

## MATERIAL SAFETY DATA SHEET

Product Trade Name: **WS-36 EMULSIFYING AGENT**

Revision Date: 09-Oct-2014

Revision Number: 19

### SECTION 1. Product and Company Identification

**Product Identifier**

**Product Trade Name:** WS-36 EMULSIFYING AGENT  
**Synonyms:** None  
**Chemical Family:** Fatty-Acid  
**Internal ID Code** HM001453

**Product Use**

**Application:** Emulsifier

**Manufacturer's Name and Contact Details**

**Name and Address** Halliburton Energy Services  
645 - 7th Ave SW Suite 2200  
Calgary, AB  
T2P 4G8  
Canada

**Emergency Telephone Number** (281) 575-5000

**Prepared By**

Chemical Compliance  
Telephone: 1-580-251-4335  
e-mail: fdunexchem@halliburton.com

### SECTION 2. Hazard(s) Identification

**WHMIS Classification**

**WHMIS Hazard Class** D2B Toxic Materials

**WHMIS Symbol(s)**



**Summary of hazards of the product**

**Hazard Overview** May cause eye and respiratory irritation. May cause headache, dizziness, and other central nervous system effects. May be harmful if swallowed.

### SECTION 3: Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	HMIRA Registry Number	Decision Granted Date
Ethoxylated sorbitol esters	Proprietary	60 - 100%	8955	September 17, 2014
Ethoxylated fatty acids	Proprietary	5 - 10%	8955	September 17, 2014

## SECTION 4. First aid measures

### Description of first aid measures

#### **Inhalation**

If inhaled, remove to fresh air. If not breathing give artificial respiration (AR), preferably mouth-to-mouth. If breathing is difficult, oxygen should be given by trained personnel. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation (CPR) immediately. Get medical attention immediately.

#### **Eyes**

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

#### **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. Never give anything by mouth to an unconscious person. If breathing has stopped, trained personnel should begin rescue breathing / artificial respiration (AR) immediately. If the heart has stopped, trained personnel should begin CPR immediately. Obtain medical attention immediately.

### Most important symptoms and effects, both acute and delayed

May cause eye and skin irritation.

### Indication of any immediate medical attention and special treatment needed

#### **Notes to Physician**

Treat symptomatically

## SECTION 5. Fire Fighting 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**

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.

### Hazardous combustion products

Oxides of phosphorus. Carbon monoxide and carbon dioxide.

## SECTION 6. Accidental release measures

### Personal precautions and emergency procedures

#### **Protective Equipment**

Use appropriate protective equipment.

#### **Environmental Precautionary Measures**

Prevent from entering sewers, waterways, or low areas.

#### **Procedure for Cleaning / Absorption**

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## SECTION 7. Handling and Storage

### Precautions for safe handling

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors.

**Conditions for safe storage and Incompatible materials for storage**

Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Product has a shelf life of 60 months.

**SECTION 8: Exposure Controls/Personal Protection**

**Occupational Exposure Limits**

**Exposure Limits**

Substances	CAS Number	ACGIH TLV-TWA	OSHA PEL-TWA
Ethoxylated sorbitol esters	Proprietary	Not available	Not available
Ethoxylated fatty acids	Proprietary	Not available	Not available

**Appropriate engineering controls**

**Engineering Controls**

Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

**Personal Protective Equipment (PPE)**

**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**

Nitrile 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.

**SECTION 9. Physical and Chemical Properties**

**Information on basic physical and chemical properties**

**Physical State:** Liquid

**Color:** Amber

**Odor:** Mineral oil

**Odor Threshold:** No information available

Property

Values

Remarks/ - Method

**pH:**

No information available.

**pH Concentration of Solution:**

No information available.

**Freezing Point/Range**

No information available.

**Melting Point/Range**

No information available

**Boiling Point/Range (C):**

No information available.

**Flash Point/Range (C):**

> 93 °C

**Flash Point Method:**

COC

**Autoignition Temperature (C):**

No information available.

**Flammability Limits in Air - Lower (%):**

No information available.

**Flammability Limits in Air - Upper (%):**

No information available.

**Evaporation Rate (Butyl Acetate=1):**

No information available.

**Vapor Pressure @ 20 C (mmHg):**

No information available.

**Vapor Density (Air=1):**

No information available.

**Specific Gravity @ 20 C (Water=1):**

1.03

**Solubility in Water (g/100ml):**

Disperses

**Solubility in other solvents**

No information available.

**Partition Coefficient/n-Octanol/Water:**

No information available.

**Decomposition Temperature (C):**

No information available.

**Viscosity**

No information available

**Explosive Properties**

No information available

**Oxidizing Properties**

No information available

**Other Information****Molecular Weight (g/mole):**

No information available.

**VOC Content (%)**

No information available

**SECTION 10. Stability and Reactivity****Conditions of Reactivity****Conditions to Avoid**

None anticipated

**Hazardous Polymerization:**

Will Not Occur

**Chemical Stability**

Stable

**Sensitivity to Static Discharge**

Not available

**Sensitivity to Mechanical Impact**

Not available

**Incompatible materials**

Strong oxidizers.

**Hazardous Decomposition Products**

Oxides of phosphorus. Carbon monoxide and carbon dioxide.

**SECTION 11. Toxicological Information****Routes of entry**

Eye or skin contact, inhalation.

**Information on Toxicological Effects****Acute effects from exposure****Product Information**

Based on the collective toxicity of product ingredients, the mixture should be considered to cause the following:

**Inhalation**

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

**Eye Contact**

May cause eye irritation

**Skin Contact**

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

**Ingestion**

Irritation of the mouth, throat, and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea.

**Chronic effects from exposure****Chronic Effects/Carcinogenicity**

No data available to indicate product or components present at greater than 1% are chronic health hazards.

**Irritancy of product****Irritation**

Irritating to eyes and skin

**Sensitization of product****Sensitization**

Not confirmed to cause skin or respiratory sensitization.

**Mutagenicity**

Mutagenic Effects

Not regarded as mutagenic.

**Carcinogenicity**

Carcinogenic Effects

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, NTP, or OSHA.

**Reproductive toxicity**

Reproductive Toxicity

This product does not contain any known or suspected reproductive hazards

**Teratogenicity/embryotoxicity**

Teratogenic

Not a confirmed teratogen or embryotoxin.

**Toxicologically synergistic material** Not available**Acute Toxicity**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethoxylated sorbitol esters	Proprietary	No data available	No data available	No data available
Ethoxylated fatty acids	Proprietary	> 6400 mg/kg (Rat)	No data available	No data available

**SECTION 12. Ecological Information****Toxicity****Ecotoxicity Effects**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Ethoxylated sorbitol esters	Proprietary	No information available	No information available	No information available	No information available
Ethoxylated fatty acids	Proprietary	EC50(72h): > 44 mg/L	LC50(95h): 7.8 mg/L (Brachydanio rerio)	EC20(180m): >1000 mg/L	EC50(48h): 16 mg/L (Daphnia magna)

**Persistence and Degradability**

Expected to be readily biodegradable

**Bioaccumulation potential**

No information available

**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

**SECTION 13. Disposal Considerations****Disposal Method**

Incineration recommended in approved incinerator according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

**Contaminated Packaging**

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**SECTION 14. Transport Information**

**Canadian TDG u10**

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

**IATA/ICAO**

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

**IMDG/IMO**

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

**Special Precautions for User:** None

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

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

<b>SECTION 15: Regulatory Information</b>
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**Canadian Regulations**

**Canadian DSL Inventory** All components listed on inventory or are exempt.

**WHMIS Hazard Class** D2B Toxic Materials

**WHMIS Symbol(s)**

**US Regulations**

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

<b>SECTION 16. Other Information</b>
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**Preparation Information**

**Prepared By** Chemical Compliance  
 Telephone: 1-580-251-4335  
 e-mail: fdunexchem@halliburton.com

**Revision Date:** 09-Oct-2014

Not applicable

**Additional information**

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

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

**Key or legend to abbreviations and acronyms**

WHMIS: Workplace Hazardous Materials Information System

**Key literature references and sources for data**

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

NZ CCID

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**\*\*\*END OF MSDS\*\*\***