Arch Chemicals, Inc.

MATERIAL SAFETY DATA SHEET

FOR ANY EMERGENCY, 24 HOURS / 7 DAYS, CALL:	1-800-654-6911 (OUTSIDE USA: 1-423-780-2970)
FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC®:	1-800-424-9300 (OUTSIDE USA: 1-703-527-3887)
FOR ALL MSDS QUESTIONS & REQUESTS, CALL:	1-800-511-MSDS (OUTSIDE USA: 1-423-780-2347)

PRODUCT NAME: **HTH ULTRA COMPLETE SHOCK TREATMENT**

1. PRODUCT AND COMPANY IDENTIFICATION

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

REVISION DATE:	02/15/2013
SUPERCEDES:	11/30/2012
MSDS Number:	000000015724
SYNONYMS:	None
CHEMICAL FAMILY:	Hypochlorite
DESCRIPTION / USE	Swimming Pool Water Treatment
FORMULA:	NOT APPLICABLE/MIXTURE

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 12-19 mg/m3 (based on irritation threshold of chlorine)

Hazardous Materials Identification System / National Fire Protection Association Classifications

Hazard Ratings :	Health	Flammability	Physical / Instability	PPI / Special hazard.
HMIS	3	0	1	
NFPA	3	0	1	NFPA Oxidizer Class: Meets the criteria of an NFPA Class 1 Oxidizer

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 and possible permanent lung damage.
Skin Toxicity:	DRY MATERIAL CAUSES MODERATE SKIN IRRITATION. WET MATERIAL CAUSES SKIN BURNS. Dermal exposure to dry material causes moderate skin irritation characterized by redness and swelling. Dermal exposure to wet material can cause severe irritation and/or burns characterized by redness, swelling and scab formation. Prolonged skin exposure may cause permanent damage.
Eye Toxicity:	CAUSES BURNS TO EYES. Severe irritation and/or burns can occur following eye exposure. Direct contact may cause impairment of vision and corneal damage.
Ingestion Toxicity:	MODERATELY TOXIC IF SWALLOWED. CAUSES BURNS TO DIGESTIVE TRACT. Irritation and/or burns can occur to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding, and/or tissue ulceration or perforation. Significant exposure to this material can lead to serious health effects and/or death.
Acute Target Organ 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.

Prolonged (Chronic) Health Effects

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

CAS OR CHEMICAL NAME	CAS #	% RANGE
CALCIUM HYPOCHLORITE	7778-54-3	50 - 70
MAGNESIUM SULFATE HEPTAHYDRATE	10034-99-8	13 - 17
SODIUM CHLORIDE	7647-14-5	10 - 15
CALCIUM CHLORATE	10137-74-3	0 - 4
CALCIUM CHLORIDE	10043-52-4	0 - 4
CALCIUM HYDROXIDE	1305-62-0	0 - 4
CALCIUM CARBONATE	471-34-1	0 - 4

sodium metaphosphate	10124-56-8	0 - 4
ALUMINUM SULFATE, ANHYDROUS	10043-01-3	0 - 3
Water	7732-18-5	4 - 8

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 a poison control center or doctor, or going for treatment.
Inhalation:	IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
Skin Contact:	IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
Eye Contact:	IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Ingestion:	IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
Notes to Physician:	Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE FIGHTING MEASURES

Flammability Summary (OSHA):	This product is chemically reactive with many substances. Any contamination of the product with other substances by spill or otherwise may result in a chemical reaction and fire., This product is a strong oxidizer which is capable of intensifying a fire once started., Product is not known to be flammable, combustible or pyrophoric., NFPA Oxidizer Class: Meets the criteria of an NFPA Class 1 Oxidizer

Flammable Properties

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 repirator 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 off with water. Remove contaminated clothing and wash before reuse.
Storage:	Keep product tightly sealed in original containers. Store product in a cool, dry, well-ventilated area. Store away from combustible or flammable products. Keep product packaging clean and free of all contamination, including, e.g. other pool treatment products, acids, organic materials, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials, etc.

Shelf Life Limitations:	Do not store product where the average daily temperature exceeds 95° F. Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products. Shelf life (that is, the period of time before the product goes below stated label strength) is determined by storage time and temperatures. Store in a cool, dry and well ventilated area. Prolonged storage at elevated temperatures will significantly shorten the shelf life. Storage in a climate controlled storage area or building is recommended in those areas where extremes of high temperature occur.
Incompatible Materials for Storage:	Do not allow product to come in contact with other materials, including e.g. other pool treatment products, acids, organic materials, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials, etc A chemical reaction with such substances can cause a fire.
Do Not Store At temperatures Above:	Average daily temperature of 35° C / 95° F. Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation:	Local exhaust ventilation or other engineering controls are normally required when handling or using this product to keep airborne exposures below the TLV, PEL or other recommended exposure limit.

Protective Equipment for Routine Use of Product

Respiratory Protection :	Wear a NIOSH approved respirator if levels above the exposure limits are possible.
Respirator Type :	A NIOSH approved full-face air purifying respirator equipped with combination chlorine/P100 cartridges. Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.
Skin Protection :	Wear impervious gloves to avoid skin contact. A full impervious suit is recommended if exposure is possible to a large portion of the body. A safety shower should be provided in the immediate work area.
Eye Protection:	Use chemical goggles. Emergency eyewash should be provided in the immediate work area.
Protective Clothing Type:	Nitrile, Natural rubber, Neoprene (This includes: gloves, boots, apron, protective suit)

Exposure Limit Data

CHEMICAL NAME	CAS #	Name of Limit	Exposure

CALCIUM HYPOCHLORITE	7778-54-3	ARCH-ROEG*	1 mg/m3 TWA
CALCIUM HYPOCHLORITE	7778-54-3	NIOSH-IDLH	37 - 48 mg/m3 based on IDLH concentration of chlorine
CALCIUM HYDROXIDE	1305-62-0	ACGIH	5 mg/m3 TWA
CALCIUM HYDROXIDE	1305-62-0	OSHA Z1	15 mg/m3 TWA total dust
CALCIUM HYDROXIDE	1305-62-0	OSHA Z1	5 mg/m3 TWA respirable fraction
CALCIUM CARBONATE	471-34-1	OSHA Z1	15 mg/m3 TWA Total dust
CALCIUM CARBONATE	471-34-1	OSHA Z1	5 mg/m3 TWA respirable dust fraction
ALUMINUM SULFATE, ANHYDROUS	10043-01-3	ACGIH	2 mg/m3 Calculated as Al TWA soluble

*ARCH-ROEG: Arch Recommended Occupational Exposure Guideline.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	solid
Form	Free flowing, powder
Color:	white
Odor:	Chlorine-like
Molecular Weight:	(Active ingredient)143.00
Specific Gravity :	Not applicable
pH :	8 - 9 solution
Boiling Point:	Not applicable
Freezing Point:	Not applicable
Melting Point:	Not applicable
Density:	0.9 - 1.1g/cc
Vapor Pressure:	(@ 25 Deg. C) Not applicable
Vapor Density:	Not applicable
Viscosity:	Not applicable
Fat Solubility:	No data
Solubility in Water:	Approximately 18% (@ 25 Deg. C) 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 1 oxidizer. 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. If product is exposed to small amounts of water, it can react violently to produce heat and toxic gases and spatter. Use copious amounts of water for fires involving this product.
Conditions to Avoid:	Do not store next to heat source, in direct sunlight, or elevated storage temperature. Do not store where the daily average temperature exceeds 95 °F. Prevent ingress of humidity and moisture into container or package. Always close the lid.
Chemical Incompatibility:	This product is chemically reactive with many substances, including, e.g., other pool treatment products, acids, organics, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, corrosive, flammable or combustible materials. Do not allow product to contact any foreign matter, including other water treatment products. Contamination or improper use may cause a fire, explosion or the release of toxic gases. If product is exposed to small amounts of water, it can react violently to produce heat and toxic gases and spatter.
Hazardous Decomposition Products:	Chlorine
Decomposition Temperature:	170 - 180 DEG°C - , 338 - 356 DEG°F-

11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology

Oral LD50 value:

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	
ALUMINUM SULFATE, ANHYDROUS	LD50 = 1,930 mg/kg	Rat	
ALUMINUM SULFATE, ANHYDROUS	LD50 = 6,207 mg/kg	Mouse	

Component Animal Toxicology
Dermal LD50 value:

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

Component Animal Toxicology
Inhalation LC50 value:

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

Product Animal Toxicity

Oral LD50 value:	LD50 Approximately 850 mg/kg Rat
Dermal LD50 value:	LD50 > 2,000 mg/kg Rabbit
Inhalation LC50 value:	Inhalation LC50 1 h (Nose Only) > 2.04 MG/L Rat Inhalation LC50 4 h (Nose Only) > 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 Ames assay. It was also shown to be non-clastogenic in the chromosomal aberration test.

Carcinogenicity: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA. One hundred mice were exposed dermally 3 times a week for 18 months to a solution of calcium hypochlorite. Histopathological examination failed to show an increased incidence of tumors. IARC (International Agency for Research on Cancer) reviewed studies conducted with several hypochlorite salts. IARC has classified hypochlorite salts as having inadequate evidence for carcinogenicity to humans and animals. IARC therefore considers hypochlorite salts to be not classifiable as to their carcinogenicity to humans (Group 3 Substance).

CALCIUM CHLORIDE — This chemical is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.

12. ECOLOGICAL INFORMATION

Overview: Highly toxic to fish and other aquatic organisms.

Ecological Toxicity Values - Product:

Bluegill - (nominal, static). 96 h LC50 Approximately 0.12 mg/l Based on extrapolation from studies using calcium hypochlorite.

Rainbow trout (Salmo gairdneri), - (nominal, static). 96 h LC50 Approximately 0.22 mg/l Based on extrapolation from studies using calcium hypochlorite.

Daphnia magna, - (nominal, static). 48 h LC50Approximately 0.15 mg/l Based on extrapolation from studies using calcium hypochlorite.

Bobwhite quail - LC50 > 7,000 ppm Based on extrapolation from studies using calcium hypochlorite.

Mallard ducklings	-	LC50 > 7,000 ppm Based on extrapolation from studies using calcium hypochlorite.
Bobwhite quail	-	LD50 Approximately 4,800 mg/kg Based on extrapolation from studies using calcium hypochlorite.

Ecological Toxicity Values for: **CALCIUM HYPOCHLORITE**

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

Ecological Toxicity Values for: **ALUMINUM SULFATE, ANHYDROUS**

Largemouth bass	-	96 h LC50 = 250 mg/l
Mosquito fish	-	96 h LC50 = 235 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 RQ, CALCIUM HYPOCHLORITE, DRY MIXTURE 5.1 III
Water (IMDG):	UN1748 CALCIUM HYPOCHLORITE, DRY MIXTURE, 5.1 III MARINE POLLUTANT
	Flash Point: Not applicable
Air (IATA):	UN1748 CALCIUM HYPOCHLORITE, DRY MIXTURE, 5.1 III
Emergency Response Guide Number:	ERG # 140
Transportation Notes**:**	REPORTABLE QUANTITY: 10 lbs. (Per 49 CFR 172.101, Appendix) Under specific circumstances, this product can ship under two transport exceptions, Limited Quantity or Consumer Commodity. See Bill of Lading for proper shipping description. Material is not regulated as a marine pollutant for ground, rail car, or aircraft transportation within the USA if shipped in non bulk packages per marine pollutant exception 49 CFR 171.4(c).
EMS:	F-H, S-Q

15. REGULATORY INFORMATION

UNITED STATES:

Toxic Substances Control Act (TSCA):	Pending EPA Approval
EPA Pesticide Registration Number:	Pending EPA Approval
FIFRA Listing of Pesticide Chemicals (40 CFR 180):	Pending EPA Approval

Superfund Amendments and Reauthorization Act (SARA) Title III:

Hazard Categories Sections 311 / 312 (40 CFR 370.2):

Health	Immediate (Acute) Health Hazard

Physical Fire Hazard

Emergency Planning & Community Right to Know (40 CFR 355, App. A):

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 Aluminum sulfate Value: 5,000lbs Sodium phosphate, tribasic Value: 5,000lbs
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 Socmi:

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:

CAS #	COMPONENT NAME
10137-74-3	CALCIUM CHLORATE
1305-62-0	CALCIUM HYDROXIDE
7778-54-3	CALCIUM HYPOCHLORITE

10043-01-3	ALUMINUM SULFATE, ANHYDROUS
10124-56-8	sodium metaphosphate

ZUSPA_RTK

Pennsylvania: Hazardous substance list
1989-08-11
CHLORIC ACID, CALCIUM SALT

Pennsylvania: Hazardous substance list
1989-08-11
CALCIUM HYDROXIDE

Pennsylvania: Hazardous substance list
1989-08-11
HYPOCHLOROUS ACID, CALCIUM SALT
Environmental hazard

Pennsylvania: Hazardous substance list
1989-08-11
SULFURIC ACID, ALUMINUM SALT (3:2)
Environmental hazard

Pennsylvania: Hazardous substance list
1989-08-11
METAPHOSPHORIC ACID (H6P6O18), HEXASODIUM SALT
Environmental hazard

New Jersey:

CAS #	COMPONENT NAME
10137-74-3	CALCIUM CHLORATE
1305-62-0	CALCIUM HYDROXIDE
7778-54-3	CALCIUM HYPOCHLORITE
10043-01-3	ALUMINUM SULFATE, ANHYDROUS

ZUSNJ_RTK

New Jersey Right to Know Hazardous Substance List (RTK-HSL)
2007-03-01
CALCIUM CHLORATE CHLORIC ACID, CALCIUM SALT

New Jersey Right to Know Hazardous Substance List (RTK-HSL)
2007-03-01
CALCIUM HYDROXIDE CALCIUM HYDROXIDE (Ca(OH)2) HYDRATED LIME

New Jersey Right to Know Hazardous Substance List (RTK-HSL)
2007-03-01
CALCIUM HYPOCHLORITE HYPOCHLOROUS ACID, CALCIUM SALT BLEACHING POWDER

New Jersey Right to Know Hazardous Substance List (RTK-HSL)
2007-03-01
ALUMINUM SULFATE SULFURIC ACID, ALUMINUM SALT (3:2)
Special Health Hazard - Corrosive

Massachusetts:

CAS #	COMPONENT NAME
10137-74-3	CALCIUM CHLORATE
1305-62-0	CALCIUM HYDROXIDE
7778-54-3	CALCIUM HYPOCHLORITE
10043-01-3	ALUMINUM SULFATE, ANHYDROUS
10124-56-8	sodium metaphosphate

ZUSMA_RTK

Massachusetts Right to Know List of Chemicals and Hazard Classifications
1993-04-24
CALCIUM CHLORATE

Massachusetts Right to Know List of Chemicals and Hazard Classifications
1994-04-01
CALCIUM HYDROXIDE

Massachusetts Right to Know List of Chemicals and Hazard Classifications
1993-04-24
CALCIUM HYPOCHLORITE

Massachusetts Right to Know List of Chemicals and Hazard Classifications
1993-04-24
ALUMINUM SULFATE

Massachusetts Right to Know List of Chemicals and Hazard Classifications
1993-04-24
METAPHOSPHORIC ACID, HEXASODIUM SALT SODIUM PHOSPHATE, TRIBASIC

California Proposition 65:

CAS #	COMPONENT NAME
ZUSCA_P65	None established

WHMIS Hazard Classification:

Ingredient Disclosure List (WHMIS)
2007-08-24
Threshold limits: 1 Weight percent
991
Calcium hydroxide

Ingredient Disclosure List (WHMIS)
1988-01-20
Threshold limits: 1 Weight percent
53
ALUMINUM, WATER-SOLUBLE SALTS, N.O.S.

16. OTHER INFORMATION

MSDS REVISION STATUS :
SECTIONS REVISED: 3
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. .