1 Identification

- Product identifier
  - Trade name: Ferrol N
- Application of the substance / the mixture
  - Dry-cleaning
  - Spotting agent, stain remover
- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier:
    - SEITZ GmbH
    - Gutenbergstrasse 3
    - 65830 Kriftel / Germany
    - Tel. + 49(0) 6192-9948-0
    - Fax + 49(0) 6192-9948-99
    - msds@seitz24.com
    - www.seitz24.com
  - Information department:
    - CHEM-TEL Inc.
    - 1305 North Florida Ave
    - Tampa Florida 33602
  - Emergency telephone number: 1-800-255-3924

2 Hazard(s) identification

- Classification of the substance or mixture
  - GHS05 Corrosion

  Skin Corr. 1B H314 Causes severe skin burns and eye damage.
  Eye Dam. 1 H318 Causes serious eye damage.

- Label elements
  - GHS label elements
    - The product is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms
    - GHS05

- Signal word Danger

- Hazard-determining components of labeling:
  - methyl dihydrogen phosphate
  - oxalic acid
  - phosphoric acid

- Hazard statements
  - H314 Causes severe skin burns and eye damage.

- Precautionary statements
  - P260 Do not breathe mist/vapours/spray.
  - P280 Wear protective gloves / eye protection.
  - P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  - 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 POISON CENTER/doctor.

(Contd. on page 2)
Trade name: Ferrol N

3 Composition/Information on ingredients

- Chemical characterization: Mixtures

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Components</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 812-00-0</td>
<td>methyl dihydrogen phosphate</td>
<td>&lt; 5%</td>
</tr>
<tr>
<td>CAS: 77-92-9</td>
<td>citric acid</td>
<td>&lt; 2.5%</td>
</tr>
<tr>
<td>CAS: 144-62-7</td>
<td>oxalic acid</td>
<td>&lt; 2.5%</td>
</tr>
<tr>
<td>CAS: 7664-38-2</td>
<td>phosphoric acid</td>
<td>&lt; 2.5%</td>
</tr>
</tbody>
</table>

- Additional information For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- Description of first aid measures
- General information
  Remove casualties from exposure.
  Keep unprotected persons away.
  Immediately remove any clothing soiled by the product.
- After inhalation
  Supply fresh air; consult doctor in case of complaints.
  In case of unconsciousness place patient stably in side position for transportation.
- After skin contact
  Immediately rinse with water.
  Seek medical treatment.
- After eye contact
  Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing
  Rinse out mouth and then drink plenty of water.
  Do not induce vomiting; immediately call for medical help.
- Information for doctor
  Most important symptoms and effects, both acute and delayed
  No further relevant information available.
  Indication of any immediate medical attention and special treatment needed
  No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents
  CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents
  No further relevant information available.
- Special hazards arising from the substance or mixture
  Formation of toxic gases is possible during heating or in case of fire.
- Advice for firefighters
  Do not inhale explosion gases or combustion gases.
  Wear self-contained respiratory protective device.
Trade name: Ferrol N

- Additional information
  Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
  Wear protective equipment. Keep unprotected persons away.
  Avoid contact with eyes and skin.
  Ensure adequate ventilation
- **Environmental precautions:** Do not allow product to reach sewage system or any water course.
- **Methods and material for containment and cleaning up:**
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Use neutralizing agent.
  Dispose of the collected material according to regulations.
- **Reference to other sections**
  See Section 7 for information on safe handling
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.

### 7 Handling and storage

- **Handling**
  - **Precautions for safe handling**
    - Keep away from heat and direct sunlight.
    - Avoid contact with eyes and skin.
    - Ensure good ventilation/exhaustion at the workplace.
  - **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
  - **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
  - **Information about storage in one common storage facility:**
    - Store away from foodstuffs.
    - Store away from bases.
  - **Further information about storage conditions:**
    - Protect from heat and direct sunlight.
    - Store in cool, dry conditions in well sealed receptacles.
    - Protect from frost.
    - Time of storage: max. 24 month
- **Specific end use(s)** Dry-cleaning

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
  - **Components with limit values that require monitoring at the workplace:**
    | CAS: 7664-38-2 phosphoric acid |
    |-------------------------------|
    | PEL (USA) | Long-term value: 1 mg/m³ |
    | REL (USA) | Short-term value: 3 mg/m³ |
    | TLV (USA) | Long-term value: 1 mg/m³ |
    | TLV (USA) | Short-term value: 3 mg/m³ |
    | TLV (USA) | Long-term value: 1 mg/m³ |
EL (Canada) Short-term value: 3 mg/m³
Long-term value: 1 mg/m³
EV (Canada) Short-term value: 3 mg/m³
Long-term value: 1 mg/m³

- Additional information: The lists that were valid during the creation were used as basis.
- Exposure controls
- Personal protective equipment
- General protective and hygienic measures
  The usual precautionary measures for handling chemicals should be followed.
  Do not eat, drink, smoke or sniff while working.
  Keep away from foodstuffs, beverages and feed.
  Immediately remove all soiled and contaminated clothing
  Wash hands before breaks and at the end of work.
  Avoid contact with the eyes and skin.
  Do not inhale gases / fumes / aerosols.
- Breathing equipment:
  Use suitable respiratory protective device in case of insufficient ventilation (exceeding the workplace limit values, formation of aerosols).
- Protection of hands:
  Acid resistant gloves
  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- Material of gloves
  Nitrile rubber, NBR
  The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- Penetration time of glove material
  The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- Eye protection: Tightly sealed goggles.
- Body protection: Acid resistant protective clothing

9 Physical and chemical properties

- Information on basic physical and chemical properties
- General Information
- Appearance:
  Form: Fluid
  Color: Yellow-brown
  Odor: Product specific
  Odor threshold: No further relevant information available.
- pH-value at 20 °C (68 °F): 1.2
- Change in condition
  Melting point/Melting range: not applicable
  Boiling point/Boiling range: undetermined
- Flash point: Not applicable
- Flammability (solid, gaseous) No further relevant information available.
- Ignition temperature: No further relevant information available.
- Decomposition temperature: No further relevant information available.
Trade name: Ferrol N

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
  - Stable under normal ambient conditions.
  - No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** Reacts with alkali (lyes)
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials**: Lyes
- **Hazardous decomposition products**: No dangerous decomposition products known

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**:
  - **LD/LC50 values that are relevant for classification**:
    - **CAS: 77-92-9 citric acid**
      - Oral LD50 3000 mg/kg (rat)
    - **CAS: 144-62-7 oxalic acid**
      - Oral LD50 375 mg/kg (rat)
      - Dermal LD50 1100 mg/kg (ATE)
    - **CAS: 7664-38-2 phosphoric acid**
      - Oral LD50 1530 mg/kg (rat)
      - Dermal LD50 2740 mg/kg (rabbit)
  - **on the skin**: Strong caustic effect on skin and mucous membranes.
  - **on the eye**: Strong caustic effect with danger of severe eye injury.
  - **Sensitization**: No sensitizing effects known.

(Contd. on page 6)
**12 Ecological information**

- **Toxicity**
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
- **Behavior in environmental systems:**
  - Bioaccumulative potential: No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Additional ecological information:**
  - General notes:
    - Must not reach bodies of water or drainage ditch undiluted or unneutralized.
    - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.
- **Other adverse effects** No further relevant information available.

**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation:**
  - Contaminated adsorbent, soil, water must be disposed of in a permitted hazardous waste management facility. Recovered products may be reused, reprocessed or incinerated or must be treated in a permitted hazardous waste management facility. It is your duty to dispose of the chemical materials and/or their containers in accordance with the Clean Air Act, The Clean Water Act, RCRA, as well as applicable Federal, State, and local Regulations regarding disposal.

**14 Transport information**

- **UN-Number**
  - DOT, ADR, IMDG, IATA: UN1760
- **UN proper shipping name**
  - DOT, IATA: Corrosive liquids, n.o.s. (methyl dihydrogen phosphate, Phosphoric acid solution)
  - ADR: 1760 Corrosive liquids, n.o.s. (methyl dihydrogen phosphate, Phosphoric acid solution)
  - IMDG: CORROSIVE LIQUID, N.O.S. (methyl dihydrogen phosphate, PHOSPHORIC ACID, SOLUTION)
Trade name: Ferrol N

- **Transport hazard class(es)**
  - **DOT**
    - Class 8 Corrosive substances
    - Label 8
  - **ADR**
    - Class 8 (C9) Corrosive substances
    - Label 8
  - **IMDG**
    - Class Void
    - Label 8
  - **IATA**
    - Class 8 Corrosive substances
    - Label 8
  - **Packing group**
    - DOT, ADR, IMDG, IATA III

- **Environmental hazards:** Not applicable.
  - **Special precautions for user** Warning: Corrosive substances
  - **Danger code (Kemler):** 80
  - **EMS Number:** F-A,S-B
  - **Segregation groups** Alkalis

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

- **Transport/Additional information:**
  - **DOT**
    - **Quantity limitations**
      - On passenger aircraft/rail: 5 L
      - On cargo aircraft only: 60 L
  - **ADR**
    - **Excepted quantities (EQ)**
      - Code: E1
      - Maximum net quantity per inner packaging: 30 ml
      - Maximum net quantity per outer packaging: 1000 ml
  - **IMDG**
    - **Limited quantities (LQ)** 5L
Trade name: Ferrol N

15 Regulatory information

· Canadian substance lists
  · Canadian domestic substance list (DSL):
    All ingredients are listed.
  · Canadian ingredient disclosure list (limit 0.1%):
    CAS: 144-62-7 oxalic acid
  · Canadian ingredient disclosure list (limit 1%):
    CAS: 77-92-9 citric acid
    CAS: 7664-38-2 phosphoric acid

· Safety, health and environmental regulations/legislation specific for the substance or mixture
  · Sara
    · Section 355 (extremely hazardous substances):
      None of the ingredients is listed.
    · Section 313 (specific toxic chemical listings):
      CAS: 7664-38-2 phosphoric acid
    · TSCA (Toxic Substances Control Act):
      All ingredients are listed.

· Proposition 65
  · Chemicals known to cause cancer:
    None of the ingredients is listed.
  · Chemicals known to cause reproductive toxicity for females:
    None of the ingredients is listed.
  · Chemicals known to cause reproductive toxicity for males:
    None of the ingredients is listed.
  · Chemicals known to cause developmental toxicity:
    None of the ingredients is listed.
  · New Jersey Right-to-Know List:
    CAS: 144-62-7 oxalic acid
    CAS: 7664-38-2 phosphoric acid
  · New Jersey Special Hazardous Substance List:
    CAS: 144-62-7 oxalic acid
    CAS: 7664-38-2 phosphoric acid

· Pennsylvania Right-to-Know List:
  CAS: 144-62-7 oxalic acid
  CAS: 7664-38-2 phosphoric acid

· Pennsylvania Special Hazardous Substance List:
  CAS: 7664-38-2 phosphoric acid
Trade name: Ferrol N

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Date of preparation / last revision**: 02/18/2016 / 2

- **Abbreviations and acronyms**:
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - NIOSH: National Institute for Occupational Safety
  - OSHA: Occupational Safety & Health
  - TLV: Threshold Limit Value
  - PEL: Permissible Exposure Limit
  - REL: Recommended Exposure Limit
  - Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
  - Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

- * Data compared to the previous version altered.