



## Material Safety Data Sheet

Issue: 10  
Date: 17/05/2015

### 1. IDENTIFICATION

Name of substance : **Koplus<sup>®</sup> LO**

Use: Oilfield product for use in drilling and stimulation operations.

Manufacturer/Supplier: **Well-Flow International**  
P.O. Box 11651  
Manama, Kingdom of Bahrain  
Tel: +973 17537833, Fax: +973 17537844

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

The product is a preparation, containing the following ingredients classified as dangerous under EU regulations and/or for which there are Community workplace exposure limits.

INGREDIENT	EINECS/ELINCS No	% By Weight	EC Symbols and Risk Phrases
Tetrasodium Pyrophosphate	231-767-1	1-5%	Not Classified
2-Butoxyethanol	203-905-0	10-24%	Xn R20/21/22 Xi R36/38

### 3. HAZARDS IDENTIFICATION

Irritating to eyes and skin: avoid contact. If mist is formed inhalation can cause irritation of mucous membranes in airways, coughing and shortness of breath. 2-butoxyethanol ingredient is readily absorbed through the skin.

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

Inhalation:	Remove to fresh air.
Ingestion: give large	If the chemical has been confined to the mouth  quantities of water as a mouth wash, ensuring this is not swallowed. If the chemical has been swallowed and the patient is conscious, give about 250 ml of water to dilute it. Obtain medical attention.
Skin contact: thoroughly with	Remove any contaminated clothing. Wash skin  plenty of soap and with water. Obtain medical assistance if irritation persists.
Eye contact: under the	Irrigate thoroughly with plenty of clean water, including  eyelids. Obtain medical assistance if irritation persists.

#### **5. FIRE FIGHTING MEASURES**

The product is combustible.

Suitable extinguishing media :	Foam, CO <sub>2</sub> , Dry powder.
NOT TO BE USED :	Water Jet.
Special hazards :	None
Protective equipment :	Protection as appropriate to fire conditions.

#### **6. ACCIDENTAL RELEASE MEASURES**

Personal precautions :	Prevent eye contact - see
Environmental precautions :	section 8. Contain or absorb in sand.
Clean-up and disposal:	Contain or absorb in sand - see section 13.

## 7. HANDLING AND STORAGE

Store in sealed containers (plastic lined) away from direct sunlight, ignition sources and electrostatic discharges. Avoid high temperatures; no special requirements for segregation from other products apply.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits: 8-hour Workplace Exposure Limit for tetrasodium pyrophosphate  
5mg/cu.m (EH40).

CLOTHING/EQUIPMENT	REQUIRED?	DETAILS
Protective clothing	Yes	Suitable for liquid splash protection (e.g. to EN 348)
Respiratory protection	Normally no	Avoid mist generation
Hand protection	Yes	impermeable gloves, PVC or similar (e.g. to EN 374-3).
Eye protection	yes	Goggles, face shield or safety glasses with side shields (to EN 166).

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	<b>Multi-Phase</b> Clear Liquid
Odour	:	Slight.
pH	:	1.4 – 2.3 (aqueous phase)
Boiling point	:	>100 C
Melting point	:	<0 C
Flash point	:	>66 C (2-butoxyethanol)
Decomposition temp.	:	N/A
Auto ignition temp.	:	N/A
Solubility (water)	:	Freely Soluble
Density	:	1.128
Vapour pressure (25°C)	:	23.8 mm Hg (water), 0.76 mm Hg (2-butoxyethanol)

## 10. STABILITY AND REACTIVITY

Stability	:	Stable
Avoid contact with	:	Strong oxidising agents.
Decomposition products	:	None known to be hazardous.

## 11. TOXICOLOGICAL INFORMATION

The formulated product has not been tested. Toxicological properties are predictable from known properties of the product ingredients.

Acute oral toxicity:	low (rat acute oral LD50 >2000 mg/kg reported for all ingredients)
Repeat-dose toxicity:	2-butoxyethanol can cause haematotoxicity (NOAEL in rat 24.6 ppm (by inhalation: comparable to 22.5 mg/kg/day). Humans appear less sensitive to this effect than rats)
Dermal toxicity:	low for other ingredients, but 2-butoxyethanol is readily absorbed through the skin
Irritation/corrosion on the skin:	2-butoxyethanol irritates skin. Other ingredients not considered irritating
In the eye:	2-butoxyethanol irritates eyes and organic acid content may cause slight irritation. Other ingredients not considered irritating
Skin sensitisation:	data incomplete, but sensitization is not expected
Mutagenicity:	no ingredient is known to be mutagenic
Other available toxicity data:	no ingredient has been reported to be carcinogenic

## 12. ECOLOGICAL INFORMATION

Given the high solubility in water, mobility in the aqueous environment is expected to be high. All organic ingredients of the product are readily biodegradable. Significant bioaccumulation is not expected.

The formulated product has not been tested but low ecotoxicity is predicted from known properties of the product ingredients. OCNS Category E.

Acute toxicity to fish:	low (>100 mg/l for all ingredients)
Acute toxicity to invertebrates (Daphnia):	low (>100 mg/l for all ingredients, except for organic acid (at high concentration causes pH-related effects)
Acute toxicity to algae:	low (>100 mg/l for all ingredients)
Other available toxicity data:	2-butoxyethanol shows very low toxicity to marine organisms (LC/EC50 values 437 mg/l and greater for fish, invertebrates, algae).

## 13. DISPOSAL CONSIDERATIONS

Pure material	:	May be incinerated. Consult licensed waste disposal contractor.
Contaminated sand, etc.	:	May be land-filled subject to proper authorisation.
Packaging	:	May be recycled. Consult licensed drum recycler.

Disposers must comply with all relevant statutory requirements.

#### 14. TRANSPORT INFORMATION

Not classified as dangerous for carriage by road/air.

UN Number (SIN): N/A

Classification, Packing group: N/A

#### 15. REGULATORY INFORMATION



Dangers and symbols: Xi (irritant)

Risk phrases: R36/38 Irritating to eyes and skin

Safety phrases: S23 – Do not breathe spray

S24/25 – Avoid contact with skin and eyes

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

Labelling requirements: as indicated above.

The information contained in this safety data sheet does not constitute the user's own assessment of workplace risk as required by health and safety legislation. The user is reminded of the requirement to comply with the provisions of the Health and Safety at Work Act and the Control of Substances Hazardous to Health Regulations.

#### 16. OTHER INFORMATION

Training: users should ensure that personnel are trained in the correct use of this product.

Recommended uses: this product is supplied for the purposes notified to the customer on the data sheet. Its suitability or safety for use in any other circumstances cannot be warranted.

Technical advice: the user should contact the supplier if further advice is required.

Sources of data: this data sheet is compiled from laboratory analysis of the material and from published sources considered reliable.

#### **THIS SAFETY DATA SHEET IS VERSION 10**

**ISSUE DATE 17/05/2015**

The Supplier identified in Section 2 provides this Safety Data Sheet as required by Directives 91/155/EEC, 93/112/EC and 2001/58/EC, but gives no warranty as to accuracy or completeness. As conditions of use of this product will vary and are outside the control of the Supplier, the obligation to ensure safety in use rests with the user.