWA: 50 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 50 mg/m <sup>3</sup>

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

#### 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

###### Respiratory Protection

Organic vapor/acid gas respirator.

###### Hand Protection

Impervious rubber gloves.

###### 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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties

**Physical State:** Liquid

**Color:** Dark brown

**Odor:** Amine

**Odor Threshold:** No information available

#### Property

#### Values

#### Remarks/ Method

**pH:**

4.5

**Melting Point/Range**

No data available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Freezing Point/Range (C):	No data available
Boiling Point/Range	No data available
Flash Point	75°C
PMCC	
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	> 1
Specific Gravity	1.04
Water Solubility	Dispersable
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

### Other information

VOC Content (%)	No data available
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## 10. STABILITY AND REACTIVITY

### Reactivity

Not applicable

### Chemical Stability

Stable

### Possibility of Hazardous Reactions

Will Not Occur

### Conditions to Avoid

Keep away from heat, sparks and flame.

### Incompatible Materials

Strong oxidizers.

### Hazardous Decomposition Products

Oxides of nitrogen. Carbon monoxide and carbon dioxide.

## 11. TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### Acute Toxicity

##### Inhalation

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

##### Eye Contact

May cause severe eye irritation. May cause corneal injury.

##### Skin Contact

May cause skin irritation.

##### Ingestion

Irritation of the mouth, throat, and stomach. May cause heart, kidney and brain disorders. Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

### Chronic Effects/Carcinogenicity

Prolonged or repeated exposure may cause reproductive system damage. Prolonged or repeated exposure may cause embryo and fetus toxicity. Contains petroleum distillates which have been shown to cause skin cancer in laboratory animals. Contains coal tar pitch volatiles, a skin carcinogen.

Substances	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethoxylated decyl alcohol	No data available	No data available	No data available
Ethylene glycol	4000 mg/kg ( Rat )	9530 µL/kg ( Rabbit )	No data available
Heavy aromatic petroleum naphtha	5000 mg/kg ( Rat )	2000 mg/kg ( Rabbit )	590 mg/m <sup>3</sup> ( Rat ) 4 h
Ethoxylated alkyl amines	750 mg/kg ( Rat )	No data available	No data available

## 11. TOXICOLOGICAL INFORMATION

Dibutyl thiourea	350 mg/kg ( Rat )	No data available	No data available
Acetic acid	3310 mg/kg ( Rat )	1060 mg/kg ( Rabbit )	11.4 mg/L ( Rat ) 4 h
Pyridine, alkyl derivatives	No data available	No data available	No data available
Ethoxylated lauryl alcohol (23 EO)	1 g/kg ( Rat )	No data available	No data available
Naphthalene	490 mg/kg ( Rat )	2500 mg/kg ( Rat ) 20 g/kg ( Rabbit )	340 mg/m <sup>3</sup> ( Rat ) 1 h

## 12. ECOLOGICAL INFORMATION

### Toxicity Ecotoxicity Effects

Substances	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Ethoxylated decyl alcohol	No information available	No information available	No information available	No information available
Ethylene glycol	EC50: 6500 - 13000 mg/L (Pseudokirchneriella subcapitata)	LC50: 41000 mg/L (Oncorhynchus mykiss)	No information available	EC50: 46300 mg/L (Daphnia magna)
Heavy aromatic petroleum naphtha	EC50: < 1 mg/l (Skeletonema costatum)	LC50: 2.34 mg/L (Oncorhynchus mykiss); LC50: 41 mg/L (Pimephales promelas)	No information available	EC50: 0.95 mg/L (Daphnia magna)
Ethoxylated alkyl amines	No information available	No information available	No information available	No information available
Dibutyl thiourea	No information available	No information available	No information available	No information available
Acetic acid	No information available	LC50: 79 mg/l (Pimephales promelas)	No information available	EC50: 47 mg/l (Daphnia magna)
Pyridine, alkyl derivatives	No information available	No information available	No information available	No information available
Ethoxylated lauryl alcohol (23 EO)	No information available	No information available	No information available	No information available
Naphthalene	EC50: 0.4 mg/L (Skeletonema costatum)	LC50: 5.74-6.44 mg/L (Pimephales promelas)	No information available	LC50: 2.16 mg/L (Daphnia magna)

### Persistence and degradability

No information available

### Bioaccumulative potential

No information available

Substances	Log Pow
Heavy aromatic petroleum naphtha	2.9 - 6.1
Naphthalene	3.28

### Mobility in soil

No information available

### Results of PBT and vPvB assessment

No information available.

### Other adverse effects

#### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

#### Disposal Method

#### Contaminated Packaging

Disposal should be made in accordance with federal, state, and local regulations. Follow all applicable national or local regulations.

**14. TRANSPORT INFORMATION****IMDG/IMO**

UN Number: Not restricted.  
UN Proper Shipping Name: Not restricted  
Transport Hazard Class(es): Not applicable

**RID**

UN Number: Not restricted.  
UN Proper Shipping Name: Not restricted  
Transport Hazard Class(es): Not applicable

**ADR**

UN Number: Not restricted.  
UN Proper Shipping Name: Not restricted  
Transport Hazard Class(es): Not applicable

**IATA/ICAO**

UN Number: Not restricted.  
UN Proper Shipping Name: Not restricted  
Transport Hazard Class(es): Not applicable

**Special Precautions for User**

None

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

**15. REGULATORY INFORMATION****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  
Classes (WGK)**

WGK 2: Hazard to waters.

**Chemical Safety Assessment**

No information available

**16. OTHER INFORMATION****Full text of R-phrases referred to under Sections 2 and 3**

R22 Harmful if swallowed.

R45 May cause cancer.

R46 May cause heritable genetic damage.

R38 Irritating to skin.

R41 Risk of serious damage to eyes.



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**16. OTHER INFORMATION**

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**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

**Revision Date:** 13-May-2013  
**Revision Note** Not applicable

**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**