SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Mixture
Product name: Noro Rinse- 1442, 1444
Product code: 00132

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

1.3. Details of the supplier of the safety data sheet

Advantage Chemical, LLC
Temecula, CA, 92590
T 1-855-238-2436

1.4. Emergency telephone number

Emergency number: 1-800-424-9300
ChemTrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification
Skin Corr. 1A H314
Eye Irrit. 2B H320
Aquatic Acute 3 H402

Full text of H-statements: see section 16

2.2. Label elements

GHS-US labelling
Hazard pictograms (GHS-US): GHS05

Signal word (GHS-US): Danger
Hazard statements (GHS-US): H314 - Causes severe skin burns and eye damage
H320 - Causes eye irritation
H402 - Harmful to aquatic life

Precautionary statements (GHS-US): P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P264 - Wash hands, forearms and face thoroughly after handling
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337+P313 - If eye irritation persists: Get medical advice/attention
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents/container to a licensed hazardous waste facility in accordance with state and local agencies

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable
SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>citric acid</td>
<td>(CAS No) 77-92-9</td>
<td>10 - 40</td>
<td>Aquatic Acute 3, H402</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

First-aid measures after skin contact: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

First-aid measures after eye contact: 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.

First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries: Causes severe skin burns and eye damage.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media


Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Reactivity: Thermal decomposition generates: Corrosive vapours.

5.3. Advice for firefighters

Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection.

Emergency procedures: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Avoid contact with skin and eyes.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Comply with applicable regulations.
Storage conditions: Keep only in original container in a cool well ventilated area. Keep container closed when not in use.
Incompatible products: Strong bases. Strong acids.
Incompatible materials: Sources of ignition. Direct sunlight.
Storage temperature: 25 (5 - 42) °C

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Noro Rinse- 1442, 1444</th>
<th>ACGIH</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OSHA</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>citric acid (77-92-9)</th>
<th>ACGIH</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OSHA</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Personal protective equipment: Avoid all unnecessary exposure.

Hand protection: Wear protective gloves.
Eye protection: Chemical goggles or face shield.
Skin and body protection: Wear suitable protective clothing.
Other information: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Blue</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>&lt;= 2</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>&lt;= 0 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>&gt;= 100 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>None</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>&gt;= 1.219 g/ml</td>
</tr>
</tbody>
</table>
| Solubility | Soluble in water. Water: Solubility in water of component(s) of the mixture:
| Log Pow | No data available |
| Log Kow | No data available |
| Auto-ignition temperature | No data available |
### Decomposition temperature
No data available

### Viscosity
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
No data available

### Other information

#### VOC content
<= 10 g/l

## SECTION 10: Stability and reactivity

### Reactivity
Thermal decomposition generates: Corrosive vapours.

### Chemical stability
Not established.

### Possibility of hazardous reactions
Not established.

### Conditions to avoid
Direct sunlight. Extremely high or low temperatures.

### Incompatible materials
Strong acids. Strong bases.

### Hazardous decomposition products

## SECTION 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity
Not classified

**citric acid (77-92-9)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>3000 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Literature study; 11700 mg/kg bodyweight; Rat; Experimental value)</td>
</tr>
<tr>
<td>LD50 dermal rat</td>
<td>&gt; 2000 mg/kg bodyweight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>3000.000 mg/kg bodyweight</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Causes severe skin burns and eye damage. pH: <= 2

Serious eye damage/irritation: Causes eye irritation. pH: <= 2

Respiratory or skin sensitisation: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

Specific target organ toxicity (single exposure): Not classified

Specific target organ toxicity (repeated exposure): Not classified

Aspiration hazard: Not classified

Potential adverse human health effects and symptoms: Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### Toxicity

Ecology - water: Harmful to aquatic life.

**citric acid (77-92-9)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>2600 mg/l (48 h; Leuciscus idus; pH = 7)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>120 mg/l (72 h; Daphnia magna; pH &lt; 7)</td>
</tr>
</tbody>
</table>
### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Noro Rinse- 1442, 1444</th>
<th>Persistence and degradability</th>
<th>Not established.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>citric acid (77-92-9)</strong></td>
<td>Persistence and degradability</td>
<td>Readily biodegradable in water. Biodegradable in the soil.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td></td>
<td>0.420 g O₂/g substance</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td></td>
<td>0.728 g O₂/g substance</td>
</tr>
<tr>
<td>ThOD</td>
<td></td>
<td>0.686 g O₂/g substance</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>(20 day(s))</td>
<td>0.89</td>
</tr>
</tbody>
</table>

### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Noro Rinse- 1442, 1444</th>
<th>Bioaccumulative potential</th>
<th>Not established.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>citric acid (77-92-9)</strong></td>
<td>Log Pow</td>
<td>-1.72 (Experimental value)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td></td>
<td>Bioaccumulation: not applicable.</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

Other information : Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/containers in hazardous or special waste collection point, an approved disposal plant, a licensed hazardous waste disposal contractor or authorized waste collection site in accordance with local, regional and/or international regulation, except for empty clean containers which can be disposed of as non hazardous waste.

Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

**Department of Transportation (DOT)**
In accordance with DOT
Not regulated for transport

**Additional information**

Other information : No supplementary information available.

**ADR**
No additional information available

**Transport by sea**
No additional information available

**Air transport**
No additional information available
Noro Rinse- 1442, 1444
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 15: Regulatory information
15.1. US Federal regulations

<table>
<thead>
<tr>
<th>citric acid (77-92-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
</tbody>
</table>

15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]
No additional information available

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
Not classified

National regulations
No additional information available

15.3. US State regulations
No additional information available

SECTION 16: Other information

Revision date : 10/15/2015
Other information : None.

Full text of H-statements:

<table>
<thead>
<tr>
<th>Aquatic Acute 3</th>
<th>Hazardous to the aquatic environment — Acute Hazard, Category 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2B</td>
<td>Serious eye damage/eye irritation, Category 2B</td>
</tr>
<tr>
<td>Skin Corr. 1A</td>
<td>Skin corrosion/irritation, Category 1A</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H320</td>
<td>Causes eye irritation</td>
</tr>
<tr>
<td>H402</td>
<td>Harmful to aquatic life</td>
</tr>
</tbody>
</table>

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

NFPA specific hazard : None

HMIS III Rating
Health : 2 Moderate Hazard - Temporary or minor injury may occur
Flammability : 0 Minimal Hazard - Materials that will not burn
Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal Protection : B
B - Safety glasses, Gloves

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product