SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Chemical Name: Toluenesulfonic acid
Trade name: NAXCAT® 326L
CAS No.: 88-20-0 & 104-15-4

Relevant identified uses of the substance or mixture and uses advised against

Identified use(s): Catalyst
Uses advised against: None

Details of the supplier of the safety data sheet

Company Identification: Nease Co. LLC
10740 Paddys Run Road
Harrison, OH 45030

Telephone: (513) 738-1255
Telephone (Product Information): (888) 762-7373
Fax: (513) 587-2828
E-Mail (competent person): techservice@neaseco.com

Emergency telephone number

Emergency Phone No.: (513) 738-1255
CHEMTREC 24 hr. (800) 424-9300

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture


Label elements

Hazard Symbol: DANGER

Signal word(s)

Hazard statement(s): Causes severe skin burns and eye damage. May be corrosive to metals.

Precautionary statement(s)

Do not breathe dust/fume/gas/mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower. If irritation (redness, rash, blistering) develops, get medical attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Other hazards

Not classified as PBT or vPvB.

Additional Information

Contains residual toluene. Studies in animals have shown that repeated exposures produce adverse reproductive effects. However, given the corrosive / irritating nature of this product and the relatively low
concentration of toluene present, this product is not considered to pose a reproductive risk to humans.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous ingredient(s)</th>
<th>%W/W</th>
<th>CAS No.</th>
<th>Hazard statement(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>o,p - Toluenesulfonic acid</td>
<td>63-70</td>
<td>88-20-0</td>
<td>May be corrosive to metals.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>104-15-4</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>&lt;2%</td>
<td>7664-93-9</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>Water</td>
<td>27-30</td>
<td>7732-18-5</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Additional Information - Substances in the product which may present a health or environmental hazard, or which have been assigned occupational exposure limits, are detailed below.
- Toluene (CAS No. 108-88-3) <1%

SECTION 4: FIRST AID MEASURES

Description of first aid measures

Inhalation
Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is laboured, administer oxygen. If symptoms occur obtain medical attention.

Skin Contact
Wash affected skin with plenty of water. Remove contaminated clothing immediately. If irritation (redness, rash, blistering) develops, get medical attention.

Eye Contact
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

Ingestion
If ingested, rinse mouth. Do not induce vomiting. Seek medical treatment.

Most important symptoms and effects, both acute and delayed
None

Indication of any immediate medical attention and special treatment needed
None

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media
- Suitable Extinguishing Media
  Extinguish with waterspray, dry chemical, sand or carbon dioxide.
- Unsuitable Extinguishing Media
  None anticipated.

Special hazards arising from the substance or mixture
Combustion or thermal decomposition will evolve toxic vapours.

Advice for fire-fighters
Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Put on protective equipment before entering danger area.

Environmental precautions
Do not allow to enter drains, sewers or watercourses.
Methods and material for containment and cleaning up

Contain spillages with sand, earth or any suitable adsorbent material. Transfer to a container for disposal or recovery. Cautiously neutralize remainder. Then wash away with plenty of water. If possible prevent water running into sewers.

Reference to other sections
None

Additional Information
None

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling
Do not get in eyes, on skin, or on clothing.

Conditions for safe storage, including any incompatibilities

- Storage Temperature
  Store at room temperature.

- Incompatible materials
  Attacks many materials and clothing. Keep away from oxidising agents.
  Keep container tightly closed and dry.

Specific end use(s)
Polymers and coatings catalyst

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>CAS No.</th>
<th>LTEL (8 hr TWA ppm)</th>
<th>STEL (ppm)</th>
<th>Note:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>1 mg/m³</td>
<td>----</td>
<td>(T) Thoracic fraction</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>200</td>
<td>20</td>
<td>300 ceiling</td>
</tr>
</tbody>
</table>

Recommended monitoring method
NIOSH 5043; NIOSH 7903; NIOSH 1500

Exposure controls

Appropriate engineering controls
Provide adequate ventilation to ensure that the occupational exposure limit is not exceeded.

Personal protection equipment

Eye/face protection
The following to be used as necessary: Goggles giving complete protection to eyes. Full face shield.

Skin protection (Hand protection/ Other)
The following to be used as necessary: Gloves (Neoprene or Natural rubber). Chemical protection suit. Wear safety or chemical resistant shoes or boots. Check with protective equipment manufacturer's data.

Respiratory protection
No personal respiratory protective equipment normally required.

Thermal hazards
Use gloves with insulation for thermal protection, when needed.

Environmental Exposure Controls
Do not allow to enter drains, sewers or watercourses.
SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Amber to Brown.</td>
</tr>
<tr>
<td>Odour</td>
<td>Slight hydrocarbons Odour.</td>
</tr>
<tr>
<td>Odour Threshold (ppm)</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH (Value)</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Melting Point / Freezing Point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling point/bubbling range</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt;93 (&gt;200 °F) [Open cup]</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>&lt;1 (butyl acetate=1)</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Explosive limit ranges</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapour Pressure (Pascal)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapour Density (Air=1)</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Density (g/ml)</td>
<td>1.2</td>
</tr>
<tr>
<td>Solubility (Water)</td>
<td>Soluble</td>
</tr>
<tr>
<td>Solubility (Other)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Partition Coefficient (n-Octanol/water)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto Ignition Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Kinematic Viscosity (cSt) @ 40°C</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not oxidising.</td>
</tr>
<tr>
<td>Other information</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

SECTION 10: STABILITY AND REACTIVITY

Reactivity
Stable under normal conditions.

Chemical stability
Stable.

Possibility of hazardous reactions
None anticipated.

Conditions to avoid
Incompatible materials.

Incompatible materials
Reacts with strong alkalis. Avoid contact with bleach or other hypochlorites. May cause exothermic polymerization of furan resins. Generates heat of solution when dissolved in water and alcohols.

Hazardous Decomposition Product(s)
Carbon monoxide, Carbon dioxide, Sulphur oxides, Acrid smoke

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes: Inhalation, Skin Contact, Eye Contact

Substances in preparations / mixtures
Toluene-4-sulfonic acid (CAS No. 104-15-4)

Acute toxicity (By analogy with similar materials)
Oral: LD50 > 1104 mg/kg-bw (rat)
Dermal: LD50 >2 g/kg-bw (rabbit)
Inhalation: LC50 > 100 mg= saturated (Vapor), 8 hour (rat)

Irritation/Corrosivity
Corrosive (Skin and Eyes)

Sensitization
It is not a skin sensitizer.

Repeated dose toxicity
NOAEL: > 500 mg/kg bw/day (28 days/week, oral, rat)

Carcinogenicity
NOAEL (rat): > 240 mg/kg (Fischer 344)
**Mutagenicity**
There is no evidence of mutagenic potential.

**Toxicity for reproduction**
No effects to the reproductive system.

**Sulfuric acid** (CAS No. 7664-93-9)

**Acute toxicity**
- Oral: LD50 = 2140 mg/kg-bw (rat)
- Dermal: No data
- Inhalation: LC50 = 0.37-0.42 mg/l (rat)

**Irritation/Corrosivity**
Corrosive (Skin and Eyes)

**Sensitization**
Skin sensitisation has been reported in humans.

**Repeated dose toxicity**
No data.

**Carcinogenicity**
NOAEL (rat): > 240 mg/kg (Fischer 344)

### Mutagenicity
There is no evidence of mutagenic potential.

### Toxicity for reproduction
NOAEL: 20 mg/m³ (rabbit) (New Zealand White)
NOEL: 20 mg/m³ (rabbit) (New Zealand White)

### SECTION 12: ECOLOGICAL INFORMATION

**Toluene-4-sulfonic acid** (CAS No. 104-15-4)

**Short term**
- LC50 (96 hour): >500 mg/L (*Leuciscus idus melanotus*)
- EC50 (48 hour): >103 mg/l (*Daphnia magna*, mobility) - (By analogy with similar materials)
- EC50 (72 hour): 70 mg/l (*Pseudokirchnerella subcapitata*) - (By analogy with similar materials)

**Long Term**
Scientifically unjustified

**Persistence and degradability**
Readily biodegradable.

**Bioaccumulative potential**
The product has low potential for bioaccumulation.

**Mobility in soil**
The substance has high mobility in soil.

**Results of PBT and vPvB assessment**
Not classified as PBT or vPvB.

**Sulfuric acid** (CAS No. 7664-93-9)

**Short term**
- LC50 (96 hour): 42.0 mg/l (96 hour) (*Gambusia affinis*)
- EC50 (24 hour): 29.0 mg/l (*Daphnia magna*)
- EC50 (48 hour): 29 mg/l (*Pandalus montagui*)

**Long Term**
Scientifically unjustified

**Persistence and degradability**
Not readily biodegradable.

**Bioaccumulative potential**
The substance has no potential for bioaccumulation.

**Mobility in soil**
The substance has high mobility in soil.

**Results of PBT and vPvB assessment**
Not classified as PBT or vPvB.

**Other adverse effects**
None known.

### SECTION 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**
Disposal should be in accordance with local, state or national legislation. Consult an accredited waste disposal contractor or the local authority for advice.

**Additional Information**
None known.
**SECTION 14: TRANSPORT INFORMATION**

<table>
<thead>
<tr>
<th>UN number</th>
<th>Proper Shipping Name</th>
<th>Transport hazard class(es)</th>
<th>Packing group</th>
<th>Hazard label(s)</th>
<th>Environmental hazards</th>
<th>Special precautions for user</th>
</tr>
</thead>
<tbody>
<tr>
<td>2586</td>
<td>ARYL SULFONIC ACIDS, LIQUID with not more than 5% free sulfuric acid</td>
<td>8</td>
<td>III</td>
<td>Corrosive</td>
<td>No</td>
<td>None known.</td>
</tr>
<tr>
<td>2586</td>
<td>ARYL SULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid</td>
<td>8</td>
<td>III</td>
<td>Corrosive</td>
<td>No</td>
<td>None known.</td>
</tr>
<tr>
<td>2586</td>
<td>ARYL SULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid</td>
<td>8</td>
<td>III</td>
<td>Corrosive</td>
<td>No</td>
<td>None known.</td>
</tr>
</tbody>
</table>

**TRANSPORT IN BULK**

According to Annex II of MARPOL73/78 and the IBC Code: Not established.

**SECTION 15: REGULATORY INFORMATION**

Safety, health and environmental regulations/legislation specific for the substance or mixture:

- **TSCA (Toxic Substance Control Act)** - Inventory Status: All components listed or polymer exempt.
- **Canada Domestic Substance List (DSL)** - Listed

**Designated Hazardous Substances and Reportable Quantities (40 CFR 302.4):**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Typical %wt.</th>
<th>RQ (Pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>****</td>
<td>****</td>
<td>****</td>
</tr>
</tbody>
</table>

**SARA 311/312 - Hazard Categories:**

- [ ] Fire
- [ ] Sudden Release
- [X] Reactivity
- [X] Immediate (acute)
- [ ] Chronic (delayed)

**SARA 313 - Toxic Chemicals (40 CFR 372):**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Typical %wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

**SARA 302 - Extremely Hazardous Substances (40 CFR 355):**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Typical %wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>&lt;2%</td>
</tr>
</tbody>
</table>

**SECTION 16: OTHER INFORMATION**

The following sections contain revisions or new statements: 1-16.

**Date of preparation:** May 26, 2014

**Additional Information:**

- **HMIS (Hazardous Material Information System)**
- **NFPA (National Fire Protection Association)**

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