Product Name: WYSIWASH Jacketed Caplets
EPA Registration Number: 1258-808-84988

1. Product and Company Identification

Arch Chemicals, Inc.
501 Merritt 7 PO Box 5204
Norwalk, CT 06856-5204

Revision Date: 03/11/2008

Supercedes:

MSDS Number: 000000005443
Synonyms: None
Chemical Family: Hypochlorite
Description / Use: Sanitizer and Oxidizer
Formula: None established

2. Hazards Identification

- OSHA Hazard Classification: Toxic by inhalation, Corrosive to eyes and skin, Lung toxin, Oxidizer

- Routes of Entry: Inhalation, skin, eyes, ingestion

- Chemical Interactions: No known or reported interactions.

- Medical Conditions Aggravated: Asthma, respiratory and cardiovascular disease

Human Threshold Response Data

- Odor Threshold: Approximately 1.4 mg/m³ (based on odor threshold of chlorine)

- Irritation Threshold: Approximately 13-22 mg/m³ (based on irritation threshold of chlorine)

Hazardous Materials Identification System / National Fire Protection Association Classifications

<table>
<thead>
<tr>
<th>Hazard Ratings</th>
<th>Health</th>
<th>Flammability</th>
<th>Physical / Instability</th>
<th>PPI / Special hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMIS</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NFPA</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>OX</td>
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</tbody>
</table>

Immediate (Acute) Health Effects

Inhalation Toxicity: HARMFUL IF PRODUCT IS INHALED IN HIGH CONCENTRATIONS. CAUSES BURNS TO RESPIRATORY TRACT. Inhalation of dust or vapor from this product can be irritating to the nose, mouth, throat and lungs. In confined areas, mechanical agitation can result in high levels of dust, and reaction with incompatible materials (as listed in Section 10) can result in high concentrations of chlorine vapor, either of which may result in burns to the respiratory tract, producing lung edema, shortness of breath, wheezing, choking, chest pains, impairment of lung function.
Carcinogenicity: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.

Reproductive and Developmental Toxicity: No reproductive or developmental risk to humans is expected from exposure to this product.

Inhalation: Repeated inhalation exposure may cause impairment of lung function and permanent lung damage.

Skin Contact: Effects similar to those from acute exposure. In addition, chronic exposure to wet material may cause effects secondary to tissue destruction.

Ingestion: There are no known or reported effects from chronic ingestion except for effects similar to those experienced from single exposure. The acute corrosivity of this product, makes chronic ingestion of significant amounts unlikely.

Sensitization: This material is not known or reported to be a skin or respiratory sensitizer.

Chronic Target Organ Toxicity: There are no known or reported effects from repeated exposure except those secondary to burns.

Supplemental Health Hazard Information: No additional health information available.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS OR CHEMICAL NAME</th>
<th>CAS #</th>
<th>% RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALCIUM HYPOCHLORITE</td>
<td>7778-54-3</td>
<td>60 - 80</td>
</tr>
<tr>
<td>SODIUM CHLORIDE</td>
<td>7647-14-5</td>
<td>10 - 20</td>
</tr>
<tr>
<td>CALCIUM CHLORATE</td>
<td>10137-74-3</td>
<td>0 - 5</td>
</tr>
<tr>
<td>CALCIUM CHLORIDE</td>
<td>10043-52-4</td>
<td>0 - 5</td>
</tr>
<tr>
<td>CALCIUM HYDROXIDE</td>
<td>1305-62-0</td>
<td>0 - 6</td>
</tr>
<tr>
<td>CALCIUM CARBONATE</td>
<td>471-34-1</td>
<td>0 - 5</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>4 - 8.5</td>
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</table>

### 4. FIRST AID MEASURES

General Advice: Call a poison control center or doctor for treatment advice. For 24-hour emergency medical assistance, call Arch Chemical Emergency Action Network at 1-800-654-6911. Have the product container or label with you when calling.
Flash Point: Not applicable
Autoignition Temperature: Not applicable
Extinguishing Media: Water only. Do not use dry extinguishers containing ammonium compounds.
Fire Fighting Instructions: Use water to cool containers exposed to fire. See Section 6 for protective equipment for fire fighting.
Upper Flammable / Explosive Limit, % in air: Not applicable
Lower Flammable / Explosive Limit, % in air: Not applicable

6. ACCIDENTAL RELEASE MEASURES

Personal Protection for Emergency Situations: Response to a large quantity spill (100 pounds or greater) or when dusting or decomposition gas exposure could occur requires the use of a positive pressure full face supplied air respirator or self contained breathing apparatus (SCBA), chemical resistant gloves, coveralls and boots. In case of fire, this personal protective equipment should be used in addition to normal fire fighter equipment.

Spill Mitigation Procedures
Air Release: Vapors may be suppressed by the use of water fog. All water utilized to assist in fume suppression, decontamination or fire suppression may be contaminated and must be contained before disposal and/or treatment.
Water Release: This product is heavier than water. This material is soluble in water. Monitor all exit water for available chlorine and pH. Advise local authorities of any contaminated water release.
Land Release: Contact 1-800-654-6911 immediately. DANGER: All spills of this product should be treated as contaminated. Contaminated product may initiate a chemical reaction that may spontaneously ignite any combustible material present, resulting in a fire of great intensity. In case of a spill, separate all spilled product from packaging, debris and other material. Using a clean broom or shovel, place all spilled product into plastic bags, and place those bags into a clean, dry disposal container, properly marked and labeled. Disposal containers made of plastic or metal are recommended. Do not seal disposal containers tightly. Immediately remove all product in disposal containers to an isolated area outdoors. Place all damaged packaging material in a disposal container of water to assure decontamination (i.e. removal of all product) before disposal. Place all undamaged packaging in a clean, dry container properly marked and labeled. Call for disposal procedures.
Additional Spill Information: Hazardous concentrations in air may be found in local spill area and immediately downwind. Remove all sources of ignition. Stop source of spill as soon as possible and notify appropriate personnel. Dispose of spill residues per guidelines under Section 13, Disposal Consideration. This material may be neutralized for disposal; you are requested to contact Arch Chemicals at 1-800-654-6911 before beginning any such procedure. FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC: 1-800-424-9300 REPORTABLE QUANTITY: 10 lbs. (as calcium hypochlorite) per 40 CFR 302.4.

7. HANDLING AND STORAGE

Handling: Avoid inhalation of dust and fumes. Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash with copious amounts of water and seek medical attention.
## Exposure Limit Data

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS #</th>
<th>Name of Limit</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Hypochlorite</td>
<td>7778-54-3</td>
<td>ARCH-ROEG*</td>
<td>1 mg/m³ TWA</td>
</tr>
<tr>
<td>Calcium Hypochlorite</td>
<td>7778-54-3</td>
<td>NIOSH-IDLH</td>
<td>37 - 48 mg/m³ based on IDLH concentration of chlorine</td>
</tr>
<tr>
<td>Calcium Hydroxide</td>
<td>1305-62-0</td>
<td>ZUS_ACGIH</td>
<td>5 mg/m³ TWA</td>
</tr>
<tr>
<td>Calcium Hydroxide</td>
<td>1305-62-0</td>
<td>ZUS_OSHAPO</td>
<td>15 mg/m³ TWA Total dust</td>
</tr>
<tr>
<td>Calcium Hydroxide</td>
<td>1305-62-0</td>
<td>ZUS_OSHAP1</td>
<td>5 mg/m³ TWA Respirable dust fraction</td>
</tr>
<tr>
<td>Calcium Carbonate</td>
<td>471-34-1</td>
<td>ZUS_ACGIH</td>
<td>10 mg/m³ TWA</td>
</tr>
<tr>
<td>Calcium Carbonate</td>
<td>471-34-1</td>
<td>ZUS_OSHAP1</td>
<td>15 mg/m³ TWA Total dust</td>
</tr>
<tr>
<td>Calcium Carbonate</td>
<td>471-34-1</td>
<td>ZUS_OSHAP1</td>
<td>5 mg/m³ TWA Respirable dust fraction</td>
</tr>
</tbody>
</table>

*ARCH-ROEG: Arch Recommended Occupational Exposure Guideline.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

- **Physical State:** solid
- **Form:** Tablet
- **Color:** white
- **Odor:** Chlorine-like
- **Molecular Weight:** (Active ingredient) 143.00
- **Specific Gravity:** Not applicable
- **pH:** 10.4 - 10.8 (1% solution in neutral, distilled water) (@ 25 Deg. C)
- **Boiling Point:** Not applicable
- **Freezing Point:** Not applicable
- **Melting Point:** Not applicable
- **Density:** 1.9g/cc
- **Vapor Pressure:** (@ 25 Deg. C) Not applicable
- **Vapor Density:** Not applicable
- **Viscosity:** Not applicable
- **Fat Solubility:** No data
- **Solubility in Water:** 18 % Product also contains calcium hydroxide and calcium carbonate which will leave a residue.
- **Partition coefficient n-octanol/water:** Not applicable
- **Evaporation Rate:** Not applicable
- **Oxidizing:** Oxidizer
- **Volatiles, % by vol.:** Not applicable
- **VOC Content:** Not applicable
- **HAP Content:** Not applicable

### 10. STABILITY AND REACTIVITY

- **Stability and Reactivity Summary:** Product is not sensitive to mechanical shock or impact. Product is not sensitive to electrical static discharge. Product will not undergo hazardous polymerization. Product is an NFPA Class 3 oxidizer which can cause a severe increase in fire intensity. Not pyrophoric. Not an organic peroxide. If subjected to excessive temperatures, the product may undergo rapid decomposition, evolution of chlorine gas, and heat sufficient to ignite combustible substances.
CALCIUM HYPOCHLORITE
LD50 (65% calcium hypochlorite) 850 mg/kg Rat
SODIUM CHLORIDE LD50 = 3,000 mg/kg Rat
CALCIUM CHLORIDE LD50 = 1,000 mg/kg Rat
CALCIUM HYDROXIDE LD50 = 7,340 mg/kg Rat

Dermal LD50 value:
CALCIUM LD50 (65% calcium hypochlorite) > 2,000 mg/kg Rabbit
HYPOCHLORITE
SODIUM CHLORIDE LD50 > 10,000 mg/kg Rabbit
CALCIUM CHLORIDE LD50 = 2,630 mg/kg Rat
CALCIUM HYDROXIDE No data

Inhalation LC50 value:
CALCIUM Inhalation LC50 1 h (65% calcium hypochlorite), (Nose Only) = 2.04 MG/L Rat
HYPOCHLORITE
CALCIUM Inhalation LC50 4 h (65% calcium hypochlorite), (Nose Only) = 0.51 MG/L Rat
HYPOCHLORITE
SODIUM CHLORIDE Inhalation LC50 1 h > 42 MG/L Rat
CALCIUM CHLORIDE No data
CALCIUM HYDROXIDE No data

Product Animal Toxicity
Oral LD50 value: LD50 Approximately 800 mg/kg Rat
Dermal LD50 value: LD50 > 2,000 mg/kg Rabbit
Inhalation LC50 value: Inhalation LC50 1.00 h (Nose Only) Believed to be > 2.04 MG/L Rat
Inhalation LC50 4 h (Nose Only) Believed to be > 0.51 MG/L Rat
Skin Irritation: DRY MATERIAL CAUSES MODERATE SKIN IRRITATION., WET MATERIAL CAUSES SKIN BURNS.
Eye Irritation: Corrosive to eyes.
Skin Sensitization: This material is not known or reported to be a skin or respiratory sensitizer.
Acute Toxicity: This product is corrosive to all tissues contacted and upon inhalation, may cause irritation to mucous membranes and respiratory tract. The dry material is irritating to the skin. However when wet, it will produce burns to the skin.
Subchronic / Chronic Toxicity: There are no known or reported effects from repeated exposure except those secondary to burns.
Reproductive and Developmental Toxicity: Calcium hypochlorite has been tested for teratogenicity in laboratory animals. Results of this study have shown that calcium hypochlorite is not a teratogen.
CALCIUM CHLORIDE Not known or reported to cause reproductive or developmental toxicity.
Mutagenicity: Calcium hypochlorite has been tested in the Dominant lethal assay in male mice, and it did not induce a dominant lethal response. Calcium hypochlorite has been reported to produce mutagenic activity in two in vitro assays. It has, however, been shown to lack the capability to produce mutations in animals based on results from the micronucleus assay. In vitro assays frequently are inappropriate to judge the mutagenic potential of bactericidal chemicals due to a high degree of cellular toxicity. The concentration which produces mutations in these in vitro assays is significantly greater than the concentrations used for disinfection. Based on high cellular toxicity in in vitro assays and the lack of mutagenicity in animals, the risk of genetic damage to humans is judged not significant.
CALCIUM CHLORIDE This product was determined to be non-mutagenic in the...
Bluegill - (nominal, static). 96 h LC50 0.088 mg/l
Rainbow trout (Salmo gairdneri), - (nominal, static). 96 h LC50 0.16 mg/l
Daphnia magna, - (nominal, static). 48 h LC50 0.11 mg/l
Bobwhite quail - Dietary LC50 > 5,000 ppm
Mallard ducklings - Dietary LC50 > 5,000 ppm
Bobwhite quail - Oral LD50 3,474 mg/kg

Ecological Toxicity Values for: CALCIUM CHLORIDE
Bluegill - (nominal, static). 96 h LC50 = 10,650 mg/l
Mosquito fish - (nominal, static). 96 h LC50 = 13,400 mg/l
Fathead minnow (Pimephales promelas), - (nominal, static). 96 h LC50 = 4,630 mg/l
Daphnia magna, - (nominal, static). 48 h LC50= 2,770 mg/l
Ceriodaphnia dubia - (nominal, static). 48 h LC50 = 1,830 mg/l
Nitzschia linearis (diatom) - (nominal, static). 5 day LC50 = 3,130 mg/l

13. DISPOSAL CONSIDERATIONS

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THE MATERIAL. THE USER OF THE MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

Waste Disposal Summary: If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D001. If this product becomes a waste, it will be a hazardous waste which is subject to the Land Disposal restrictions under 40 CFR 268 and must be managed accordingly.

Disposal Methods: As a hazardous solid waste it should be disposed of in accordance with local, state and federal regulations.

Potential US EPA Waste Codes: D001

14. TRANSPORT INFORMATION

Land (US DOT): UN1748 CALCIUM HYPOCHLORITE, DRY MIXTURE 5.1 III
Water (IMDG): UN1748 CALCIUM HYPOCHLORITE, DRY MIXTURE, 5.1 III
Flash Point: Not applicable
Air (IATA): UN1748 CALCIUM HYPOCHLORITE, DRY MIXTURE, 5.1 III
Emergency Response Guide Number: ERG # 140

Transportation Notes: Under specific circumstances, this product can ship under two transport exceptions, Limited Quantity or Consumer Commodity. See Bill of Lading for proper shipping description. REPORTABLE QUANTITY: 10 lbs. (Per 49 CFR 172.101, Appendix)

EMS: F-H, S-Q

Extremely Hazardous Substance Section 302 - Threshold Planning Quantity:
ZUS_SAR302 TPQ (threshold planning quantity) None established

Reportable Quantity (49 CFR 172.101, Appendix):
ZUS_CERCLA Reportable quantity CALCIUM HYPOCHLORITE Value: 10lbs
ZUS_SAR302 Reportable quantity None established

Supplier Notification Requirements (40 CFR 372.45), 313 Reportable Components
ZUS_SAR313 De minimis concentration None established

Clean Air Act Toxic ARP Section 112r:
CAA 112R None established

Clean Air Act Socm:
HON SOC None established

Clean Air Act VOC Section 111:
CAA 111 None established

Clean Air Act Haz. Air Pollutants Section 112:
ZUS_CAAHAP None established

ZUS_CAAHRP None established

CAA AP None established

State Right-to-Know Regulations Status of Ingredients

Pennsylvania:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>COMPONENT NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>10137-74-3</td>
<td>CALCIUM CHLORATE</td>
</tr>
<tr>
<td>1305-62-0</td>
<td>CALCIUM HYDROXIDE</td>
</tr>
<tr>
<td>7778-54-3</td>
<td>CALCIUM HYPOCHLORITE</td>
</tr>
</tbody>
</table>

ZUSPA_RTK
US. Commonwealth of Pennsylvania - Department of Labor and Industry; Pennsylvania Code Title 34, Labor and Industry Chapter 323 1990-01-01 CHLORIC ACID, CALCIUM SALT hazardous substance

US. Commonwealth of Pennsylvania - Department of Labor and Industry; Pennsylvania Code Title 34, Labor and Industry Chapter 323 1990-01-01 CALCIUM HYDROXIDE (CA(OH)2) hazardous substance

US. Commonwealth of Pennsylvania - Department of Labor and Industry; Pennsylvania Code Title 34, Labor and Industry Chapter 323 1990-01-01 CALCIUM HYDROXIDE (CA(OH)2) hazardous substance
New Jersey:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>COMPONENT NAME</th>
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<tbody>
<tr>
<td>10137-74-3</td>
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<td>CALCIUM HYDROXIDE</td>
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<tr>
<td>7778-54-3</td>
<td>CALCIUM HYPOCHLORITE</td>
</tr>
</tbody>
</table>

ZUSNJ_RTK

US. New Jersey Department of Environmental Protection - Bureau of Hazardous Substances New Jersey Right to Know Law, Hazardous Substance List [P.L. 1983, C. 315, NJSA 34:5A-1 et seq]
1989-12-01
CALCIUM CHLORATE
hazardous substance

US. New Jersey Department of Environmental Protection - Bureau of Hazardous Substances New Jersey Right to Know Law, Hazardous Substance List [P.L. 1983, C. 315, NJSA 34:5A-1 et seq]
1989-12-01
CALCIUM HYDROXIDE
hazardous substance

US. New Jersey Department of Environmental Protection - Bureau of Hazardous Substances New Jersey Right to Know Law, Hazardous Substance List [P.L. 1983, C. 315, NJSA 34:5A-1 et seq]
1989-12-01
CALCIUM HYPOCHLORITE
special health hazard substance, special health hazard, reactive - second degree

Massachusetts:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>COMPONENT NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>10137-74-3</td>
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<td>CALCIUM HYDROXIDE</td>
</tr>
<tr>
<td>7778-54-3</td>
<td>CALCIUM HYPOCHLORITE</td>
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</tbody>
</table>

ZUSMA_RTK

US. The Commonwealth of Massachusetts Department of Public Health; Massachusetts Right-to-know law, The Massachusetts Substance List, 105 CMR 670.000
1991-07-01
CALCIUM CHLORATE
massachusetts hazardous substance

US. The Commonwealth of Massachusetts Department of Public Health; Massachusetts Right-to-know law, The Massachusetts Substance List, 105 CMR 670.000
1991-07-01
CALCIUM HYDROXIDE
massachusetts hazardous substance

US. The Commonwealth of Massachusetts Department of Public Health; Massachusetts Right-to-know law, The Massachusetts Substance List, 105 CMR 670.000
1991-07-01
CALCIUM HYPOCHLORITE
massachusetts hazardous substance

California Proposition 65:

<table>
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</thead>
<tbody>
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<td></td>
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ZUSCA_P65

WHMIS Hazard Classification:
16. OTHER INFORMATION

MSDS REVISION STATUS : Revised to meet the ANSI standard of 16 sections
Major References : Available upon request.

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS MSDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. ARCH CHEMICALS BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS MSDS IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT ARCH CHEMICALS MSDS CONTROL AT THE PHONE NUMBER ON THE FRONT PAGE TO MAKE CERTAIN THAT THIS DOCUMENT IS CURRENT.