SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier
- Chemical Name: Cumenesulfonic acid (mixed isomers)
- Trade name: Naxcat® CSA-95
- CAS No.: 37953-05-2

Relevant identified uses of the substance or mixture and uses advised against
- Identified use(s): Catalyst; Chemical Intermediate; Processing Aid; Descaling Agent; Plating Aid; Other
- 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): DANGER

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: None
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>Cumenesulfonic acid</td>
<td>&gt;94%</td>
<td>37953-05-2</td>
<td>May be corrosive to metals. 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>&lt;2%</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.

- Cumene (CAS No. 98-82-8) <2%

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
Causes severe skin burns and eye damage.

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
None anticipated.

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. Wash the spillage area with 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)
Catalyst; Chemical Intermediate; Processing Aid; Descaling Agent; Plating Aid; Other

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>CAS No.</th>
<th>LTEL (PEL (OSHA))</th>
<th>STEL (TLV (ACGIH))</th>
<th>Note:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>1 mg/m³</td>
<td>0.2 mg/m³</td>
<td>111</td>
</tr>
<tr>
<td>Cumene</td>
<td>98-82-8</td>
<td>50 ppm</td>
<td>50 ppm</td>
<td>---</td>
</tr>
</tbody>
</table>

Recommended monitoring method
NIOSH 5043; NIOSH 1501

Exposure controls

Appropriate engineering controls
Local exhaust required.

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</td>
</tr>
<tr>
<td>Odour</td>
<td>Slight hydrocarbon 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 (°C) / Freezing Point (°C)</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling point/boiling range (°C):</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash Point (°C)</td>
<td>&gt;93 (&gt;200 °F) [Open cup]</td>
</tr>
</tbody>
</table>
Evaporation rate <1 (butyl acetate =1)
Flammability (solid, gas) Not applicable.
Explosive limit ranges UEL= 6.5%  LEL= 0.9% (cumene)
Vapour Pressure (Pascal) Low
Vapour Density (Air=1) >1
Density (g/ml) Not available.
Solubility (Water) Soluble (exothermic).
Solubility (Other) Not available.
Partition Coefficient (n-Octanol/water) Not available.
Auto Ignition Temperature (°C) Not available.
Decomposition Temperature (°C) Not available.
Kinematic Viscosity (cSt) @ 40°C Not available.
Explosive properties Not explosive.
Oxidising properties Not oxidising.
Other information Not applicable.

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
Cumenesulfonic acid (CAS No. 37953-05-2) (By analogy with similar materials)

Acute toxicity Oral: LD50 > 1104 mg/kg-bw (rat)
Derma: 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)

<table>
<thead>
<tr>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>NIOSH</th>
</tr>
</thead>
</table>

Mutagenicity There is no evidence of mutagenic potential.
Toxicity for reproduction No evidence of Reproductive toxicity.

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

Acute toxicity Oral: LD50= 2140 mg/kg-bw (rat)
Derma: Not available.
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 Not available.
Carcinogenicity

<table>
<thead>
<tr>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>NIOSH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Group 1</td>
<td>Group 2A</td>
<td>No.</td>
</tr>
</tbody>
</table>

NOAEL (rat): ≥ 240 mg/kg (Fischer 344)

Mutagenicity

There is no evidence of mutagenic potential.

Toxicity for reproduction

<table>
<thead>
<tr>
<th>T/P</th>
<th>NOAEL</th>
<th>NOEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20 mg/m³ (rabbit)</td>
<td>20 mg/m³ (rabbit)</td>
</tr>
</tbody>
</table>

NOEL: 20 mg/m³ (rabbit) (New Zealand White)

SECTION 12: ECOLOGICAL INFORMATION

Cumenesulfonic acid (CAS No. 37953-05-2) (By analogy with similar materials)

Short term

- LC50 (96 hour): >325 mg/L (*Leuciscus idus melanotus*)
- EC50 (48 hour): >103 mg/l (*Daphnia magna*, mobility)
- EC50 (96 hour): 70 mg/l (*Pseudokirchnerella subcapitata*)

Long Term

- Not available.

Persistence and degradability

- According to OECD criteria the product is not readily biodegradable but inherently biodegradable.

Bioaccumulative potential

- The product has low potential for bioaccumulation.

Mobility in soil

- Not available.

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>Land transport (U.S. DOT)</th>
<th>Sea transport (IMDG)</th>
<th>Air transport (ICAO/IATA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>2586</td>
<td>2586</td>
</tr>
<tr>
<td>Proper Shipping Name</td>
<td>ARYLSULFONIC ACIDS, LIQUID with not more than 5% free sulfuric acid</td>
<td>ARYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td>Hazard label(s)</td>
<td>Corrosive</td>
<td>Corrosive</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>None known</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 (NDSL) - 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
- [ ] 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>Cumene</td>
<td>98-82-8</td>
<td>&lt; 2%</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: 3, 15.

Date of preparation: May 7, 2015

Additional Information:

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