Arch Chemicals, Inc.

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 SDS QUESTIONS & REQUESTS, CALL:	1-800-511-MSDS (OUTSIDE USA: 1-423-780-2347)

PRODUCT NAME: **HTH Chlorinating Tablets**

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Arch Chemicals, Inc.
1200 Bluegrass Lakes Parkway
Alpharetta, GA 30004
United States of America (USA)

REVISION DATE:	06/14/2017
SUPERCEDES:	02/08/2016
MSDS Number:	000000023072
SYNONYMS:	none
CHEMICAL FAMILY:	Hypochlorite
DESCRIPTION / USE	Sanitizer and OxidizerWater treatment chemical
FORMULA:	Not Applicable/Mixture

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Oxidizing solids	:	Category 2
Acute toxicity (Oral)	:	Category 4
Skin corrosion	:	Category 1B
Serious eye damage	:	Category 1
Acute toxicity (Inhalation)	:	Category 3
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system)

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements	:	H272 May intensify fire; oxidizer. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H331 Toxic if inhaled. H335 May cause respiratory irritation.
Precautionary statements	:	**Prevention:** P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P220 Keep/Store away from clothing/ combustible materials. P221 Take any precaution to avoid mixing with combustibles. P260 Do not breathe vapours. P264 Wash hands thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. **Response:** P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. P363 Wash contaminated clothing before reuse. P370 + P378 In case of fire: Use water spray to extinguish. **Storage:** P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up. **Disposal:** P501 Dispose of contents/container in accordance with local regulation.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS OR CHEMICAL NAME	CAS #	% RANGE
Calcium hypochlorite	7778-54-3	60 - 80

SODIUM CHLORIDE	7647-14-5	10 - 20
Chloric acid, calcium salt (2:1)	10137-74-3	0 - 5
Calcium chloride	10043-52-4	0 - 5
Calcium hydroxide	1305-62-0	0 - 6
Calcium carbonate	471-34-1	0 - 5
Aqua	7732-18-5	4 - 8.5

SECTION 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.

SECTION 5. FIREFIGHTING MEASURES

Flammability Summary (OSHA):	This product is a strong oxidizer which is capable of intensifying a fire once started.

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

SECTION 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. 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.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.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.Do not place spill materials back in their original containers.
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.

SECTION 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 of great intensity.
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.

SECTION 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:	Neoprene, Nitrile, Natural rubber (This includes: gloves, boots, apron, protective suit)

Components with workplace control parameters

Components (CAS-No.)	Value	Control parameters	Basis (Update)
Calcium hydroxide (1305-62-0)	TWA	5 mg/m3	ACGIH (02 2014)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	solid
Form	tablet
Color:	white
Odor:	Chlorine-like
Molecular Weight:	(Active ingredient)143.00 g/mol
Relative density	Not applicable
pH :	10.4 - 10.8 77 °F (25 °C)
Boiling Point:	Not applicable
Melting point/freezing point	Not applicable
Density:	1.9g/cc
Vapor Pressure:	Not applicable
Vapor Density:	Not applicable
Viscosity:	Not applicable
Fat Solubility:	no data available
Solubility in Water:	ca. 180 g/l
Partition coefficient n-octanol/water:	Not applicable
Evaporation Rate:	Not applicable
Oxidizing:	Oxidizing
Volatiles, % by vol.:	Not applicable
VOC Content	This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489). This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.
HAP Content	Not applicable

SECTION 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. 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 of great intensity, 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 °C - , 338 - 356 °F-

SECTION 11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology
Oral LD50 value:

Calcium hypochlorite	LD50	850 mg/kg	Rat
SODIUM CHLORIDE	LD50	3,000 mg/kg	Rat
	LD50	3,550 mg/kg	Rat
Calcium chloride	LD50	2,301 mg/kg	Rat
	LD50	1,000 mg/kg	Rat
Calcium hydroxide	LD50	7,340 mg/kg	Rat

Component Animal Toxicology
Dermal LD50 value:

SODIUM CHLORIDE	LD50	> 10,000 mg/kg	Rabbit
Calcium chloride	LD50	> 5,000 mg/kg	Rabbit
	LD50	2,630 mg/kg	Rat

Component Animal Toxicology
Inhalation LC50 value:

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 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.
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.
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).

SECTION 12. ECOLOGICAL INFORMATION

Overview: Highly toxic to fish and other aquatic organisms.

Ecological Toxicity Values for: Calcium hypochlorite

Lepomis macrochirus (Bluegill sunfish)	-	96 h LC50 0.057 mg/l
Daphnia magna (Water flea)	-	48 h EC50 0.067 mg/l
Colinus virginianus (Bobwhite quail)	-	Dietary LC50 > 5,000 ppm
Colinus virginianus (Bobwhite quail)	-	Oral LD50 3,474 mg/kg
Mallard ducklings	-	Dietary LC50 > 5,000 ppm

Ecological Toxicity Values for: SODIUM CHLORIDE

Carassius auratus (goldfish)	-	Acute toxicity 10 d LC50 > 10,000 mg/l
Daphnia magna (Water flea)	-	Immobilization 48 h EC50> 100 mg/l

Ecological Toxicity Values for: Calcium chloride

Lepomis macrochirus (Bluegill sunfish)	-	Acute toxicity 96 h LC50 10,650 mg/l
Daphnia magna (Water flea)	-	48 h EC50 2,400 mg/l
Daphnia magna (Water flea)	-	48 h EC50 144 mg/l
Chlorella vulgaris (Fresh water algae)	-	Cell multiplication inhibition test 120 h EC10 140 mg/l

Ecological Toxicity Values for: Calcium hydroxide

Gambusia affinis (Mosquito fish)	-	Acute toxicity 96 h LC50 160 mg/l

SECTION 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.

SECTION 14. TRANSPORT INFORMATION

DOT

UN number	:	1748
Description of the goods	:	Calcium hypochlorite mixtures dry
Class	:	5.1
Packing group	:	II
Labels	:	5.1
Emergency Response Guidebook Number	:	140

TDG

UN number	:	1748
Description of the goods	:	CALCIUM HYPOCHLORITE MIXTURE, DRY
Class	:	5.1
Packing group	:	II
Labels	:	5.1

IATA

UN number	:	1748
Description of the goods	:	Calcium hypochlorite mixture, dry
Class	:	5.1
Packing group	:	II
Labels	:	5.1
Packing instruction (cargo aircraft)	:	562
Packing instruction (passenger aircraft)	:	558
Packing instruction (passenger aircraft)	:	Y544

IMDG-CODE

UN number	:	1748
Description of the goods	:	CALCIUM HYPOCHLORITE MIXTURE, DRY
Class	:	5.1
Packing group	:	II
Labels	:	5.1
EmS Number 1	:	F-H
EmS Number 2	:	S-Q
Marine pollutant	:	yes

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Calcium hypochlorite	7778-54-3	10	13

SARA 311/312 Hazards

See above: SECTION 2. Hazard Identification-GHS Classification

SARA 302

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Components	CAS-No.	Component RQ (lbs)
Calcium hypochlorite	7778-54-3	10

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Components	CAS-No.	Concentration
Calcium hypochlorite	7778-54-3	

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

Components	CAS-No.
Calcium hypochlorite	7778-54-3
Calcium chlorate	10137-74-3
Calcium dihydroxide	1305-62-0
Calcium carbonate	471-34-1

Pennsylvania Right To Know

Components	CAS-No.
Calcium hypochlorite	7778-54-3
Sodium chloride	7647-14-5
Calcium chlorate	10137-74-3
Calcium chloride	10043-52-4
Calcium dihydroxide	1305-62-0
Calcium carbonate	471-34-1

New Jersey Right To Know

Components	CAS-No.
Calcium hypochlorite	7778-54-3
Sodium chloride	7647-14-5
Calcium dihydroxide	1305-62-0
Calcium chlorate	10137-74-3
Calcium chloride	10043-52-4
Calcium carbonate	471-34-1

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16. OTHER INFORMATION

SECTIONS REVISED: 1, 2
SECTIONS REVISED: Arch is a wholly-owned subsidiary of Lonza and continues to operate as Arch Chemicals, Inc.
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. .