1 Identification

- **Product identifier**
  - **Trade name:** Lime Scale Remover
  - **Article number:** 11201

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:**
    STARCO CHEMICAL
    A Division of Diamond Chemical Co., Inc.
    Union Avenue & Dubois Street
    East Rutherford, NJ 07073
    Telephone: 201-935-4300
  - **Information department:** Product safety department
  - **Emergency telephone number:** INFOTRAC - 1-800-535-5053

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 statements**
  - Causes severe skin burns and eye damage.
- **Precautionary statements**
  - If medical advice is needed, have product container or label at hand.
  - Keep out of reach of children.
  - Read label before use.
  - Do not breathe dusts or mists.
  - Wear eye protection / face protection.
  - Wash thoroughly after handling.
  - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
  - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - Immediately call a poison center/doctor.
  - Specific treatment (see on this label).
  - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

(Contd. on page 2)
Trade name: Lime Scale Remover

Wash contaminated clothing before reuse.
If swallowed: Rinse mouth. Do NOT induce vomiting.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

- Classification system:
- NFPA ratings (scale 0 - 4)
  - Health = 3
  - Fire = 0
  - Reactivity = 0

- HMIS-ratings (scale 0 - 4)
  - Health = 3
  - Fire = 0
  - Reactivity = 0

- Other hazards:
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description: Mixture of the substances listed below with nonhazardous additions.

- Components:
  - 7664-38-2 phosphoric acid  Prop.%

4 First-aid measures

- Description of first aid measures
- General information: Immediately remove any clothing soiled by the product.
- After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing: Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- 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.

(Contd. of page 1)
6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  Wear protective equipment. Keep unprotected persons away.
- Environmental precautions:
  Dilute with plenty of water.
  Do not allow to enter sewers/surface or ground water.
- Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Use neutralizing agent.
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
- 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
  Ensure good ventilation/exhaustion at the workplace.
  Prevent formation of aerosols.
- 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: No special requirements.
  Information about storage in one common storage facility: Not required.
  Further information about storage conditions: Keep receptacle tightly sealed.
- Specific end use(s) No further relevant information available.

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:
    7664-38-2 phosphoric acid
    | Standard | Value |
    |----------|-------|
    | PEL Long-term | 1 mg/m³ |
    | REL Short-term | 3 mg/m³ |
    | Long-term | 1 mg/m³ |
Trade name: Lime Scale Remover

**Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
  - 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.
- **Breathing equipment:**
  - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**
  - **Protective gloves**
    - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
    - **Material of gloves**
      - 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 through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**
  - **Tightly sealed goggles**

**Physical and chemical properties**

- **Information on basic physical and chemical properties**
  - **General information**
    - **Appearance:**
      - Form: In water
      - Color: Colorless
    - **Odor:** Characteristic
    - **Odour threshold:** Not determined.
· pH-value at 20 °C (68 °F): 1

· Change in condition
  Melting point/Melting range: Undetermined.
  Boiling point/Boiling range: 100 °C (212 °F)

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature:
  Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:
  Lower: Not determined.
  Upper: Not determined.

· Vapor pressure at 20 °C (68 °F): 23 hPa (17 mm Hg)

· Density at 20 °C (68 °F): 1.21 g/cm³ (10.097 lbs/gal)

· Relative density Not determined.

· Vapour density Not determined.

· Evaporation rate Not determined.

· Solubility in / Miscibility with
  Water: Fully miscible.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:
  Dynamic: Not determined.
  Kinematic: Not determined.

· Other information No further relevant information available.

10 Stability and reactivity

· Reactivity

· Chemical stability

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Possibility of hazardous reactions No dangerous reactions known.

· Conditions to avoid No further relevant information available.

· Incompatible materials: No further relevant information available.

· Hazardous decomposition products: No dangerous decomposition products known.
11 Toxicological information

· Information on toxicological effects
  · Acute toxicity:
    · Primary irritant effect:
      · on the skin: Caustic effect on skin and mucous membranes.
      · on the eye: Strong caustic effect.
      · Sensitization: No sensitizing effects known.
    · Additional toxicological information:
      The product shows the following dangers according to internally approved calculation methods for preparations:
      Corrosive
      Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· Carcinogenic categories
  · NTP (National Toxicology Program)
    None of the ingredients is listed.
  · OSHA-Ca (Occupational Safety & Health Administration)
    None of the ingredients is listed.

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:
      Water hazard class 1 (Self-assessment): slightly hazardous for water
      Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
      Must not reach bodies of water or drainage ditch undiluted or unneutralized.
      Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
    · 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: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.
  - Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- UN-Number
  - DOT NA1760
  - IMDG, IATA UN1805

- UN proper shipping name
  - DOT
  - IMDG, IATA
  Compounds, cleaning liquid (Phosphoric Acid) solution
  PHOSPHORIC ACID, SOLUTION

- Transport hazard class(es)
  - DOT
    - Class 8
    - Label 8

  - IMDG, IATA
    - Class 8
    - Label 8

- Packing group
  - DOT, IMDG, IATA III

- Environmental hazards:
  - Marine pollutant: No

- Special precautions for user
  - Warning: Corrosive substances
  - Danger code (Kemler): 80
  - EMS Number: F-A,S-B
  - Segregation groups Acids

(Contd. on page 8)
**Safety Data Sheet**

**acc. to OSHA HCS**

Printing date 04/15/2015  Reviewed on 02/25/2015

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**Trade name: Lime Scale Remover**

- **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

- **IMDG**
  - **Limited quantities (LQ)** 5L
  - **Excepted quantities (EQ)**
    - Code: E1
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 1000 ml

- **UN "Model Regulation":** UN1805, Phosphoric acid solution, 8, III

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**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **Sara**
  - **Section 355 (extremely hazardous substances):** None of the ingredients is 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.

- **Carcinogenic categories**
  - **EPA (Environmental Protection Agency)** None of the ingredients is listed.
  - **TLV (Threshold Limit Value established by ACGIH)** None of the ingredients is listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)** None of the ingredients is listed.

- **GHS label elements**
  - The product is classified and labeled according to the Globally Harmonized System (GHS).
Trade name: Lime Scale Remover

- **Hazard pictograms**
  
  ![GHS05](image)

- **Signal word** Danger
- **Hazard statements**
  Causes severe skin burns and eye damage.

- **Precautionary statements**
  - If medical advice is needed, have product container or label at hand.
  - Keep out of reach of children.
  - Read label before use.
  - Do not breathe dusts or mists.
  - Wear eye protection / face protection.
  - Wash thoroughly after handling.
  - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
  - IF in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - Immediately call a poison center/doctor.
  - Specific treatment (see on this label).
  - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
  - Wash contaminated clothing before reuse.
  - IF swallowed: Rinse mouth. Do NOT induce vomiting.
  - Store locked up.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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**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** 04/15/2015 / -

- **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)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
  - Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1