NAXONAC® 1595

SAFETY DATA SHEET
OSHA HCS (29 CFR 1910.1200)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier
Chemical Name Poly(oxy-1,2-ethanediyl), .alpha.- (nonylphenyl).omega.- hydroxy-, phosphate
Trade name NAXONAC® 1595
CAS No. 51811-79-1 (alt: 68412-53-3)

Relevant identified uses of the substance or mixture and uses advised against
Identified use(s) Surfactant
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)
Skin Corr. 2; Eye Dam. 1; Acute Tox., oral 4; Hazardous to aquatic environment, acute 2; Hazardous to aquatic environment, Long-term 2

Label elements
Hazard Symbol

Signal Word(s)
DANGER

Hazard Statement(s)
Harmful if swallowed.
Causes skin irritation
Causes serious eye damage.

Precautionary Statement(s)
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
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. Get immediate medical 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>Poly(oxy-1,2-ethanediyl) .alpha.- (nonylphenyl) -.omega.-hydroxy, phosphate</td>
<td>90-100%</td>
<td>51811-79-1 (ALT: 68412-53-3)</td>
<td>Causes serious eye damage. Causes skin irritation.</td>
</tr>
<tr>
<td>orthophosphoric acid</td>
<td>&lt;3%</td>
<td>7664-38-2</td>
<td>May be corrosive to metals. Causes severe skin burns and eye damage</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.
- Ethylene Oxide (CAS No. 75-21-8) - May accumulate in the head space of drums.

SECTION 4: FIRST AID MEASURES

Description of first aid measures

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is labored, 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
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

Ingestion

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. Water spray should be used to cool containers.

-Upsuitable 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. Avoid inhalation of vapours.

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
Keep container closed when not in use. Empty containers may contain residues. Do not use metal containers for storage as the phosphoric acid will react with the metal to liberate flammable hydrogen gas. Do not get in eyes. Do not breathe mist/vapours/spray. This product may contain trace levels of Ethylene oxide (CAS No. 75-21-8), which may accumulate in the head space of containers. Establish monitoring systems for exposure assessment to comply with OSHA standard 29 CFR 1910.1047.

Conditions for safe storage, including any incompatibilities
- Storage Temperature
  Store in a cool/low-temperature, well-ventilated (dry) place.
- Incompatible materials
  Attacks many materials and clothing. Keep away from oxidising agents. Keep container tightly closed and dry.

Specific end use(s)
Surfactant

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>SUBSTANCE.</th>
<th>CAS No.</th>
<th>LTEL (6 hr TWA ppm)</th>
<th>STEL (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthophosphoric acid</td>
<td>7664-38-2</td>
<td>1 mg/m³</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td>Ethylene Oxide*</td>
<td>75-21-8</td>
<td>1 ppm</td>
<td>1 ppm</td>
</tr>
</tbody>
</table>

* May accumulate in the headspace of drums. OSHA Action Level = 0.5 ppm as an 8-hour time-weighted average. Refer to OSHA 29 CFR 1910.1047.

Recommended monitoring method
NIOSH 7908 (Non-Volatile Acids); NIOSH 1614 (Ethylene Oxide)

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>Viscous liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Amber</td>
</tr>
<tr>
<td>Odour</td>
<td>Mild</td>
</tr>
<tr>
<td>Odour Threshold (ppm)</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>1.7-2.5</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>&gt;200 (392°F)</td>
</tr>
<tr>
<td>Flash Point (°C)</td>
<td>&gt;93 (250 °F)</td>
</tr>
<tr>
<td>Evaporation rate (butyl acetate=1)</td>
<td>&lt; 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>Not available</td>
</tr>
<tr>
<td>Density (g/ml)</td>
<td>1.1-1.13 @ 25°C</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 (°C)</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition Temperature (°C)</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

Keep away from oxidizing agents and Acids. Corrosive to Copper and Copper alloys

Hazardous Decomposition Product(s)

Carbon monoxide, Carbon dioxide

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes: Inhalation, Skin Contact, Eye Contact

Substances in preparations / mixtures

Poly(oxy-1,2-ethanediyl)-alpha-(nonylphenyl)-omega-hydroxy-phosphate (CAS No. 51811-79-1)

By analogy with similar materials:

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Oral: LD50 &gt; 2500 mg/kg-bw</td>
</tr>
<tr>
<td>Irritation/Corrosivity</td>
<td>Causes severe damage to eyes and skin irritation.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>No information available</td>
</tr>
<tr>
<td>Repeated dose toxicity</td>
<td>No information available</td>
</tr>
</tbody>
</table>
Carcinogenicity

<table>
<thead>
<tr>
<th>No.</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>NIOSH</th>
</tr>
</thead>
</table>

Mutagenicity
No information available

Toxicity for reproduction
No information available

Orthophosphoric acid (CAS No. 7664-38-2)

Acute toxicity
Oral: LD50 = 2600 mg/kg-bw
Inhalation: LC50 (1 hour) = 3846 mg/m³ (rabbit; mice; guinea pigs)

Irritation/Corrosivity
Corrosive (Skin and Eyes)

Sensitization
Not available.

Repeated dose toxicity
NOAEL (42-54 days) <250 mg/kg (rat)

Carcinogenicity
No information available

<table>
<thead>
<tr>
<th>No.</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>NIOSH</th>
</tr>
</thead>
</table>

Mutagenicity
No information available

Toxicity for reproduction
NOAEL Reproductive and developmental toxicity = 500 mg/kg (rat)

This product may contain trace levels of Ethylene oxide (CAS No. 75-21-8), which may accumulate in the head space of containers. Establish monitoring systems for exposure assessment to comply with OSHA standard 29 CFR 1910.1047. Ethylene oxide is a known human carcinogen by NTP and a suspected human carcinogen by ACGIH®.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity
Short term
No data.

Long Term
No data.

Persistence and degradability
No data.

Bioaccumulative potential
No data.

Mobility in soil
No data.

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>Land transport (U.S. DOT)</th>
<th>Sea transport (IMDG)</th>
<th>Air transport (ICAO/IATA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not DOT regulated</td>
<td>3082</td>
<td>Environmentally Hazardous substance, liquid, N.O.S. (phosphate ester), MARINE POLLUTANT</td>
<td>Environmentally Hazardous substance, liquid, N.O.S. (phosphate ester),</td>
</tr>
</tbody>
</table>

Transport hazard class(es)
N/A

Packing group
N/A

Hazard label(s)
Marine pollutant

Environmental hazards
None

None

9

III

YES

Class 9

YES
Special precautions for user: None known.

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>Orthophosphoric acid</td>
<td>7664-38-2</td>
<td>&lt;5%</td>
<td>5000</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: 2, 3, 9, 14
Date of preparation: January 27, 2017

Additional Information:

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