1 PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Use

This high purity product is used primarily for the production of biodegradable synthetic detergents.

1.2 Manufacturer’s Name and Address

SEEF Limited
P.O. Box: 50077. Emergency contact:
Mesaieed, State of Qatar. Control room: +974 44776495
Tel: +974 44223565 Shift supervisor: +974 44773728

2 COMPOSITION / INFORMATION ON INGREDIENTS

2.1 Product Information

Material Name Benzene, C 10-13- alkyl derives
CAS No. 67774-74-7
EINECS No. 267-051-0
Synonyms / Trade Name Linear Alkyl Benzene / LAB.

3 HAZARD IDENTIFICATION

3.1 Health Effect

<p>| | |</p>
<table>
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<tr>
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<tbody>
<tr>
<td>Eye</td>
<td>Accidental exposure to the eyes may produce a mild but transient irritation.</td>
</tr>
<tr>
<td>Skin</td>
<td>Prolonged and repeated contact of product with skin can cause irritation.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Under normal conditions, this product shows a very low vapor pressure. The risk of inhalation is therefore very low.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>This Product has a very low level of toxicity.</td>
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3.2 **Environmental Hazard**

LAB is biodegradable product. Sulphonate derivative of LAB are highly biodegradable.

4 **FIRST AID MEASURES**

**Eye**
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.

**Skin**
Wash skin with soap and water upon contact. Remove contaminated clothing. If irritation persists, get medical attention. Wash Clothing before reuse.

**Inhalation**
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Ingestion**
Accidental ingestion may cause drunkenness, lung congestion and damage to liver and kidneys. Treat symptomatically; get medical attention. DO NOT induce vomiting. Get Medical attention. Never give anything by mouth to an unconscious person.

5 **FIRE FIGHTING MEASURES**

5.1 **Fire Data**

- Extinguishing Media: CO$_2$, dry chemical powder, foam.
- Flash point and method: >130 °C (Pensky Martens).
- Explosive limits in air: Not Available.
- Auto ignition Temperature: Not available.
- Combustible Products: Carbon monoxide (CO), carbon dioxide (CO$_2$)

5.2 **Small Fires**

Use a dry chemical powder, CO$_2$ or AFFF foam.

5.3 **Large Fires**

Use water spray, Fog or AFFF foam. Do not use straight streams. Move containers from fire area if you can do it without risk. Thermal decomposition may include toxic oxides of carbon. Use self-contained breathing apparatus.
5.4 Fire involving Tanks or Trailer Loads

Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Self-contained breathing apparatus should be worn during fires in confined spaces.

6 ACCIDENTAL RELEASE MEASURES

6.1 Safety Precautions

Eliminate all ignition sources (no smoking, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basement or confined areas. A vapour suppressing foam may be used to reduce vaporous. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material.

6.2 Major Spill

Dyke far ahead of liquid spill for later disposal. Water spray may reduce vapour; but may not prevent ignition in closed spaces.

6.3 Empty Containers

Empty containers retain product residue (liquid and/or vapor) and can be dangerous. do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death. Empty drums should be completely drained, properly bunged and promptly returned to a drum re-conditioner.

7 HANDLING & STORAGE

7.1 Handling

Handle in accordance with good hygiene and safety procedures. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Since empty containers contain product residue, follow all hazard warnings and precautions even after container is emptied. Keep away from sources of ignition. During all handling operations, both transferring and receiving vessels must be properly grounded.
7.2 Storage

Store in the closed containers in a cool, dry, well ventilated areas. This product is non-corrosive; it does not therefore call for special storage materials. Usual materials of construction are suitable for storage. Keep away from sparks, flame and other ignition sources. Store away from all combustible, organic and oxidizable materials.

7.3 Others

- Usual shipping containers: Tank cars, Tank trucks, Drums.
- Type of material: Carbon steel, baked epoxy or phenolic resin coatings, Aluminum.
- Storage / transport pressure: Atmospheric.
- Storage / transport temperature: Ambient.
- Loading / unloading temperature: Ambient.

8 EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Exposure Control

- Engineering Controls: Local exhaust is recommended (preferred mechanical) for use of material at elevated temperatures or in enclosed areas.
- Good industrial hygiene should be followed.
- Avoid breathing (heated) vapors. Avoid eye and skin contact.

8.2 Personal Protective Equipment

- Eye: Goggles or face shield with goggles, dependent upon potential exposure.
- Skin: Rubber gloves (or Neoprene); Dependant upon degree of potential exposure, additional personal protective equipment may be required, such as chemical boots and full protective clothing.
- Inhalation: Use an appropriate NIOSH/MSHA approved respirator for exposure to contaminated atmosphere. A NIOSH/MSHA approved self-contained breathing apparatus or air-supplied respirator is recommended if the concentration exceeds the capacity of cartridge respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.
- Other Controls: Boots, Eye wash fountain, Safety Shower, Apron, Protective clothing.
9 PHYSICAL AND CHEMICAL PROPERTIES

- Physical State: Liquid
- Appearance: Colorless
- Odor: Odorless
- pH: Not Applicable.
- Boiling Range: 278 - 314˚C
- Flash Point: >130˚C
- Flammability: Not Available
- Explosive properties: None
- Oxidizing properties: Not Available
- Vapor Pressure mm Hg @ 20˚C: < 0.1
- Freezing Point -40˚C
- Water Solubility: Negligible
- Viscosity: 5 – 10 cps @ 20˚C
- Vapor Density: 8.4
- Specific Gravity: 0.86

10 STABILITY AND REACTIVITY

- Stability: Stable.
- Materials to Avoid: Incompatible with strong oxidizers.
- Hazardous Polymerization: No dangerous polymerization.

11 TOXICOLOGICAL INFORMATION

- Acute Toxicity
- Dermal: Ld50: > 2000 Mg/Kg (Rats).
- Inhalation: Lc50: > 1.82mg/L (Rats).
- Skin: Negligible To Slight Irritation (Rabbits).
- Eye: Negligible Irritant Properties (Rabbits).
- Sensitization: Not a Skin Sensitizer.
- Mutagenicity: Not Mutagenic
- Carcinogenicity: Not Carcinogenic
- Teratogenicity: Not Teratogenic
- Toxicity to reproduction: Not Reprotoxic
12  ECOLOGICAL INFORMATION

12.1 General

Sulphonate derivative of LAB are highly biodegradable (97% or greater). It is acutely toxic to Daphnia, however, shows no adverse effects in fish and Algae. LAB has low solubility in water (0.041 mg/l).

12.2 Ecotoxicity

Daphnia magna: 48h LC50 = 0.009 – 0.08 mg/l

12.3 Persistence and Degradability

- Aerobic biodegradation: LAB biodegrades readily
- Anaerobic biodegradation: Biodegradation of >70%.

13  DISPOSAL CONSIDERATIONS

Wastes can be incinerated under controlled conditions according to official regulations

14  TRANSPORTATION INFORMATION

This product is not a dangerous good or hazardous for ground and water transportation.
15 OTHER INFORMATION

Sulfonate derivatives of LAB are highly biodegradable (97% or greater), according to O.E.C.D.'s official method described on E.E.C. Directive, 82/243.

HAZARD RATING

<table>
<thead>
<tr>
<th>HAZARD</th>
<th>NFPA</th>
<th>HMIS</th>
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<tbody>
<tr>
<td>Health</td>
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<td>1</td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Reactivity</td>
<td>0</td>
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