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

1.1. Product identifier
Product form : Mixture
Product name : Iron Removing Sour- 7925, 79215, 79255
Product code : 00172

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. 2A H319
Full text of H-statements: see section 16

2.2. Label elements
GHS-US labelling
Hazard pictograms (GHS-US) :

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H314 - Causes severe skin burns and eye damage
H319 - Causes serious eye irritation
Precautionary statements (GHS-US) : P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P264 - Wash hands, forearms and face thoroughly after handling
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
P310 - Immediately call a doctor or poison control center if ingested or eye contact has occurred
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

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>glycolic acid,aqueous solution,conc=70%</td>
<td>(CAS No) 79-14-1</td>
<td>5 - 20</td>
<td>Not classified</td>
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<tr>
<td>oxalic acid</td>
<td>(CAS No) 144-62-7</td>
<td>1 - 10</td>
<td>Skin Corr. 1A, H314 Aquatic Acute 3, H402</td>
</tr>
<tr>
<td>citric acid</td>
<td>(CAS No) 77-92-9</td>
<td>1 - 10</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). Call a physician immediately.

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. 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. Call a physician immediately.

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. Call a physician immediately.

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

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

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

Symptoms/injuries after skin contact: Burns.

Symptoms/injuries after eye contact: Serious damage to eyes.

Symptoms/injuries after ingestion: Burns.

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

Treat symptomatically.

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. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures: Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.
6.3. Methods and material for containment and cleaning up

Methods for cleaning up:
Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Absorb spillage to prevent material damage.

Other information:
Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed:
May be corrosive to metals.

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

Hygiene measures:
Always wash hands after handling the product. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this 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. Store locked up.

Incompatible products:
Strong bases. Strong acids.

Incompatible materials:
Sources of ignition. Direct sunlight.

Storage temperature:
25 (5 - 42) °C

Packaging materials:
polyethylene. Do not store in corrodable metal.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th></th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA</th>
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</thead>
<tbody>
<tr>
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<td>1 mg/m³</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>ACGIH STEL (mg/m³)</th>
<th>OSHA</th>
</tr>
</thead>
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<tr>
<td>oxalic acid (144-62-7)</td>
<td>2 mg/m³</td>
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</table>

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

<table>
<thead>
<tr>
<th></th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>glycolic acid,aqueous solution,conc=70% (79-14-1)</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

Personal protective equipment:
Avoid all unnecessary exposure.

Hand protection:
Wear protective gloves.

Eye protection:
Chemical goggles or face shield. Safety glasses.

Skin and body protection:
Wear suitable protective clothing.

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental exposure controls:
Avoid release to the environment.

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

- **Physical state**: Liquid
- **Colour**: Colorless
- **Odour**: Characteristic odour
- **Odour threshold**: No data available
- **pH**: \( \leq 2 \)
- **Melting point**: Not applicable
- **Freezing point**: \(< 0 ^\circ C\)
- **Boiling point**: \(\geq 100 ^\circ C\)
- **Flash point**: None
- **Relative evaporation rate (butylacetate=1)**: No data available
- **Flammability (solid, gas)**: No data available
- **Explosive limits**: No data available
- **Explosive properties**: No data available
- **Oxidising properties**: No data available
- **Vapour pressure**: No data available
- **Relative density**: No data available
- **Relative vapour density at 20 ^\circ C**: No data available
- **Density**: \(\geq 1.062 \text{ g/ml}\)
- **Solubility**: Soluble in water.
  - Water: Solubility in water of component(s) of the mixture:
    - oxalic acid: 10 g/100ml
    - citric acid: 59 g/100ml
- **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

9.2. Other information

- **VOC content**: \(\leq 10 \text{ g/l}\)

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates: Corrosive vapours.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases. Metals. May be corrosive to metals.

10.6. Hazardous decomposition products


SECTION 11: Toxicological information

11.1. Information on toxicological effects

- **Acute toxicity**: Not classified
Iron Removing Sour- 7925, 79215, 79255
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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

<table>
<thead>
<tr>
<th>Parameter</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 serious 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.

- **Symptoms/injuries after skin contact**: Burns.
- **Symptoms/injuries after eye contact**: Serious damage to eyes.
- **Symptoms/injuries after ingestion**: Burns.

**SECTION 12: Ecological information**

### 12.1 Toxicity

**Ecology - general**: Before neutralisation, the product may represent a danger to aquatic organisms.

**oxalic acid (144-62-7)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>34.1 mg/l (96 h; Pimephales promelas)</td>
</tr>
<tr>
<td>LC50 other aquatic organisms 1</td>
<td>100 - 1000 mg/l (96 h)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>137 mg/l (48 h; Daphnia magna)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>160 mg/l (48 h; Leuciscus idus)</td>
</tr>
<tr>
<td>TLM fish 1</td>
<td>4000 mg/l (24 h; Lepomis macrochirus)</td>
</tr>
<tr>
<td>Threshold limit other aquatic organisms 1</td>
<td>100 - 1000,96 h</td>
</tr>
<tr>
<td>Threshold limit algae 1</td>
<td>80 mg/l (192 h; Microcystis aeruginosa)</td>
</tr>
<tr>
<td>Threshold limit algae 2</td>
<td>790 mg/l (168 h; Scenedesmus quadricauda)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Parameter</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>
<tr>
<td>LC50 fish 2</td>
<td>1516 mg/l (96 h; Lepomis macrochirus)</td>
</tr>
<tr>
<td>EC50 Daphnia 2</td>
<td>85 mg/l (Daphnia magna)</td>
</tr>
<tr>
<td>Threshold limit algae 1</td>
<td>80 mg/l (192 h; Microcystis aeruginosa; Reproduction)</td>
</tr>
<tr>
<td>Threshold limit algae 2</td>
<td>640 mg/l (168 h; Scenedesmus quadricauda)</td>
</tr>
</tbody>
</table>

**glycolic acid,aqueous solution,conc=70% (79-14-1)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>&gt; 5000 mg/l (96 h; Brachydanio rerio; Solution &gt;=50%)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>141 mg/l (48 h; Daphnia magna; Pure substance)</td>
</tr>
</tbody>
</table>

### 12.2 Persistence and degradability

**Iron Removing Sour- 7925, 79215, 79255**

**Persistence and degradability**: Not established.

**oxalic acid (144-62-7)**

### oxalic acid (144-62-7)
- **Biochemical oxygen demand (BOD)**: 0.14 g O₂/g substance
- **Chemical oxygen demand (COD)**: 0.18 g O₂/g substance
- **ThOD**: 0.18 g O₂/g substance

### citric acid (77-92-9)
- **Persistence and degradability**: Readily biodegradable in water. Biodegradable in the soil.
- **Biochemical oxygen demand (BOD)**: 0.420 g O₂/g substance
- **Chemical oxygen demand (COD)**: 0.728 g O₂/g substance
- **ThOD**: 0.686 g O₂/g substance
- **BOD (% of ThOD)**: (20 day(s)) 0.89

### glycolic acid,aqueous solution,conc=70% (79-14-1)
- **Persistence and degradability**: Readily biodegradable in water. No (test)data on mobility of the components available.
- **Biochemical oxygen demand (BOD)**: 0.175 g O₂/g substance
- **ThOD**: 0.63 g O₂/g substance
- **BOD (% of ThOD)**: 28 % ThOD

### 12.3. Bioaccumulative potential
- **Iron Removing Sour- 7925, 79215, 79255**: Not established.

#### oxalic acid (144-62-7)
- **Log Pow**: -2.22 - -1.74 (Estimated value)
- **Bioaccumulative potential**: Bioaccumulation: not applicable.

#### citric acid (77-92-9)
- **Log Pow**: -1.72 (Experimental value)
- **Bioaccumulative potential**: Bioaccumulation: not applicable.

#### glycolic acid,aqueous solution,conc=70% (79-14-1)
- **Log Pow**: -1.11
- **Bioaccumulative potential**: Bioaccumulation: not applicable.

### 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 treatment methods**: Dispose of contents/container in accordance with licensed collector’s sorting instructions.
- **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
- **Transport document description**: UN1760 Corrosive liquids, n.o.s. (Contains Glycolic, Citric and Oxalic Acids), 8, III 
- **UN-No.(DOT)**: UN1760
Iron Removing Sour- 7925, 79215, 79255
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| Proper Shipping Name (DOT)                  | Corrosive liquids, n.o.s.                              |
| Transport hazard class(es) (DOT)           | 8 - Class 8 - Corrosive material 49 CFR 173.136        |
| Hazard labels (DOT)                        | 8 - Corrosive                                           |
| Packing group (DOT)                        | III - Minor Danger                                      |
| DOT Packaging Non Bulk (49 CFR 173.xxx)    | 203                                                    |
| DOT Packaging Bulk (49 CFR 173.xxx)        | 241                                                    |
| DOT Symbols                                | G - Identifies PSN requiring a technical name           |
| DOT Special Provisions (49 CFR 172.102)   | IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T7 - 4 178.274(d)(2) Normal............. 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / (1 + a (tr - tf)) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP. |
| DOT Packaging Exceptions (49 CFR 173.xxx)  | 154                                                    |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | 5 L                                                   |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | 60 L                                                   |
| DOT Vessel Stowage Location                | A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel. |
| DOT Vessel Stowage Other                   | 40 - Stow “clear of living quarters”                    |

**Additional information**

**Other information**

Consumer Commodity ORM-D for 128oz or less.

**ADR**

No additional information available

**Transport by sea**

No additional information available

**Air transport**

No additional information available

**SECTION 15: Regulatory information**

### 15.1. US Federal regulations

<table>
<thead>
<tr>
<th>oxalic acid (144-62-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
</tbody>
</table>

<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>
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</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
Iron Removing Sour- 7925, 79215, 79255
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

**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**

<table>
<thead>
<tr>
<th>oxalic acid (144-62-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
</tbody>
</table>

**SECTION 16: Other information**

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. 2A</td>
<td>Serious eye damage/eye irritation, Category 2A</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>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H402</td>
<td>Harmful to aquatic life</td>
</tr>
</tbody>
</table>

**NFPA health hazard**

: 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was 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 : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

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 : C
                      C - Safety glasses, Gloves, Synthetic apron

**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.

11/24/2015  EN (English)  8/8