SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier
Chemical Name: Sodium toluenesulfonate
Trade name: NAXONATE® 4ST
CAS No.: 12068-03-0

Relevant identified uses of the substance or mixture and uses advised against
Identified use(s): Hydrotrope
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
OSHA HCS (29 CFR 1910.1200) Eye Irrit. 2b

Label elements
Hazard Symbol

Signal word(s)

Hazard statement(s)
Causes eye irritation.

Precautionary statement(s)
Wash hands thoroughly after handling.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

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>Sodium toluenesulfonate</td>
<td>&gt;40%</td>
<td>12068-03-0</td>
<td>Causes eye irritation.</td>
</tr>
<tr>
<td>Sodium sulfate</td>
<td>&lt;2%</td>
<td>7757-82-6</td>
<td>None</td>
</tr>
<tr>
<td>Water</td>
<td>&lt;60%</td>
<td>7732-18-5</td>
<td>None</td>
</tr>
</tbody>
</table>

Additional Information - None

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 breathing has stopped, apply artificial respiration.

Skin Contact
Wash affected skin with plenty of water. Continue to wash the affected area for at least 15 minutes.

Eye Contact
Immediately flush eyes for at least 15 minutes. Hold eye open and rinse slowly and gently with water. Continue rinsing. Seek medical treatment when anyone has symptoms apparently due to contact with eyes.

Ingestion
Drink two glasses of water. Call a physician. If swallowed, and the victim is conscious and alert, induce vomiting immediately, as directed by medical personnel.

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
None anticipated.

Advice for fire-fighters
Firefighters 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.

Conditions for safe storage, including any incompatibilities
- Storage Temperature
  Store at room temperature. Prevent from freezing. This product should be stored at a temperature greater than: 10°C (50°F). The product will precipitated at 0°C (32°F).

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

Specific end use(s)
Hydrotrope

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>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
</tbody>
</table>

Recommended monitoring method
None

Exposure controls

Appropriate engineering controls
Not normally required.

Personal protection equipment

Eye/face protection
Wear protective eye glasses for protection against liquid splashes.

Skin protection (Hand protection/ Other)
The following to be used as necessary: Gloves (Neoprene or Natural rubber).

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>Colourless to yellowish</td>
</tr>
<tr>
<td>Odour</td>
<td>Bland</td>
</tr>
<tr>
<td>Odour Threshold (ppm)</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH (Value)</td>
<td>7-9</td>
</tr>
<tr>
<td>Melting Point (°C) / Freezing Point (°C)</td>
<td>10-15</td>
</tr>
<tr>
<td>Boiling point/boiling range (°C):</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash Point (°C)</td>
<td>&gt;121 (250 °F)</td>
</tr>
</tbody>
</table>
Evaporation rate: <1 (butyl acetate=1).
Flammability (solid, gas): Not applicable.
Explosive limit ranges: Not available.
Vapour Pressure (Pascal): 2266 (17 mm Hg)
Vapour Density (Air=1): <1
Density (g/ml): 1.18 @ 25°C
Solubility (Water): Completely Soluble
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 available.

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 oxidizers.
Hazardous Decomposition Product(s): Carbon monoxide, Carbon dioxide, Sulphur oxides,

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes: Inhalation, Skin Contact, Eye Contact

Substances in preparations / mixtures

sodium toluenesulphonate (CAS# 12068-03-0) - By analogy with similar materials:

Acute toxicity
Oral: LD50 > 7000 mg/kg-bw
Dermal: LD50 > 2000 mg/kg-bw
Inhalation: LC50 > 6.41 mg/l 232 min

Irritation/Corrosivity
Causes eye irritation.

Sensitization
It is not a skin sensitizer.

Repeated dose toxicity
NOAEL: > 763 active ingredient/kg bw/day (in diet for 90 days, in diet, rat)

Carcinogenicity
It is unlikely to present a carcinogenic hazard to man.

<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
None anticipated
SECTION 12: ECOLOGICAL INFORMATION

Toxicity - Substances in preparations / mixtures:

sodium tolenesulphonate (CAS# 12068-03-0) - By analogy with similar materials:

- Short term:
  - LC50 (96 hour): > 1000 mg/L (Oncorhynchus mykiss) (By analogy with similar materials)
  - EC50 (48 hour): 54 mg/l (Daphnia magna, mobility)
  - EC50 (96 hour): > 230 mg/l (Pseudokirchnerella subcapitata) (By analogy with similar materials)

- Long Term:
  - Scientifically unjustified

Persistence and degradability:
- Readily biodegradable

Bioaccumulative potential:
- Not available.

Mobility in soil:
- Not available.

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></td>
<td></td>
</tr>
<tr>
<td>Proper Shipping Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packing group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazard label(s)</td>
<td></td>
<td>Not classified as dangerous for transport</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special precautions for user</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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
- ☐ Reactivity
- ☒ 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>None</td>
<td>----</td>
<td>----</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>None</td>
<td>----</td>
<td>----</td>
</tr>
</tbody>
</table>
SECTION 16: OTHER INFORMATION

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

Date of preparation: June 6, 2014

Additional Information:

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