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

Identification of the substance or mixture

Product Name: Forum API Modified
Product Code: 89965
Product Use: Thread compound, lubricant
Supplier: Forum Energy Technologies
10344 Sam Houston Park Drive, Suite 300
Houston, TX 77064
Tel: 713-351-7900
www.f-e-t.com

Emergency telephone number: +1 813 248 0585, 24 hours

E-mail address for questions regarding this SDS: sharons@socousa.com

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification (1272/2008/EC)
Acute oral toxicity Category 4
Acute inhalation toxicity – dust-mist Category 4
Reproductive toxicity Category 1A
Specific target organ systemic toxicity (repeated exposure) Category 1
Acute aquatic toxicity Category 1
Chronic aquatic toxicity Category 1

GHS label elements

Signal Word:
Danger

Hazard statements:
H302 – Harmful if swallowed
H332 – Harmful if inhaled
H360Df – May damage the unborn child. Suspected of damaging fertility.
H372 – Causes damage to organs through prolonged or repeated exposure
H410 – Very toxic to aquatic life with long lasting effects

Precautionary statements:
P201 – Obtain special instructions before use
P264 – Wash hands thoroughly after handling
P270 – Do not eat, drink or smoke when using this product
P271 – Avoid release to the environment
P273 – Use only outdoors in a well-ventilated area
P281 – Avoid release to the environment
P308+P313 – If exposed or concerned: Get medical attention
P405 – Store locked up

Classification (EU Directives 1999/45/EC or 67/548/EEC)
Repr. Cat. 1; R61 – Repr. Cat. 3; R62 – Xn; R20/22 - R33 – N; R50/53

Other hazards: High pressure injection under skin is a medical emergency.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>EC no.</th>
<th>CAS no.</th>
<th>Weight %</th>
<th>Classification (67/548/EEC)</th>
<th>Classification (1272/2008/EC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>231-100-4</td>
<td>7439-92-1</td>
<td>25-35</td>
<td>Xn; R20/22 – R33 N; R50/53 Repr. Cat. 1; R61 Repr. Cat. 1; R62</td>
<td>Acute Tox. 4 H302 Repr. 1A H360Df STOT RE 1 H372 Aquatic Acute 1 H400 Aquatic Chronic 1 H410</td>
</tr>
<tr>
<td>Zinc</td>
<td>231-175-3</td>
<td>7440-66-6</td>
<td>10-15</td>
<td>N; R50/53</td>
<td>Aquatic Acute 1 H400 Aquatic Chronic 1 H410</td>
</tr>
<tr>
<td>Copper</td>
<td>231-159-6</td>
<td>7440-50-8</td>
<td>1-5</td>
<td>N; R50</td>
<td>Aquatic Acute 1 H400</td>
</tr>
</tbody>
</table>

Full text of R and H statements used in this section are in Section 16.

4. FIRST AID MEASURES

General: If exposed or concerned, get medical attention or advice.

Inhalation: Move exposed person to fresh air. Get medical attention if symptoms occur. No symptoms expected.

Ingestion: Wash out mouth with water. Do not induce vomiting unless instructed to by medical personnel. Get medical attention if nausea or stomach pains occur.
Skin contact: Remove contaminated clothing and shoes. Wash skin with soap and water. Get medical attention if irritation symptoms occur. High pressure injection under skin is a medical emergency.

Eye contact: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 5 minutes, keeping eyelids open. Get medical attention if redness or irritation persists.

5. FIRE-FIGHTING MEASURES
Suitable media: Use dry chemical, CO₂, water spray (fog) or foam.
Not suitable: Do not use water jet.
Combustion products: Carbon monoxide, carbon dioxide, products of incomplete hydrocarbon combustion, lead oxides, zinc oxides.
Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES
Personal precautions: Wear appropriate personal protection equipment (see section 8).
Environmental precautions: Recover free product. Use suitable oil adsorbent and dispose of material in accordance with all regulations. Keep product out of sewers and watercourses, prevent soil penetration. Advise authorities if large amounts of product enters waterways or extensive land areas.

7. HANDLING AND STORAGE
Handling: Wear appropriate personal protection equipment (see section 8). Do not eat, drink or smoke when using. Wash thoroughly after handling. Follow good hygiene and housekeeping practices.
Storage: Store in cool dry area in original or equivalent container in accordance with all regulations. Do not expose to extreme heat or flame. Store below 65°C, away from strong oxidizers and acids.

8. EXPOSURE CONTROLS/PERSOANAL PROTECTION
Control parameters:

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS no.</th>
<th>Control parameter</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>TWA: 0.05 mg/m³</td>
<td>ACGIH TLV</td>
</tr>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>TWA: 1 mg/m³</td>
<td>ACGIH TLV</td>
</tr>
</tbody>
</table>

Engineering controls: Use with adequate ventilation.
Eye/face protection: Safety glasses. Ensure eye bath is to hand.
Hand protection: Protective gloves if prolonged or repeated contact is unavoidable.
Skin protection: No additional protection required beyond normal industrial attire is required.
Respiratory protection:  No special measures required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odor:  Brown/copper semi-solid, mild odor
pH:  Not applicable, insoluble in water
Flash point:  >200°C (Cleveland open cup)
Evaporation rate:  No data
Upper flammability limit:  Not applicable
Lower flammability limit:  Not applicable
Vapor pressure:  No data
Vapor density:  No data
Relative density:  2.0
Solubility:  Insoluble in water, soluble in alcohols and petroleum distillates
Viscosity:  Cone penetration 300-330

10. STABILITY AND REACTIVITY

Chemical stability:  Stable
Conditions to avoid:  Extreme heat
Incompatible materials:  Strong oxidizers
Hazardous decomposition products:  Harmful or flammable vapors, lead oxides, zinc oxides

11. TOXICOLOGICAL INFORMATION

Potential acute health effects
Acute toxicity:
  Ingestion:  Harmful if swallowed
  Skin contact:  No known effect
  Inhalation:  Harmful if inhaled, but not considered significant route of entry
Irritation:  May cause mild redness and discomfort on contact with eyes
Corrosivity:  Not corrosive

Potential chronic health effects
Sensitization:  Not a sensitizer
Repeated dose toxicity:  Repeated exposure may cause drying of skin from loss of skin oils
Carcinogenicity:  No ingredients listed as carcinogens
Mutagenicity:  Not mutagenic
Reproductive toxicity:  May damage the unborn child. Suspected of damaging fertility.
STOT repeated exposure:  May causes damage to organs (central nervous system, reproductive system) through prolonged or repeated exposure

12. ECOLOGICAL INFORMATION

Ecotoxicity:  Very toxic to aquatic life with long lasting effects
### 89965: Forum API Modified
#### Safety Data Sheet

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to daphnia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td></td>
<td>Ciprinus carpio, 96h, LC50: 0.44 mg/L</td>
<td>Daphnia magna, 48h, EC50: 600 µg/L</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oncorhynchus mykiss, 96h, LC50: 1.17 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oncorhynchus mykiss, 96h, LC50: 1.32 mg/L</td>
<td></td>
</tr>
<tr>
<td>Zinc</td>
<td>Pseudokircheriella subcapitata, 96h, EC50: 0.11-0.271 mg/L</td>
<td>Pimephales promelas 96h, LC50: 2.16-3.05 mg/L</td>
<td>Daphnia magna, 48h, EC50: 0.139-0.908 mg/L</td>
</tr>
<tr>
<td></td>
<td>Pseudokircheriella subcapitata, 72h, EC50: 0.09-0.125 mg/L</td>
<td>Pimephales promelas, 96h, LC50: 0.211-0.269 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pimephales promelas, 96h, LC50: 2.66 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cyprinus carpio, 96h, LC50: 30 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cyprinus carpio, 96h, LC50: 0.45 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cyprinus carpio, 96h, LC50: 7.8 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Onchorhynchus mykiss, 96h, LC50: 0.59 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Onchorhynchus mykiss, 96h, LC50: 0.59 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Onchorhynchus mykiss, 96h, LC50: 0.41 mg/L</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td></td>
<td>Pimephales promelas, 96h, LC50: 0.0094 mg/L</td>
<td>Daphnia magna, 48H EC50: 0.0318 mg/L</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pimephales promelas, 96h, LC50: 0.0103 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pimephales promelas, 96h, LC50: 0.0278 mg/L</td>
<td></td>
</tr>
</tbody>
</table>

**Persistence/degradability:** No information available  
**Mobility:** No information available  
**Other adverse effects:** No information available  

### 13. DISPOSAL CONSIDERATIONS

**Waste disposal:** Generation of waste should be avoided or minimized where possible. Empty containers may contain residue. Dispose of as hazardous waste via licensed waste disposal operator. Follow all applicable regulations.

### 14. TRANSPORT INFORMATION

**Transport information according to US DOT**  
**UN number:** UN3077  
**Proper shipping name:** RQ, Environmentally hazardous substance, solid, n.o.s. (lead)  
**Hazard class:** Class 9  
**Packing group** PGIII  
**Transport information according to ADR, RID, ADN, IMDG, ICAO, IATA**  
**UN number:** UN3077
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (lead)
Hazard class: Class 9
Packing group: PGIII
Additional information: Marine pollutant

15. REGULATORY INFORMATION
Safety, health and environmental regulations specific to product: None known US Regulations
SARA 302 Components: Chemicals in this material that are subject to the reporting requirements of SARA Title II, Section 302: Lead, CAS-No. 7439-92-1
SARA 313 Components: Lead, CAS-No. 7439-92-1
SARA 311/312 Hazards: Acute health hazard, chronic health hazard

State Regulations
California Prop 65: WARNING! This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm (lead and lead compounds).
United States inventory (TSCA): All ingredients listed or exempt.
Massachusetts Right to Know: Lead, CAS-No. 7439-92-1; zinc, CAS-No. 7440-66-6; copper, CAS-no. 7440-50-8
Pennsylvania Right to Know: Lead, CAS-No. 7439-92-1; zinc, CAS-No. 7440-66-6; copper, CAS-no. 7440-50-8
New Jersey Right to Know: Lead, CAS-No. 7439-92-1; zinc, CAS-No. 7440-66-6; copper, CAS-no. 7440-50-8

International regulations
Canada: WHMIS Classification: D2A. WHMIS: This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR. Canada Domestic Substances List: All ingredients listed or exempt.
Europe inventory (EINECS): All ingredients listed or exempt.
Australia inventory (AICS): All ingredients listed or exempt.
China inventory (IECSC): All ingredients listed or exempt.
Philippines inventory (PICCS): All ingredients listed or exempt.

16. OTHER INFORMATION
Hazardous Material Information System (USA):

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTH</td>
<td>2*</td>
</tr>
<tr>
<td>FIRE</td>
<td>1</td>
</tr>
<tr>
<td>REACTIVITY</td>
<td>0</td>
</tr>
<tr>
<td>PERSONAL PROTECTION</td>
<td>B</td>
</tr>
</tbody>
</table>

END OF SAFETY DATA SHEET