

## MATERIAL SAFETY DATA SHEET

Product Trade Name: **N-FLOW 408**

Revision Date: 04-Jan-2013

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

**Statement of Hazardous Nature** Hazardous according to the criteria of NOHSC, Dangerous Goods according to the criteria of ADG.

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road  
Jandakot  
WA 6164  
Australia

ACN Number: 009 000 775  
Telephone Number: 61 (08) 9455 8300  
Fax Number: 61 (08) 9455 5300

**Product Emergency Telephone**

Australia: 08-64244950  
Papua New Guinea: 05 1 281 575 5000  
NewZealand: 06-7559274

**Fire, Police & Ambulance - Emergency Telephone**

Australia: 000  
Papua New Guinea: 000  
New Zealand: 111

### Identification of Substances or Preparation

**Product Trade Name:** N-FLOW 408  
**Synonyms:** None  
**Chemical Family:** Not applicable  
**UN Number:** , UN1192  
**Dangerous Goods Class:** 3  
**Subsidiary Risk:** None  
**Hazchem Code:** 3[Y]  
**Poisons Schedule:** None  
**Application:** Additive

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

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT	Australia NOHSC	New Zealand OEL	ACGIH TLV-TWA
Ethyl lactate	97-64-3	60 - 100%	Not applicable	Not applicable	Not applicable

Non-Hazardous Substance to Total of 100%

**3. HAZARDS IDENTIFICATION**

<b>Hazard Overview</b>	May cause eye and skin irritation. May cause eye, skin, and respiratory irritation. May be harmful if swallowed. Combustible.
<b>Risk Phrases</b>	R10 Flammable. R37 Irritating to respiratory system. R41 Risk of serious damage to eyes.
<b>HSNO Classification</b>	Not Determined

**4. FIRST AID MEASURES**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Skin</b>	Wash with soap and water. Get medical attention if irritation persists.
<b>Eyes</b>	Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.
<b>Ingestion</b>	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.
<b>Notes to Physician</b>	Not Applicable

**5. FIRE FIGHTING MEASURES**

<b>Suitable Extinguishing Media</b>	Water fog, carbon dioxide, foam, dry chemical.
<b>Extinguishing media which must not be used for safety reasons</b>	None known.
<b>Special Exposure Hazards</b>	Decomposition in fire may produce toxic gases. Use water spray to cool fire exposed surfaces.
<b>Special Protective Equipment for Fire-Fighters</b>	Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal Precautionary Measures</b>	Use appropriate protective equipment.
<b>Environmental Precautionary Measures</b>	Prevent from entering sewers, waterways, or low areas.
<b>Procedure for Cleaning / Absorption</b>	Contain spill with sand or other inert materials. Scoop up and remove. Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools.

**7. HANDLING AND STORAGE**

<b>Handling Precautions</b>	Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse.
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**Storage Information**

Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use. Product has a shelf life of 12 months.

<b>8. EXPOSURE CONTROLS/PERSONAL PROTECTION</b>
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**Engineering Controls**

Use in a well ventilated area.

**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, 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.

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

**Hand Protection**

Impervious rubber gloves. Nitrile gloves. Neoprene gloves. Butyl 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.

<b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>
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<b>Physical State:</b>	Liquid
<b>Color:</b>	Clear colorless
<b>Odor:</b>	Characteristic
<b>pH:</b>	7.4 (10%)
<b>Specific Gravity @ 20 C (Water=1):</b>	1.03
<b>Density @ 20 C (kg/l):</b>	0.984
<b>Bulk Density @ 20 C (kg/m<sup>3</sup>):</b>	Not Determined
<b>Boiling Point/Range (C):</b>	154
<b>Freezing Point/Range (C):</b>	Not Determined
<b>Pour Point/Range (C):</b>	Not Determined
<b>Flash Point/Range (C):</b>	46
<b>Flash Point Method:</b>	ISO 3678 CC
<b>Autoignition Temperature (C):</b>	400
<b>Flammability Limits in Air - Lower (g/m<sup>3</sup>):</b>	Not Determined
<b>Flammability Limits in Air - Lower (%):</b>	1.5
<b>Flammability Limits in Air - Upper (g/m<sup>3</sup>):</b>	Not Determined
<b>Flammability Limits in Air - Upper (%):</b>	11.4
<b>Vapor Pressure @ 20 C (mmHg):</b>	5
<b>Vapor Density (Air=1):</b>	4.07
<b>Percent Volatiles:</b>	100
<b>Evaporation Rate (Butyl Acetate=1):</b>	0.22
<b>Solubility in Water (g/100ml):</b>	Miscible
<b>Solubility in Solvents (g/100ml):</b>	Not Determined
<b>VOCs (g/l):</b>	Not Determined
<b>Viscosity, Dynamic @ 20 C (centipoise):</b>	Not Determined
<b>Viscosity, Kinematic @ 20 C (centistokes):</b>	Not Determined
<b>Partition Coefficient/n-Octanol/Water:</b>	-0.18
<b>Molecular Weight (g/mole):</b>	118.13
<b>Decomposition Temperature (C):</b>	Not Determined

## 10. STABILITY AND REACTIVITY

<b>Stability Data:</b>	Stable
<b>Hazardous Polymerization:</b>	Will Not Occur
<b>Conditions to Avoid</b>	None anticipated
<b>Incompatibility (Materials to Avoid)</b>	Strong oxidizers.
<b>Hazardous Decomposition Products</b>	Carbon monoxide and carbon dioxide.
<b>Additional Guidelines</b>	Not Applicable

## 11. TOXICOLOGICAL INFORMATION

<b>Principle Route of Exposure</b>	Eye or skin contact, inhalation.
<b>Inhalation</b>	May cause respiratory irritation.
<b>Skin Contact</b>	May cause skin irritation.
<b>Eye Contact</b>	Causes severe eye irritation May cause permanent eye damage.
<b>Ingestion</b>	Irritation of the mouth, throat, and stomach.
<b>Aggravated Medical Conditions</b>	None known.
<b>Chronic Effects/Carcinogenicity</b>	No data available to indicate product or components present at greater than 1% are chronic health hazards.
<b>Other Information</b>	None known.
<b>Toxicity Tests</b>	
<b>Oral Toxicity:</b>	LD50: > 5000 mg/kg (Rat)
<b>Dermal Toxicity:</b>	LD50: > 2000 mg/kg (Rabbit)
<b>Inhalation Toxicity:</b>	LC50: > 2500 mg/m <sup>3</sup> /4-hour (rat)
<b>Primary Irritation Effect:</b>	Not determined
<b>Carcinogenicity</b>	Not determined
<b>Genotoxicity:</b>	Not determined
<b>Reproductive / Developmental Toxicity:</b>	Not determined

## 12. ECOLOGICAL INFORMATION

<b>Mobility (Water/Soil/Air)</b>	Not determined
<b>Persistence/Degradability</b>	Readily biodegradable
<b>Bio-accumulation</b>	Not determined

### Ecotoxicological Information

**Acute Fish Toxicity:** Not determined  
**Acute Crustaceans Toxicity:** Not determined  
**Acute Algae Toxicity:** Not determined

**Chemical Fate Information** Not determined

**Other Information** Not applicable

### 13. DISPOSAL CONSIDERATIONS

**Disposal Method** Disposal should be made in accordance with federal, state, and local regulations.

**Contaminated Packaging** Follow all applicable national or local regulations.

### 14. TRANSPORT INFORMATION

#### Land Transportation

##### ADR

UN1192, Ethyl Lactate, 3, III

#### Air Transportation

##### ICAO/IATA

UN1192, Ethyl Lactate, 3, III

#### Sea Transportation

##### IMDG

UN1192, Ethyl Lactate, 3, III, (46.1 C)  
EmS F-E, S-D

#### Other Transportation Information

**Labels:** Flammable Liquid

### 15. REGULATORY INFORMATION

#### Chemical Inventories

**Australian AICS Inventory** All components listed on inventory or are exempt.  
**New Zealand Inventory of Chemicals** This product does not comply with NZIOC  
**US TSCA Inventory** All components listed on inventory or are exempt.  
**EINECS Inventory** This product, and all its components, complies with EINECS

**Classification** Xi - Irritant.

**Risk Phrases**  
R10 Flammable.  
R37 Irritating to respiratory system.  
R41 Risk of serious damage to eyes.

**Safety Phrases**

S24 Avoid contact with skin.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S39 Wear eye and face protection.

**16. OTHER INFORMATION**

The following sections have been revised since the last issue of this MSDS

Not applicable

**Contact****Australian Poisons Information Centre**

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

**New Zealand National Poisons Centre**

0800 764 766

**Additional Information**

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

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

**Disclaimer Statement**

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