Section 1 – Chemical Product and Company Information

Product Name: RATIONAL Decalcifier                         Preparation Date: 1/28/2011
Article Number: 6006.0110                                   Revision Date: 7/18/2016
Product Use: Cleaner                                        

RATIONAL AG

Address  Iglinger Strasse 62
          86899 Landsberg am Lech
          Germany

Telephone: +49-8191-32 70
Emergency Telephone Number: CANUTEC (613) 996-6666
Emergency Telephone Number: USA – 1-800-535-5053

Section 2 – Hazards Identification

GHS Classification:  Skin Corrosive – Category 1
                    H314 – Causes severe skin burns and eye damage

                    Eye Irritant – Category 2
                    H319 – Causes serious eye irritation

                    Metal Corrosive – Category 1
                    H290 – May be corrosive to metals

GHS Labeling:

Symbols:  

Signal Word: Danger
Precautionary Statements:
P264: Wash after handling
P272: Contaminated work clothing should not be allowed out of the workplace
P280: Wear protective gloves/ protective clothing/ eye protection
P302 + P352: If on skin, wash with soap and water
P333 + P313: If skin irritation occurs, seek medical attention immediately
P305 + P351 + P338: If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P363: Wash contaminated clothing before reuse
P501: Dispose of contents/ container to an approved waste disposal plant

Other Hazards Not Classified: No significant hazards

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfamic Acid</td>
<td>5329-14-6</td>
<td>Confidential</td>
</tr>
<tr>
<td>Phosphoric Acid</td>
<td>7664-38-2</td>
<td>Confidential</td>
</tr>
</tbody>
</table>

Section 4 – First Aid

Inhalation: If inhaled, move to fresh air. If breathing is difficult, administer artificial respiration or oxygen as indicated. Contact a physician immediately.

Ingestion: Give small amounts of water. Do not induce vomiting. If vomiting occurs, keep head below hips to help prevent aspiration. Contact a physician immediately.

Skin: Wash affected area with soap and water. Immediately remove contaminated clothing and shoes. Launder contaminated clothing before reuse. Contact a physician if irritation develops.

Eyes: Flush with large amounts of cold water for at least 15 minutes. Do not let victim rub eyes. If irritation develops, contact a physician immediately.
Section 5 – Fire Fighting Measures

Suitable extinguishing media: Carbon dioxide, Dry chemical, Foam, Water spray

Special hazards: None

Specific protective equipment and precautions for fire fighters: Isolate fire area and deny unnecessary entry. Use water spray, dry chemical, foam or carbon dioxide. Water may be ineffective but should be used to keep fire exposed containers cool. If a spill or leak has not ignited, use water spray to disperse the vapors. Water spray may be used only to keep fire exposed containers cool, protecting personnel attempting to stop leak and disperse vapors.

Unusual Fire and Explosion Hazards: None

Flash Point: None
Method Used: N/A

National Fire Protection Association (NFPA): Health 2 Flammability 0 Reactivity 0 Other N/A

Section 6 – Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Ensure adequate ventilation.

Environmental Precautions: Do not allow spilled material to enter sewers or streams. If material is released, indicate that there is a risk of slipping in the area. If spills are likely to enter any drain, waterway or groundwater, contact the appropriate governmental agency.

Methods and materials for containment: Add dry material to absorb (if large spill, dike to contain). Use recommended protective equipment, pick up bulk of spill and containerize for recovery or disposal. Flush area with water to remove residues. Spill may be carefully neutralized with lime.

Follow applicable Federal, Provincial and local reporting requirements.

Section 7 – Handling and Storage

Precautions for safe handling: Read label for instructions in use of product. Prevent small spills and leakage to avoid slip hazard. Avoid contact with skin, eyes, and clothing. Do not wear contact lenses when handling this product. Keep out of the reach of children. Wash thoroughly after handling. Material can accumulate static charges which may cause an electrical spark (ignition source).

Conditions for safe storage: Store in closed containers in a cool, dry well ventilated area not exposed to sunlight. Maintain closure of bungs. Store at temperatures between 0°C and 40°C. May decompose if frozen below 0°C. Do not reuse container. Avoid container damage while storing.

Empty containers retain residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, bronze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity or
other sources of ignition; they may explode and cause injury or death. Do not attempt to refill containers since residue is difficult to remove. Empty drums should be completely drained, properly bunged and returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner in accordance with governmental regulations.

Section 8 – Exposure Controls/ Personal Protection

Exposure limits

Phosphoric Acid: OSHA TWA – 1 mg/m³; ACGIH TWA – 1 mg/m³; STEL – 3 mg/m³; NIOSH TWA – 1mg/m³; IDLH – 1000mg/m³

Alberta 8 hour OEL – 1 mg/m³; British Columbia TWA - 1 mg/m³; Ontario TWAEV - 1 mg/m³; Quebec TWAEV – 1 mg/m³

Appropriate engineering controls: Proper protection and controls is dependent upon the potential exposure conditions. No special requirements are needed under ordinary conditions where adequate ventilation is available.

Individual: protective measures:

Respiratory Protection: General room ventilation should be satisfactory. Exhaust ventilation may be necessary if misting is generated. Do not inhale vapors and aerosols.

Eye Protection: Safety glasses with side shields or chemical goggles are required. Contact lenses should also not be worn if the product could be splashed into the eyes.

Hand Protection: Wear neoprene rubber gloves if prolonged contact may occur or for Those with sensitive skin.

Body protection: For single, short duration and for prolonged or repeated exposures to the skin, wear impervious, protective clothing including rubber safety shoes to avoid skin contact.

Section 9 - Physical/Chemical Characteristics

Appearance and Odor: Clear, yellow liquid, characteristic odor
Boiling Point: > 100°C
Flash Point: None
Flammable Limits in air % by volume: N/A
Auto-Ignition Temp: N/A
UEL: N/A
LEL: N/A
Specific Gravity: 1.09 @ 20°C
Vapor Pressure @ 20°C: 23 hPa
Vapor Density: N/A
Solubility in Water: Miscible
Freezing Point: N/D
pH: < 1.0
## Section 10 – Stability and Reactivity

**Stability:** Stable X Unstable

**Conditions to Avoid:** Contact with heat, sparks, flame and all sources of ignition

**Incompatibilities:** Strong oxidizing agents and strong bases

**Hazardous Decomposition Products:** Oxides of carbon, nitrogen, phosphorus and sulfur

**Hazardous Polymerization:** May occur Will not occur X

## Section 11 – Toxicological Data

**Sulfamic Acid**

- **Eye Irritation:** Draize test rabbit; 20 mg Moderate; Draize test rabbit; 250 ug/24H
- **Skin Irritation:** Draize test rabbit; 500 mg/24H Severe
- **Inhalation Toxicity:** LC 50 – 25.5 mg/m³ Rat
- **Oral Toxicity:** LD 50 - 3160 mg/kg (Rat)

**Phosphoric Acid**

- **Eye Irritation:** Draize test rabbit; 119 mg Severe
- **Skin Irritation:** Draize test rabbit; 595 mg/24H Severe
- **Inhalation Toxicity:** LC 50 – 25.5 mg/m³ Rat
- **Oral Toxicity:** LD 50 - 1530 mg/kg Rat

**Carcinogenicity:**

- NTP: No
- IARC: No
- ACGIH: No

## Section 12 – Ecological Information

**No further information is known**

- **Mobility:** Not established
- **Persistence and Degradability:** Not established.
Section 13 – Disposal Considerations

Disposal methods: Dispose of in accordance with federal, state and local regulations.

Precaution for disposal: All recovered material should be packaged, labeled, transported and disposed or reclaimed in conformance with Good Engineering Practices. Comply with all applicable governmental regulations. Avoid land filling of liquids. Reclaim where possible.

Section 14 – Transport Information

Canadian TDG Classification:

Proper Shipping Name: Corrosive Liquid, Acid N.O.S. (Sulfamic Acid and Phosphoric Acid)
ID No. UN 1760
Hazard Class: 8
PG III

US Department of Transportation Classification

Proper Shipping Name: Corrosive Liquid, Acid N.O.S. (Sulfamic Acid and Phosphoric Acid)
ID No. UN 1760
Hazard Class: 8
PG III

ADR/IATA/IMDG

Proper Shipping Name: Corrosive Liquid, Acid N.O.S. (Sulfamic Acid and Phosphoric Acid)
ID No. UN 1760
Hazard Class: 8
PG III
Section 15 – Regulatory Information

US EPA Section 313 Toxic Chemical - no

DSL (Domestic Substances List)

All of the ingredients in this product are listed on the Canadian DSL

TSCA (Toxic Substance Control Act)

All of the ingredients in this product are listed on the TSCA Inventory.

Section 16 – Other Information

None

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