CALCIQUEST® Liquid Water Treatment Chemical

Material Safety Data Sheet

Page 1 of 9

MSDS # CP-368 Revision Date: February 2011 Supercedes: February 2010

Section 1 Identification of the Substance/Preparation and of the Company/Undertaking

<table>
<thead>
<tr>
<th>SUBSTANCE/PREPARATION NAME:</th>
<th>CALCIQUEST® Liquid Water Treatment Chemical</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRODUCT NAME:</td>
<td>CALCIQUEST® Liquid Water Treatment Chemical</td>
</tr>
<tr>
<td>TRADE NAME:</td>
<td>CALCIQUEST® Liquid Water Treatment Chemical</td>
</tr>
<tr>
<td>SYNONYMS:</td>
<td>Blended Phosphate Solution</td>
</tr>
</tbody>
</table>

USES OF SUBSTANCE: CALCIQUEST® Liquid Water Treatment Chemical is a premiere corrosion inhibitor and sequestrant for use in potable and industrial water systems.

<table>
<thead>
<tr>
<th>COMPANY NAME (Europe): CARUS EUROPE</th>
<th>COMPANY ADDRESS: C/ Secundino Roces, 3-Planta 1ª – Oficina 14, 33428 Cayes – Llanera, Asturias - Spain</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFORMATION:</td>
<td>(34) 985-785-513</td>
</tr>
<tr>
<td>EMERGENCY TELEPHONE:</td>
<td>(34) 985-785-513</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMPANY NAME (US): CARUS CORPORATION</th>
<th>COMPANY ADDRESS: 315 Fifth Street Peru, IL 61354, USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFORMATION:</td>
<td>(815) 223-1500 (815) 224-6816 (FAX) <a href="http://www.caruscorporation.com">www.caruscorporation.com</a> (Web) <a href="mailto:salesmkt@caruscorporation.com">salesmkt@caruscorporation.com</a> (Email)</td>
</tr>
<tr>
<td>EMERGENCY TELEPHONE:</td>
<td>(800) 435 –6856 (USA) (815) 223-1500 (Other countries) (800) 424-9300 (CHEMTREC®, USA) (703) 527-3887 (CHEMTREC®, Other countries)</td>
</tr>
</tbody>
</table>

Section 2 Hazards Identification

GLOBAL HARMONIZED SYSTEM (GHS) OF CLASSIFICATION OF THE PREPARATION

None

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

Signal Word: None
Label Codes: None
Hazard Statements: None

OTHER HAZARDS

INHALATION
May cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath.

INGESTION
Phosphates are slowly and incompletely absorbed when ingested, and seldom result in systemic effects. Such effects, however, have occurred. Symptoms may include vomiting, lethargy, diarrhea, blood chemistry effects, heart disturbances and central nervous system effects. The toxicity of phosphates is due to their ability to sequester calcium.

SKIN CONTACT
May cause irritation. May cause inflammation and pain on prolonged contact, especially with moist skin.
Section 2  Hazards Identification (contd.)

EYE CONTACT
May cause irritation, redness and pain.

CHRONIC EXPOSURE
May sequester calcium and cause calcium phosphate deposits in the kidneys.

AGGRAVATION OF PRE-EXISTING CONDITIONS
No information found.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS) RATINGS
Health: 1 - Slight
Flammability: 0 - None
Reactivity: 0 - None
Personnel Protective Equipment: goggles, face shield, apron, respirator and proper gloves.

Section 3  Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>INGREDIENTS</th>
<th>CAS.NO.</th>
<th>EINECS</th>
<th>%</th>
<th>PEL</th>
<th>TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triphosphoric acid, pentasodium salt</td>
<td>7758-29-4</td>
<td>231-838-7</td>
<td>1-5</td>
<td>No Data</td>
<td>No Data</td>
</tr>
<tr>
<td>Non-hazardous ingredients</td>
<td>N/A</td>
<td>N/A</td>
<td>95-99</td>
<td>No Data</td>
<td>No Data</td>
</tr>
</tbody>
</table>

EU LABEL

HAZARD SYMBOLS
None

RISK PHRASES
None

SAFETY PHRASES
None

Section 4  First Aid Measures

EYES
Immediately flush eyes with large amounts of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface.

SKIN
Immediately wash contaminated areas with water. Remove contaminated clothing and footwear. Wash clothing and decontaminate footwear before reuse.

INHALATION
Remove person from contaminated area to fresh air.
Section 4  First Aid Measures (contd.)

INGESTION
Never give anything by mouth to an unconscious or convulsing person. If person is conscious, give large quantities of water or milk. Seek medical attention immediately.

Section 5  Fire Fighting Measures

**NFPA* HAZARD SIGNS**

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Hazard</td>
<td>Materials that under emergency conditions, can cause significant irritation.</td>
</tr>
<tr>
<td></td>
<td>Materials that on the skin could cause irritation.</td>
</tr>
<tr>
<td>Flammability Hazard</td>
<td>Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone and sand.</td>
</tr>
<tr>
<td>Instability Hazard</td>
<td>Materials that in themselves are normally stable, even under fire conditions.</td>
</tr>
<tr>
<td>Special Hazard</td>
<td>None</td>
</tr>
</tbody>
</table>

*National Fire Protection Association 704 (USA)*

**FIRST RESPONDERS**

Wear protective gloves, boots, goggles, and respirator. In case of fire, wear positive pressure breathing apparatus. Approach incident with caution.

**FLASH POINT**

None

**FLAMMABLE OR EXPLOSIVE LIMITS**

Lower: Nonflammable  Upper: Nonflammable

**EXTINGUISHING MEDIA**

Use large quantities of water. Dike to contain.

Section 6  Accidental Release Measures

**PERSONNEL PRECAUTIONS**

Personnel should wear protective clothing suitable for the task.

**ENVIRONMENTAL PRECAUTIONS**

Do not flush into sanitary sewer system or surface water. If accidental release into the environment occurs, inform the responsible authorities. Keep the product away from drains, sewers, surface and ground water and soil.

**STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED**

Clean up spills immediately. Pick up spill and place in a suitable container for reuse or disposal. Disposal of all materials shall be in full and strict compliance with all federal, state, and local regulations pertaining to phosphates. Flush area with large amounts of water.

Section 7  Handling and Storage

**WORK/HYGIENE PRACTICES**

Wash hands thoroughly with soap and water after handling phosphate product, and before eating or smoking. Wear proper protective equipment. Remove clothing if it becomes contaminated.
Section 7  Handling and Storage (contd.)

VENTILATION REQUIREMENTS
Provide sufficient mechanical and/or local exhaust.

CONDITIONS FOR SAFE STORAGE
Protect containers from physical damage. Store in a cool, dry area in closed containers.

Section 8  Exposure Controls and Personal Protection

RESPIRATORY PROTECTION
In cases where overexposure to mist may occur, the use of an approved NIOSH-MSHA mist respirator or an air supplied respirator is advised. Engineering or administrative controls should be implemented to control mist.

EYE
Face shield, goggles, or safety glasses with side shields should be worn. Provide eyewash in working area.

GLOVES
Rubber or plastic gloves should be worn.

OTHER PROTECTIVE EQUIPMENT
Normal work clothing covering arms and legs, and rubber, or plastic apron should be worn. Caution: If clothing becomes contaminated, wash off immediately.

Section 9  Physical and Chemical Properties

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPEARANCE</td>
<td>Clear liquid</td>
</tr>
<tr>
<td>ODOR</td>
<td>Odorless</td>
</tr>
<tr>
<td>pH OF THE PREPARATION</td>
<td>4.5±0.5</td>
</tr>
<tr>
<td>BOILING POINT/BOILING RANGE</td>
<td>&gt;101 °C</td>
</tr>
<tr>
<td>FLASH POINT</td>
<td>Does not flash</td>
</tr>
<tr>
<td>FLAMMABILITY (SOLID, GAS)</td>
<td>Not flammable</td>
</tr>
<tr>
<td>EXPLOSIVE PROPERTIES</td>
<td>Not applicable</td>
</tr>
<tr>
<td>OXIDIZING PROPERTIES</td>
<td>Not applicable</td>
</tr>
<tr>
<td>VAPOR PRESSURE</td>
<td>Not available</td>
</tr>
<tr>
<td>RELATIVE DENSITY</td>
<td>1.35 ± 0.03</td>
</tr>
<tr>
<td>SOLUBILITY</td>
<td>Miscible in all proportions</td>
</tr>
<tr>
<td>WATER SOLUBILITY</td>
<td></td>
</tr>
<tr>
<td>PARTITION COEFFICIENT: n-OCTONAL/WATER</td>
<td></td>
</tr>
<tr>
<td>VISCOSITY</td>
<td>Not applicable</td>
</tr>
<tr>
<td>VAPOUR DENSITY</td>
<td>Not applicable</td>
</tr>
<tr>
<td>EVAPORATION RATE</td>
<td>Not applicable</td>
</tr>
<tr>
<td>MELTING POINT</td>
<td>Not available</td>
</tr>
<tr>
<td>FREEZING POINT</td>
<td>&lt; 0 °C</td>
</tr>
</tbody>
</table>
Section 10  Stability and Reactivity

STABILITY
Under normal conditions, the material is stable.

CONDITIONS TO AVOID
Do not expose to extreme temperatures.

MATERIALS TO AVOID
Soluble calcium salt solutions and hydrofluoric or hydrofluosilicic acid could cause precipitations.

HAZARDOUS DECOMPOSITION PRODUCTS
When involved in a fire, the material may form toxic fumes of phosphorous oxides.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION
Material is not known to polymerize.

Section 11  Toxicological Information

EXPOSURE SYMPTOMS DESCRIPTION

INHALATION
Inhalation of the mist may cause respiratory tract irritation. Symptoms may include coughing and shortness of breath.

INGESTION
Phosphates are slowly and incompletely absorbed when ingested, and seldom result in systemic effects. However, such effects have occurred. May cause gastrointestinal tract irritation with nausea, vomiting, and diarrhea.

SKIN CONTACT
Irritating to body tissue with which it comes into contact.

EYE CONTACT
May cause eye irritation.

ACUTE TOXICITY
Phosphate toxicity can occur with over dosage. Severe phosphate toxicity can result in hypocalcemia, and in various symptoms resulting from low plasma calcium levels.

CHRONIC TOXICITY
No known cases of chronic poisoning due to phosphate products have been reported. May sequester calcium and cause calcium phosphate deposits in the kidneys. Systemic metabolic acidosis may result as this material is believed to be hydrolyzed to ortho phosphates when ingested (before absorption).

CARCINOGENICITY
None of the components have been classified as a carcinogen by OSHA, NTP, and IARC.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
Phosphate products will cause further irritation of tissue, open wounds, burns or mucous membranes.
ECO TOXICITY
Not available.

MOBILITY
Miscible in water.

PERSISTENCE AND DEGRADABILITY
Possible short term degradation products are not likely. However, in long term orthophosphate formation may occur.

BIOACCUMULATIVE POTENTIAL
Not available.

OTHER ADVERSE EFFECTS
Not available.

Section 13  Disposal Considerations

WASTE DISPOSAL
Disposal of all materials shall be in full and strict compliance with all federal, state, and local regulations pertaining to phosphates. This product when it becomes a waste is considered as a non-hazardous waste. However, chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3.

RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14  Transport Information

Not regulated by United States DOT, Canada TDG, UN, IMDG, IATA and ADR/RID regulations

Section 15  Regulatory Information

EUROPEAN AND INTERNATIONAL REGULATIONS

MARKINGS ACCORDING TO EU GUIDELINES
The product has not been classified as dangerous in accordance with EU directives/ordinances on hazardous materials.

EU LABEL

HAZARD SYMBOLS
None

RISK PHRASES
None

SAFETY PHRASES
None
Section 15   Regulatory Information (contd.)

**WGK (WATER DANGER/PROTECTION)**
None

**CANADA - DSL/NDSL**
All components are listed on Canada's DSL List.

**CANADA – WHMIS**
None of the components in this product could be classified as hazardous in accordance with the hazard criteria of the Controlled Products Regulations.

**CANADIAN INGREDIENT DISCLOSURE LIST**
None of the components in this product are listed on the Canadian Ingredient Disclosure List.

**INTERNATIONAL INVENTORIES**
All substances in this preparation are listed in the chemical inventories of Australia, China, EINICS, Japan, Korea, and New Zealand.

**US FEDERAL REGULATIONS**

**TSCA**
All substances in this preparation are listed on the TSCA inventory.

**HEALTH & SAFETY REPORTING LIST**
None of the substances in this preparation are on the Health & Safety Reporting List.

**CHEMICAL TEST RULES**
None of the substances in this preparation are under a Chemical Test Rule.

**TSCA SECTION 12b**
None of the substances in this preparation are listed under TSCA Section 12b.

**TSCA SIGNIFICANT NEW USE RULE**
None of the substances in this preparation have a SNUR under TSCA.

**CERCLA HAZARDOUS SUBSTANCES AND CORRESPONDING RQS**
CAS #7758-29-4 in this preparation have an RQ of 5000 lbs.

**SARA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES**
None of the substances in this preparation have a TPQ.

**SARA CODES**
Acute

**SARA SECTION 313**
None of the substances in this preparation are reportable under Section 313.
Section 15  Regulatory Information (contd.)

**CLEAN AIR ACT**
This preparation does not contain any hazardous air pollutants.
This preparation does not contain any Class 1 or Class 2 Ozone depletors.

**CLEAN WATER ACT**
None of the substances in this preparation product are listed as Hazardous Substances under the CWA.
None of the substances in this preparation are listed as Priority Pollutants or as Toxic Pollutants under the CWA.

**OSHA**
None of the substances in this preparation are considered highly hazardous by OSHA.

**STATE**
CAS #7758-29-4 in this preparation is present on state lists from CA, PA, and MA.

**CALIFORNIA PROPOSITION 65**
California No Significant Risk Level: None of the substances in this preparation are listed.

Section 16  Other Information

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR/RID</td>
<td>Agreement on Dangerous Goods by Road /Regulations Concerning the International Transport of Dangerous Goods by Rail</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
</tr>
<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation, and Liability Act</td>
</tr>
<tr>
<td>EINECS</td>
<td>Inventory of Existing Chemical Substances (European)</td>
</tr>
<tr>
<td>DOT</td>
<td>Department of Transportation</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>The Domestic Substances and the Non-Domestic Substances List (Canada)</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety and Health</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>MSHA</td>
<td>Mine Safety and Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act</td>
</tr>
<tr>
<td>TDG</td>
<td>Transport Dangerous Goods (Canada)</td>
</tr>
<tr>
<td>TSCA</td>
<td>Toxic substances control Act</td>
</tr>
<tr>
<td>TLV-TWA</td>
<td>Threshold Limit Value-Time Weighted Average</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
</tr>
</tbody>
</table>

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Corporation, and shall be the sole responsibility of the holder or user of the product.

This safety data sheet was reviewed according to Annex II of the regulation of the European Parliament and European Council (EC) No. 1907/2006-REACH and 1272/2008.

CARUS CORPORATION, 315 5TH STREET, PERU, ILLINOIS 61354, USA
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Chithambarathanu Pillai (S.O.F.)
February 2011

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