Willkom, Mae - DNR

From: Miller, Anthony W. <awmiller@GFNET.com>
Sent: Wednesday, June 26, 2019 1:15 PM
To: Willkom, Mae - DNR
Cc: 'Bob Fuller'; Hager, Jim; 'Becky Anderson'
Subject: Use of Calcium Hypochlorite to Treat PW-16 - WRR (55929.005)
Attachments: Sanitize-kit.pdf; SDS-granules.pdf; SDS-pellets.pdf

Mae –

This email provides an update on private well PW-16 at the WRR site in Eau Claire, as you and I recently discussed. Don Sorensen is one of three residents at 5535 Wild Rose Lane where PW-16 is located. According to Don, he used a Well Safe kit to sanitize PW-16 in late April/early May 2019. The kit includes pellets and granules that contain calcium hypochlorite and generate chlorine when mixed with water. Attached are three pdfs that include the set of instructions that Don followed (*Sanitize-kit*) and safety data sheets for the granules (*SDS-granules*) and pellets (*SDS-pellets*) included in the Well Safe kit.

Chloroform is a byproduct of the chlorination of wells and drinking water, and the use of calcium hypochlorite most likely explains why chloroform was detected in the water sample collected from PW-16 on May 22, 2019. If so, the additional use of the well since then has likely decreased the residual concentration of chloroform below its NR 140 ES. For those reasons, immediate collection of a confirmation sample appears unnecessary. We will collect another sample from PW-16 this fall when we are conducting the semi-annual groundwater sampling event. In the meantime, please let me know if you have any questions or need additional information.

Thanks,

We've Moved!
Effective June 3, 2019, our new office address is:
Gannett Fleming, Inc. | 8040 Excelsior Dr., Madison, WI 53717-1338

Anthony W. Miller, P.S.S. | Project Manager | Senior Environmental Scientist
Gannett Fleming, Inc. | 8040 Excelsior Dr., Suite 303, Madison, WI 53717-1338
t 608.836.1500, ext 6716 | **c** 608.354.7730 | **f** 608.831.3337 | awmiller@gfnet.com
Excellence Delivered As Promised

From: Willkom, Mae - DNR <Mae.Willkom@wisconsin.gov>
Sent: Friday, June 14, 2019 10:08 AM
To: Miller, Anthony W. <awmiller@GFNET.com>
Subject: RE: BRRTS: 02-18-000274 - Letters to Private Well Owners - WRR (55929.005)

Thank you for sending. Because of the enforcement standard exceedance for chloroform in PW-16, confirmation sampling should be conducted as soon as possible.

Mae E. Willkom
Phone: 715-839-3748
mae.willkom@wi.gov

From: Miller, Anthony W. <awmiller@GFNET.com>
Sent: Wednesday, June 12, 2019 5:43 PM

To: Willkom, Mae - DNR <Mae.Willkom@wisconsin.gov>
Cc: Coenen, Douglas W - DNR <Douglas.Coenen@wisconsin.gov>
Subject: [WARNING: ATTACHMENT(S) MAY CONTAIN MALWARE]BRRTS: 02-18-000274 - Letters to Private Well Owners - WRR (55929.005)

Mae -

Attached are letters to the owners of private wells PW-11 and PW-16 located southwest of the WRR facility. The letters discuss the analytical results of water samples collected from their wells in May. Hard copies of the letters were mailed to owners today, and electronic copies of the letters were uploaded to the WDNR portal. Let me know if you have any questions or need additional information at this time.

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Well Safe
Well Sanitizer Kit

Sanitize Wells, Pumps, and Storage Tanks

When...
- -Pump Repair or Replacement
- -After any Water System Maintenance
- -Biannual Well Inspection & Sanitization

Why...
- -Kill Bacteria
- -Prolong Pump Life
- -Reduce Iron Bacteria Build-Up

Where...
- - Down the Well
- -Inside Storage Tank
- -Throughout Plumbing

STEP 1
Bypass water treatment equipment.
- Softeners
- Filters
- RO Systems, etc.

STEP 2
Remove well cap or seal.

STEP 3
Use pipe to get by any restriction in the well.

STEP 4
Pour determined amount of tablets down pipe to sanitize the bottom of the well.

STEP 5
Pour determined amount of granules in 5 gallons of water. Pour solution down the well to sanitize top of well casing. Note: Too much chlorine is better that not enough.

STEP 6
Use garden hose to circulate water in the well for at least 15 minutes. If chlorine smell is not strong, repeat steps 4 & 5. Run water through service line until you detect chlorine odor in all taps.

STEP 7
Let stand for at least 6 hours or overnight. Flush off well with garden hose until all chlorine smell is gone. Do the same with all faucets in the house.

STEP 8
Return all equipment to service position.

APPROVED AND REGISTERED WITH:
NSF USDA

Better Water Industries, Inc.
209 North Tyler Street • Tyler, Minnesota 56178
507-247-5929 • Fax 507-247-3416 • website: http://betterwaterind.com

We Take Pride in Protecting Your Water

WELL SAFE WELL SANITIZER KIT

It is important to sanitize a well twice a year, whether it is a new well or an existing well. If the well has been disrupted for service or repair, it is a must that it be sanitized. The well storage tank, pipelines, and fixtures should be rinsed with a strong sanitizing solution to kill all harmful pollutants.

The Well Sanitizer Kit can be used for well, storage tank, or cistern sanitation. The amount of tablets and granules used will depend on the amount of water in the system to be sanitized. Half of the total treatment will be completed with chlorine pellets and the other half will be completed with granular chlorine slurry. A 100-ppm chlorine concentration is ideal for sanitizing a well. To produce a 100-ppm chlorine concentration, use 2 oz. sanitizer pellets or granules for each 100 gallons of water in the system. (2oz. granules = 70 Pellets) If the water has a high iron or sulfur content more chlorine may be needed to achieve 100-ppm chlorine residual.

WELL SANITIZING INSTRUCTIONS

1. Bypass the water softener, other filters, or purification equipment.
2. Remove the cap or seal from the casing and, if possible, measure the depth of water in the well, then refer to the Table 10 below to determine how much sanitizer should be used. In some instances removing the seal to measure the water can be a difficult task. It may be easier to estimate well and water depth from well log or other records. As a general rule, it is better to use too much sanitizer than too little. If too much sanitizer is used, it will simply take longer for the taste and odor to leave the system.
3. Use a pipe to get by any restriction in the well, a 10' length of 3/4" PVC is usually ideal. (If it is not possible to remove the well cap, remove vent or sanitation plug.)
4. Drop one tablet into the well and listen to hear if the tablet hits the water (you will hear a "plink" sound). If the tablet hits the water, drop the remaining determined number of sanitizing tablets needed into the well.
5. Mix the determined amount of granules needed in a clean, plastic five (5) gallon container of water and pour the solution down the well to sanitize the upper portion of the well. **Do not add water to product – Add product to water.**
6. It is necessary to circulate the water in the well to mix the sanitizer thoroughly throughout the entire water system. Connect a hose to an outside silcock that is located after the pressure tank and run water back down the well (this also rinses upper portion of well). After approximately 15 minutes of circulating the water, a strong chlorine odor should be present; if not, repeat steps 4 and 5. Run water through service lines until you detect chlorine odor at all taps.
7. Allow the sanitized water to stand in the system for at least six (6) hours, although overnight is preferred. Open an outside faucet and flush system until water runs chlorine free (no chlorine smell is detected). Repeat flush operation on each faucet in the system. **Do not run high levels of chlorine into septic system.**

Note:

A) Chlorine may make the water run colored, and iron deposits, slime and organic material may break loose and plug pump screens.

*****DO NOT CONTINUE TO RUN PUMP IF WATER DOES NOT FLOW. *****

B) The high level of chlorine required to sanitize a water system is corrosive to most metals and the chlorine solution must not remain in the water system more than thirty-six (36) hours before completely flushing from the system.

8. Return all equipment to service position.
9. The water should be tested 2 to 3 weeks after sanitizing. If bacteria, iron bacteria, sulfur, or other problems recur, contact your water professional for further treatment.

TABLE 10

Well Diameter	Gallons of Water per 100 ft.	Oz. of Granules to achieve 100 ppm	Number of Pellets to Achieve 100 ppm
2"	20	0.4	14
3"	40	0.8	28
4"	70	1.3	49
5"	110	2.2	77
6"	150	2.9	106
8"	260	5.1	183
10"	410	8.0	289
12"	590	11.6	415
24"	2350	46.0	1654
36"	5290	104.0	3724

Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **Calcium Hypochlorite Granular**

Synonyms • All-Clear™ ChlorRight; All-Clear™ Shock Clear; AmeriChlor Calcium Hypochlorite Granules; Assalt 73; BioGuard Burn Out 73; BioGuard CLC Classic; Ca(OCl)2; Cal Hypo Granules; Calcium Hypochlorite; Calcium Hypochlorite Granular; Ideal Pool Products Super Shock 73; Induclor™; Induclor™ 70; Nature's Way Super Pool Shock; Pittclor 70; Pittclor®; Power Powder® Plus™; Power Powder® Pro™; Prestochlor™; Pro Team Power 73; ProGuard; Refresh Dry Chlorinating Granular; Re-Fresh®; Regal®; Repak™ + Granules; Repak™ Dry Chlorinating Granules; Super Pool Shock; Super Shock-It®; Super Shock-It® 73; Super Zappit™; Sustain® Shock Treatment; Vanguard® Plus Calcium Hypochlorite Granules; Zappit™; Zappit™ 73

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Industrial Application, Chlorine Disinfectant, Pool Chemicals

1.3 Details of the supplier of the safety data sheet

Manufacturer • Axiall, LLC

1000 Abernathy Rd. NE, Suite 1200
Atlanta, GA 30328
United States
www.axiall.com
msdsinfo@axiall.com

Telephone (General) • +1 225-685-1240

Supplier • Solucor

10 Reagens Industrial Parkway
Bradford L3Z 2A4
Canada
www.axiall.com
msdsinfo@axiall.com

Telephone (General) • 905-775-5000

1.4 Emergency telephone number

Manufacturer • +1 304-455-6882

Supplier • +1 304-455-6882

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 2015/830]

2.1 Classification of the substance or mixture

CLP • Oxidizing Solids 2 - H272
Acute Toxicity Oral 4 - H302

Skin Corrosion 1B - H314
Serious Eye Damage 1 - H318
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335
Hazardous to the aquatic environment Acute 1 - H400

2.2 Label Elements

CLP

DANGER

Hazard statements
- H272 - May intensify fire; oxidizer
- H302 - Harmful if swallowed
- H318 - Causes serious eye damage
- H314 - Causes severe skin burns and eye damage.
- H335 - May cause respiratory irritation
- H400 - Very toxic to aquatic life

Prevention
- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P220 - Keep/Store away from clothing and other combustible materials.
- P221 - Take any precaution to avoid mixing with combustibles
- P260 - Do not breathe dusts or mists.
- P261 - Avoid breathing dust, fume, gas, mist, vapours and/or spray.
- P264 - Wash thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P271 - Use only outdoors or in a well-ventilated area.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response
- P370+P378 - In case of fire: Use to extinguish.
- P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P310 - Immediately call a POISON CENTER or doctor/physician.
- P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P321 - Specific treatment, see supplemental first aid information.
- P363 - Wash contaminated clothing before reuse.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P301+P312 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician if you feel unwell.
- P330 - Rinse mouth.
- P331 - Do NOT induce vomiting.
- P391 - Collect spillage.

Storage/Disposal
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
- P405 - Store locked up.
- P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Supplemental information
- 0 - 3 percent of this product consists of an ingredient of unknown toxicity.

2.3 Other Hazards

CLP
- According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012
- Oxidizing Solids 2

Acute Toxicity Oral 4
Skin Corrosion 1B
Serious Eye Damage 1
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation

2.2 Label elements

OSHA HCS 2012

DANGER

Hazard statements •
May intensify fire; oxidizer
Harmful if swallowed
Causes severe skin burns and eye damage.
Causes serious eye damage
May cause respiratory irritation

Precautionary statements

Prevention •
Keep away from heat.
Keep/Store away from clothing and other combustible materials.
Take any precaution to avoid mixing with combustibles
Do not breathe dust.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

Response •
In case of fire: Use to extinguish.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER/doctor/ if you feel unwell.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
Specific treatment, see supplemental first aid information.
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/ .
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Storage/Disposal •
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Supplemental information • 0 - 3 percent of this product consists of an ingredient of unknown toxicity.

2.3 Other hazards

OSHA HCS 2012 • Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to: WHMIS 2015

2.1 Classification of the substance or mixture

WHMIS 2015 •
Oxidizing Solids 2
Acute Toxicity Oral 4
Skin Corrosion 1B
Serious Eye Damage 1
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation

2.2 Label elements

WHMIS 2015

DANGER

Hazard statements

- May intensify fire; oxidizer
  Harmful if swallowed
  Causes severe skin burns and eye damage.
  Causes serious eye damage
  May cause respiratory irritation

Precautionary statements

Prevention

- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  Keep away from clothing and other combustible materials.
  Do not breathe dust.
  Wash thoroughly after handling.
  Do not eat, drink or smoke when using this product.
  Use only outdoors or in a well-ventilated area.
  Wear protective gloves/protective clothing/eye protection/face protection.
  Wear fire resistant or flame retardant clothing.

Response

- In case of fire: Use to extinguish.
  IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  Call a POISON CENTER/doctor/ if you feel unwell.
  IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
  Wash contaminated clothing before reuse.
  Immediately call a POISON CENTER/doctor/ .
  Specific treatment, see supplemental first aid information.
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
  IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell.

Storage/Disposal

- Store in a well-ventilated place. Keep container tightly closed.
  Store locked up.
  Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3 Other hazards

WHMIS 2015

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance.

3.2 Mixtures

Composition				
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**

Calcium hypochlorite	**CAS:**7778-54-3 **EC Number:**231-908-7 **EU Index:**017-012-00-7	65% TO 76%	NDA	**EU CLP:** Annex VI, Table 3.1: Ox. Sol. 2, H272; Acute Tox. 4 *, H302; Skin Corr. 1B, H314; Aquatic Acute 1, H400 **OSHA HCS 2012:** Ox. Sol. 2; Skin Corr. 1B; Eye Dam. 1; Acute Tox. 4 (Orl); STOT SE 3: Resp. Irrit. **WHMIS 2015:** Ox. Sol. 2; Skin Corr. 1B; Eye Dam. 1; Acute Tox. 4 (Orl); STOT SE 3: Resp. Irrit.
Sodium chloride	**CAS:**7647-14-5 **EC Number:**231-598-3	10% TO 30%	Ingestion/Oral-Rat LD50 • 3000 mg/kg	**EU CLP:** Eye Irrit. 2, H319 **OSHA HCS 2012:** Eye Irrit. 2 **WHMIS 2015:** Eye Irrit. 2
Calcium hydroxide	**CAS:**1305-62-0 **EC Number:**215-137-3	1% TO 3%	Ingestion/Oral-Rat LD50 • 7340 mg/kg	**EU CLP:** Eye Dam. 1, H318; Skin Corr. 1, H314; Aquatic Chronic 3, H412 **OSHA HCS 2012:** Skin Corr. 1; Eye Dam. 1 **WHMIS 2015:** Skin Corr. 1; Eye Dam. 1
Calcium chlorate	**CAS:**10137-74-3 **EINECS:**233-378-2	0% TO 3%	NDA	**EU CLP:** Ox. Sol. 2, H272 **OSHA HCS 2012:** Ox. Sol. 2 **WHMIS 2015:** Ox. Sol. 2
Calcium carbonate	**CAS:**471-34-1 **EC Number:**207-439-9	1% TO 3%	Ingestion/Oral-Rat LD50 • 6450 mg/kg	**EU CLP:** Skin Irrit. 2, H315; Eye Irrit. 2, H319 **OSHA HCS 2012:** Skin Irrit. 2; Eye Irrit. 2 **WHMIS 2015:** Skin Irrit. 2; Eye Irrit. 2
Calcium chloride	**CAS:**10043-52-4 **EC Number:**233-140-8 **EU Index:**017-013-00-2	0.1%	Ingestion/Oral-Rat LD50 • 1 g/kg	**EU CLP:** Annex VI, Table 3.1: Eye Irrit. 2, H319 **OSHA HCS 2012:** Eye Irrit. 2; Acute Tox. 4 (Orl) **WHMIS 2015:** Eye Irrit. 2; Acute Tox. 4 (Orl)

See Section 16 for full text of H-statements.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation

- Move victim to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration. Do not use mouth-to-mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one -way valve or other proper respiratory medical device. Call a poison center control center or doctor for further treatment advice.

Skin

- For minor skin contact, avoid spreading material on unaffected skin. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Remove and isolate contaminated clothing. Call a poison center or doctor for treatment advice.

Eye

- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. Remove contact lenses, if present after the first 5 minutes. Continue Rinsing. Call a poison control center or doctor for further treatment advice.

Ingestion

- If swallowed, seek medical attention immediately from poison control center or doctor. Have a person sip a glass of water, if able to swallow. Do not give anything by mouth to an unconscious person. Do not induce vomiting unless told to do so by the poison control center or doctor.

4.2 Most important symptoms and effects, both acute and delayed

- If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during, or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person. Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician

- Probable mucosal damage may contraindicate the use of gastric lavage. All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials

other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- Drench with large quantities of water only.

Unsuitable Extinguishing Media
- Do not use dry chemicals or foams. Product supplies own oxygen, therefore attempts to smother fire with a wet blanket, carbon dioxide, dry chemical extinguisher or other means are not effective. Product has the potential to cause a violent reaction if dry chemical fire extinguishers are used.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- Containers may explode when heated.
May explode from heat or contamination.
May ignite combustibles (wood, paper, oil, clothing, etc.)
Runoff may create fire or explosion hazard.
Some will react explosively with hydrocarbons (fuels)
These substances will accelerate burning when involved in a fire.
Emits toxic fumes under fire conditions.
Chlorine gas may be generated.

Hazardous Combustion Products
- Depending on conditions, decomposition products may include the following materials: carbon oxides; halogenated compounds; metal oxide/oxides.

5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
Wear positive pressure self-contained breathing apparatus (SCBA).
SMALL FIRES: Move containers from fire area if you can do it without risk.
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.
No action shall be taken involving any personal risk or without suitable training.
This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Use extreme caution in handling spilled material. Ventilate the area before entry. Use spark-proof tools and explosion-proof equipment. Do not walk through spilled material. Do not mix this product with any other chemicals, including any other pool chemicals of any kind, such as other disinfection or "shock" pool products. Contamination with moisture, acids, organic matter, other chemicals (including, but not limited to cleaning chemicals and other pool chemicals), petroleum or paint products or other easily combustible materials may start a chemical reaction with generation of heat, liberation of hazardous gases and possible violent reaction leading to fire or explosion. Wear appropriate personal protective equipment, avoid direct contact. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Emergency Procedures
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Do not get water inside container.

6.2 Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Avoid generating dust.
  If fire or decomposition occurs in area of spill, immediately douse with plenty of water. Otherwise, sweep up all visible material using a clean (new, ifpossible), dry shovel and broom and immediately dissolve material in a water-filledcontainer.
  Spilled material that has been swept up and dissolved in water should be used immediately in the normal application for which this product is being consumed.

6.4 Reference to other sections

- Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- Use extreme caution in handling spilled material. Use only with adequate ventilation. Keep away from combustible material. Strong oxidizer. Contact with other material may cause fire. Use spark-proof tools and explosion-proof equipment. Do not mix this product with any other chemicals, including any other pool chemicals of any kind, such as other disinfection or "shock" pool products. Contamination with moisture, acids, organic matter, other chemicals (including, but not limited to cleaning chemicals and other pool chemicals), petroleum or paint products or other easily combustible materials may start a chemical reaction with generation of heat, liberation of hazardous gases and possible violent reaction leading to fire or explosion. Always add product to large quantities of water to fully dissolve product. Do not pour water into product, always add product to water. Use only a clean (new, if possible), dry scoop made of metal or plastic each time product is taken from the container. Do not add this product to any dispensing device containing remnants of any other product or pool chemical. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Empty containers retain product residue and can be hazardous. Do not reuse container. Residual material remaining in empty container can react to cause fire. Thoroughly flush empty container with water then destroy by placing in trash collection.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Ventilate enclosed areas. Keep only in the original container. Keep container closed. Separate from acids, alkalis, reducing agents and combustibles. See NFPA 400. Hazardous Materials Code for further information. Store in a cool, dry, well-ventilated place. If product becomes contaminated or decomposes do not reseal container. If possibleisolate container in open air or well-ventilated area.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Canada British Columbia	Canada Ontario	Canada Quebec	NIOSH
Calcium chloride (10043-52-4)	TWAs	Not established	Not established	5 mg/m3 TWA	Not established	Not established
Calcium hydroxide (1305-62-0)	TWAs	5 mg/m3 TWA	5 mg/m3 TWA	5 mg/m3 TWA	5 mg/m3 TWAEV	5 mg/m3 TWA

Calcium carbonate (471-34-1)	TWAs	Not established	Not established	Not established	10 mg/m3 TWAEV (total dust)	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)

Exposure Limits/Guidelines (Con't.)		
	Result	OSHA
Calcium hydroxide (1305-62-0)	TWAs	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)

8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

Personal Protective Equipment

Respiratory

- If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Eye/Face

- Wear chemical splash goggles and face shield.

Skin/Body

- Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. HANDS: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. GLOVES: Nitrile, neoprene, and butyl rubber.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene
NIOSH = National Institute of Occupational Safety and Health
OSHA = Occupational Safety and Health Administration
STEL = Short Term Exposure Limits are based on 15-minute exposures
STEV = Short Term Exposure Value
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures
TWAEV = Time-Weighted Average Exposure Value

Section 9 - Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Various colored solid (granular solid) with a slight chlorine odor.
Color	Various colors.	Odor	Chlorine
Odor Threshold	No data available		
General Properties			
Boiling Point	170 to 180 °C(338 to 356 °F) Decomposes	Melting Point/Freezing Point	No data available
Decomposition Temperature	170 to 180 °C(338 to 356 °F)	pH	Alkaline

Specific Gravity/Relative Density	No data available	Bulk Density	1 to 1.07 g/cm³
Water Solubility	Soluble 100 %	Viscosity	No data available
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available	Volatiles (Wt.)	0 %
Volatiles (Vol.)	0 %		
Flammability			
Flash Point	Not relevant	UEL	Not relevant
LEL	Not relevant	Autoignition	No data available
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition coefficient	No data available		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- The product may not be stable under certain conditions of storage or use. Product decomposes at approximately 170-180°C (338-356°F) releasing oxygen gas and some chlorine gas.

10.3 Possibility of hazardous reactions

- Hazardous reactions or instability may occur under certain conditions of storage or use. Conditions may include the following: contact with combustible materials, contact with acids/ammonia. Reactions may include the following: risk of causing or intensifying fire, liberation of toxic gas.

10.4 Conditions to avoid

- Heating may cause a fire or explosion. Excessive heat will cause decomposition resulting in the release of oxygen and chlorine gas.

10.5 Incompatible materials

- Highly reactive or incompatible with the following materials: moisture, combustible materials, organic materials, metals, acids, alkalis, oxidizing materials, reducing materials, ammonia, petroleum products, paint products, wood and paper, and pool chemicals. Acid or ammonia contamination will release toxic gases.

10.6 Hazardous decomposition products

- Depending on conditions, product slowly releases chlorine gas.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Calcium chloride (0.1%)	10043-52-4	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 1 g/kg
Calcium hydroxide (1% TO 3%)	1305-62-0	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 7340 mg/kg; **Irritation:** Eye-Rabbit • 10 mg • Severe irritation

Calcium carbonate (1% TO 3%)	471-34-1	**Irritation:** Eye-Rabbit • 750 µg 24 Hour(s) • Severe irritation
Sodium chloride (10% TO 30%)	7647-14-5	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 3000 mg/kg; **Irritation:** Eye-Rabbit • 100 mg 24 Hour(s) • Moderate irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Mild irritation; **Multi-dose Toxicity:** Ingestion/Oral-Rat TDLo • 201.6 g/kg 6 Week(s)-Intermittent; *Vascular*:**BP elevation not characterized in autonomic section**; **Mutagen:** Unscheduled DNA synthesis • Ingestion/Oral-Rat • 16800 mg/kg 4 Week(s)-Continuous; **Reproductive:** Ingestion/Oral-Rat TDLo • 56400 mg/kg (5D pre-21D post); *Reproductive Effects:Maternal Effects*:**Postpartum**; *Reproductive Effects:Effects on Newborn*:**Biochemical and metabolic**
Calcium hypochlorite (65% TO 76%)	7778-54-3	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 850 mg/kg

GHS Properties	Classification
Acute toxicity	**EU/CLP** • Acute Toxicity - Oral 4 - ATEmix (Orl) = 1118 mg/kg **OSHA HCS 2012** • Acute Toxicity - Oral 4 - ATEmix (Orl) = 1054 mg/kg **WHMIS 2015** • Acute Toxicity - Oral 4 - ATEmix (Orl) = 1054 mg/kg
Skin corrosion/Irritation	**EU/CLP** • Skin Corrosion 1B **OSHA HCS 2012** • Skin Corrosion 1B **WHMIS 2015** • Skin Corrosion 1B
Serious eye damage/Irritation	**EU/CLP** • Serious Eye Damage 1 **OSHA HCS 2012** • Serious Eye Damage 1 **WHMIS 2015** • Serious Eye Damage 1
Skin sensitization	**EU/CLP** • No data available **OSHA HCS 2012** • No data available **WHMIS 2015** • No data available
Respiratory sensitization	**EU/CLP** • No data available **OSHA HCS 2012** • No data available **WHMIS 2015** • No data available
Aspiration Hazard	**EU/CLP** • No data available **OSHA HCS 2012** • No data available **WHMIS 2015** • No data available
Carcinogenicity	**EU/CLP** • No data available **OSHA HCS 2012** • No data available **WHMIS 2015** • No data available
Germ Cell Mutagenicity	**EU/CLP** • No data available **OSHA HCS 2012** • No data available **WHMIS 2015** • No data available
Toxicity for Reproduction	**EU/CLP** • No data available **OSHA HCS 2012** • No data available **WHMIS 2015** • No data available
STOT-SE	**EU/CLP** • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation **OSHA HCS 2012** • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation **WHMIS 2015** • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
STOT-RE	**EU/CLP** • No data available **OSHA HCS 2012** • No data available **WHMIS 2015** • No data available

Potential Health Effects

Inhalation

Acute (Immediate)
- May cause corrosive burns - irreversible damage. May cause respiratory irritation.

Chronic (Delayed)
- Repeated or prolonged exposure to corrosive fumes may cause bronchial irritation with chronic cough.

Skin

Acute (Immediate)
- Causes severe skin burns.

Chronic (Delayed)
- Repeated or prolonged exposure to corrosive materials will cause dermatitis.

Eye

Acute (Immediate)
- Causes serious eye damage. Direct contact with the eyes can cause irreversible damage, including blindness.

Chronic (Delayed)
- Repeated or prolonged exposure to corrosive materials or fumes may cause conjunctivitis.

Ingestion

Acute (Immediate)
- Harmful or fatal if swallowed. May cause irreversible damage to mucous membranes.

Chronic (Delayed)
- Repeated or prolonged exposure to corrosive materials or fumes may cause gastrointestinal distrubances.

Carcinogenic Effects
- This material contains components that may cause cancer, however, based on regulatory criteria this material is not classified as a carcinogen.

Key to abbreviations
LD = Lethal Dose
TD = Toxic Dose

Section 12 - Ecological Information

12.1 Toxicity

	CAS	
Calcium Hypochlorite Granular	NDA	**Aquatic Toxicity-Fish:** 96 Hour(s) LC50 *Bluegill - Lepomis macrochirus* 57-60 µg/L [Fresh water] Comments: Calcium hypochlorite 96 Hour(s) LC50 *Atlantic silverside - Menidia menidia* 37 µg/L [Marine water] Comments: Calcium hypochlorite 96 Hour(s) LC50 *Bluegill - Lepomis macrochirus* 1294600 µg/L [Fresh water] Comments: Sodium chloride 96 Hour(s) LC50 *Guppy - Poecilia reticulata* 356 mg/L [Marine water] Comments: Calcium hydroxide 96 Hour(s) NOEC *Guppy - Poecilia reticulata* 56 mg/L [Marine water] Comments: Calcium hydroxide **Aquatic Toxicity-Crustacea:** 48 Hour(s) EC50 *Water flea - Daphnia magna* 402600-469200 µg/L [Fresh water] Comments: Sodium chloride 48 Hour(s) EC50 *Water flea - Daphnia magna* 0.073-0.079 µg/L [Marine water] Comments: Calcium hypochlorite

- LC50: 0.088 mg/L (96 hr, Bluegill Sunfish) Very toxic to aquatic life. Do not allow to enter groundwater, surface water or drains.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste

- The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Spilled material that has been swept up and dissolved in water should be used immediately in the normal application for which this product is being consumed. If this is not possible, material may be neutralized. Please contact Axiall Corporation Emergency Response team for guidance at 304-455-6882. Note: Only properly neutralized material should be flushed to sewer. Unneutralized material can cause environmental damage to receiving water or can interfere with treatment plant operation. Care must be taken when using or disposing of chemical materials and/or their containers to prevent environmental contamination. Empty containers retain product residue and can be hazardous. Residual material remaining in empty container can react to cause fire. Thoroughly flush empty container with water then destroy by placing in trash collection. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN2880	Calcium hypochlorite, hydrated	5.1	II	Marine Pollutant
TDG	UN2880	CALCIUM HYPOCHLORITE, HYDRATED	5.1	II	Marine Pollutant
IMO/IMDG	UN2880	CALCIUM HYPOCHLORITE, HYDRATED	5.1	II	Marine Pollutant
IATA/ICAO	UN2880	Calcium hypochlorite, hydrated	5.1	II	Chronic Aquatic Toxicity

14.6 Special precautions for user

- Under 49 CFR (DOT), non-bulk U.S. domestic shipments by ground do not require Marine Pollutant markings or labels, nor does Marine Pollutant need to be mentioned on shipping papers.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

- Data lacking.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications

- Acute, Fire

FIFRA – Pesticide Labeling

This chemical is a pesticide product registered by the Environmental Protection

Agency and is regulated under FIFRA. Pesticide products are exempt from TSCA and not subject to inventory requirements.

- This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

Inventory						
Component	**CAS**	**Canada DSL**	**Canada NDSL**	**EU EINECS**	**EU ELNICS**	**TSCA**
Calcium chloride	10043-52-4	Yes	No	Yes	No	Yes
Calcium hydroxide	1305-62-0	Yes	No	Yes	No	Yes
Calcium carbonate	471-34-1	Yes	No	Yes	No	Yes
Calcium chlorate	10137-74-3	No	No	Yes	No	No
Calcium hypochlorite	7778-54-3	Yes	No	Yes	No	Yes
Sodium chloride	7647-14-5	Yes	No	Yes	No	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Calcium chloride	10043-52-4	D2B
• Calcium hypochlorite	7778-54-3	C, E
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	E
• Sodium chloride	7647-14-5	Uncontrolled product according to WHMIS classification criteria
• Calcium carbonate	471-34-1	Uncontrolled product according to WHMIS classification criteria

Canada - WHMIS - Ingredient Disclosure List

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	1 %
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

Environment

Canada - CEPA - Priority Substances List

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed

• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	10 lb final RQ; 4.54 kg final RQ
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - TSCA (Toxic Substances Control Act) - Section 12(b) - Export Notification

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed

• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Female		
• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Male		
• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

15.3 Other Information

- WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H315 - Causes skin irritation
  H319 - Causes serious eye irritation
  H412 - Harmful to aquatic life with long lasting effects

Revision Date
- 20/September/2016

Preparation Date
- 13/October/2015

Disclaimer/Statement of Liability
- The technical data given herein is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release, and is not to be considered a warranty or quality specification. No guarantee is being given as to the end use performance. The product is sold on the basis that buyers test the product for their specific purposes. This information related to the material designated and may not be valid for such material used in combination with any other materials or in any process.

Key to abbreviations

NDA = No Data Available

Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **Calcium Hypochlorite Tablets**

Synonyms • 7000; Accu-Tab® SI Calcium Hypochlorite Tablets; Accu-Tab® Wastewater Tablets; Aquabalance Blue SI Calcium Hypochlorite Tablets; Aquaward® Tablets; Bio-Sanitizer; Blue Crystal; C2180T; Ca(OCl)2. Accu-Tab® Blue Calcium Hypochlorite Tablets; Cal Hypo Tablets; Indutabs™; Jet-Chlor; Leslie's Power Pro™ Tabs®; Pittabs™; PML Pool Management Line Calcium Hypochlorite Tablets; Repak™ Tabs; Sanuril® Tablets; Sustain® 3" Chlorinating Tablets; Sustain® Shield Energizer; VersaChlor™ System Chlorinating Tablets

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Industrial Application, Chlorine Disinfectant, Pool Chemicals

1.3 Details of the supplier of the safety data sheet

Manufacturer • Axiall, LLC

1000 Abernathy Rd. NE, Suite 1200
Atlanta, GA 30328
United States
www.axiall.com
msdsinfo@axiall.com

Telephone (General) • +1 225-685-1240

1.4 Emergency telephone number

Manufacturer • +1 304-455-6882

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 2015/830]

2.1 Classification of the substance or mixture

CLP • Oxidizing Solids 2 - H272
Acute Toxicity Oral 4 - H302
Skin Corrosion 1B - H314
Hazardous to the aquatic environment Acute 1 - H400

2.2 Label Elements

CLP

DANGER

Hazard statements • H272 - May intensify fire; oxidizer

H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage.
H400 - Very toxic to aquatic life

Prevention •
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 - Keep/Store away from clothing and other combustible materials.
P221 - Take any precaution to avoid mixing with combustibles
P260 - Do not breathe dust.
P264 - Wash thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response •
P370+P378 - In case of fire: Use appropriate media for extinction.
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 - Wash contaminated clothing before reuse.
P321 - Specific treatment, see supplemental first aid information.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P310 - Immediately call a POISON CENTER or doctor/physician.
P391 - Collect spillage.

Storage/Disposal •
P405 - Store locked up.
P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Supplemental information • 1-3 percent of this product consists of an ingredient of unknown toxicity.

2.3 Other Hazards

CLP • According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

UN GHS Revision 3

According to: UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS): Third Revised Edition

2.1 Classification of the substance or mixture

UN GHS •
Oxidizing Solids 2
Acute Toxicity Oral 4
Skin Corrosion 1B
Serious Eye Damage 1
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
Hazardous to the aquatic environment Acute 1
Hazardous to the aquatic environment Chronic 1

2.2 Label elements

UN GHS

DANGER

Hazard statements •
May intensify fire; oxidizer
Harmful if swallowed
Causes severe skin burns and eye damage.
Causes serious eye damage
May cause respiratory irritation
Very toxic to aquatic life

Very toxic to aquatic life with long lasting effects

Precautionary statements

Prevention •
Keep away from heat.
Keep/Store away from clothing and other combustible materials.
Do not eat, drink or smoke when using this product.
Take any precaution to avoid mixing with combustibles
Use only outdoors or in a well-ventilated area.
Do not breathe dust.
Wash thoroughly after handling.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.

Response •
In case of fire: Use appropriate media for extinction.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
Specific treatment, see supplemental first aid information.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Immediately call a POISON CENTER or doctor/physician.
Collect spillage.

Storage/Disposal •
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Supplemental information •
1-3 percent of this product consists of an ingredient of unknown toxicity.

2.3 Other hazards

UN GHS •
According to the Globally Harmonized System for Classification and Labeling (GHS) this product is considered hazardous

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012 •
Oxidizing Solids 2
Acute Toxicity Oral 4
Skin Corrosion 1B
Serious Eye Damage 1
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation

2.2 Label elements

OSHA HCS 2012

DANGER

Hazard statements •
May intensify fire; oxidizer
Harmful if swallowed
Causes severe skin burns and eye damage.
Causes serious eye damage
May cause respiratory irritation

Precautionary statements

Prevention •
Keep away from heat.
Keep/Store away from clothing and other combustible materials.
Take any precaution to avoid mixing with combustibles
Do not breathe dust.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

Response •
In case of fire: Use appropriate media for extinction.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
Specific treatment, see supplemental first aid information.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Immediately call a POISON CENTER or doctor/physician.

Storage/Disposal •
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Supplemental information • 1-3 percent of this product consists of an ingredient of unknown toxicity.

2.3 Other hazards

OSHA HCS 2012 • Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to: WHMIS 2015

2.1 Classification of the substance or mixture

WHMIS 2015 •
Oxidizing Solids 2
Acute Toxicity Oral 4
Skin Corrosion 1B
Serious Eye Damage 1
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation

2.2 Label elements

WHMIS 2015

DANGER

Hazard statements •
May intensify fire; oxidizer
Harmful if swallowed
Causes severe skin burns and eye damage.
Causes serious eye damage
May cause respiratory irritation

Precautionary statements

Prevention •
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep away from clothing and other combustible materials.
Do not breathe dust.
Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Wear fire resistant or flame retardant clothing.

Response • In case of fire: Use to extinguish.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/ if you feel unwell.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
Wash contaminated clothing before reuse.
Specific treatment, see supplemental first aid information.
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/ .
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell.

Storage/Disposal • Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Supplemental information • 1-3 percent of this product consists of an ingredient of unknown toxicity.

2.3 Other hazards

WHMIS 2015 • In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

• Material does not meet the criteria of a substance.

3.2 Mixtures

Composition				
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**
Calcium hypochlorite	**CAS:**7778-54-3 **EC Number:**231-908-7 **EU Index:**017-012-00-7	65% TO 76%	NDA	**EU CLP:** Annex VI, Table 3.1: Ox. Sol. 2, H272; Acute Tox. 4 *, H302; Skin Corr. 1B, H314; Aquatic Acute 1, H400 **UN GHS Revision 3:** Ox. Sol. 2; Skin Corr. 1B; Eye Dam. 1; Acute Tox. 4 (orl); STOT SE 3: Resp. Irrit; Aquatic Acute 1; Aquatic Chronic 1 **OSHA HCS 2012:** Ox. Sol. 2; Skin Corr. 1B; Eye Dam. 1; Acute Tox. 4 (orl); STOT SE 3: Resp. Irrit. **WHMIS 2015:** Ox. Sol. 2; Skin Corr. 1B; Eye Dam. 1; Acute Tox. 4 (orl); STOT SE 3: Resp. Irrit.
Sodium chloride	**CAS:**7647-14-5 **EC Number:**231-598-3	10% TO 30%	Ingestion/Oral-Rat LD50 • 3000 mg/kg	**EU CLP:** Eye Irrit 2, H319 **UN GHS Revision 3:** Eye Irrit. 2; Acute Tox. 5 (orl); Skin Irrit. 3 **OSHA HCS 2012:** Eye Irrit. 2 **WHMIS 2015:** Eye Irrit. 2
Calcium hydroxide	**CAS:**1305-62-0 **EC Number:**215-137-3	1% TO 3%	Ingestion/Oral-Rat LD50 • 7340 mg/kg	**EU CLP:** Eye Dam. 1 H318; Skin Corr. 1. H314; Aquatic Chronic 3, H412 **UN GHS Revision 3:** Eye Dam. 1; Skin Corr. 1; **OSHA HCS 2012:** Eye Dam. 1; Skin Corr. 1 **WHMIS 2015:** Eye Dam. 1; Skin Corr. 1

Calcium chlorate	**CAS:**10137-74-3 **EINECS:**233-378-2	0% TO 3%	NDA	**EU CLP:** Ox. Sol. 2, H272 **UN GHS Revision 3:** Ox. Sol. 2 **OSHA HCS 2012:** Ox. Sol. 2 **WHMIS 2015:** Ox. Sol. 2
Calcium carbonate	**CAS:**471-34-1 **EC Number:**207-439-9	1% TO 3%	Ingestion/Oral-Rat LD50 • 6450 mg/kg	**EU CLP:** Skin Irrit. 2, H315; Eye Irrit. 2, H319 **UN GHS Revision 3:** Eye Irrit. 2; Skin Irrit. 2 **OSHA HCS 2012:** Eye Irrit. 2; Skin Irrit. 2 **WHMIS 2015:** Eye Irrit. 2; Skin Irrit. 2
Pentasodium triphosphate	**CAS:**7758-29-4 **EC Number:**231-838-7	< 1%	Ingestion/Oral-Rat LD50 • 3120 mg/kg Skin-Rabbit LD50 • >4640 mg/kg	**EU CLP:** Skin Irrit. 2, H315 **UN GHS Revision 3:** Skin Irrit. 2; Acute Tox. 5 (orl) **OSHA HCS 2012:** Skin Irrit. 2 **WHMIS 2015:** Skin Irrit. 2
Calcium chloride	**CAS:**10043-52-4 **EC Number:**233-140-8 **EU Index:**017-013-00-2	0.1%	Ingestion/Oral-Rat LD50 • 1 g/kg	**EU CLP:** Annex VI, Table 3.1: Eye Irrit. 2, H319 **UN GHS Revision 3:** Eye Irrit. 2; Acute Tox. 4 (orl); **OSHA HCS 2012:** Eye Irrit. 2; Acute Tox. 4 (orl); **WHMIS 2015:** Eye Irrit. 2; Acute Tox. 4 (orl)

See Section 16 for full text of H-statements.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation

- Move victim to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration. Do not use mouth-to-mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a poison center control center or doctor for further treatment advice.

Skin

- For minor skin contact, avoid spreading material on unaffected skin. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Remove and isolate contaminated clothing. Call a poison center or doctor for treatment advice.

Eye

- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a Poison Control Center or doctor for treatment advice.

Ingestion

- If swallowed, seek medical attention immediately from poison control center or doctor. Have a person sip a glass of water, if able to swallow. Do not give anything by mouth to an unconscious person. Do not induce vomiting unless told to do so by the poison control center or doctor.

4.2 Most important symptoms and effects, both acute and delayed

- If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during, or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person. Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician

- Probable mucosal damage may contraindicate the use of gastric lavage. All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- Drench with large quantities of water only.

Unsuitable Extinguishing Media
- Do not use dry chemicals or foams. Product supplies own oxygen, therefore attempts to smother fire with a wet blanket, carbon dioxide, dry chemical extinguisher or other means are not effective. Product has the potential to cause a violent reaction if dry chemical fire extinguishers are used.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- Containers may explode when heated.
May explode from heat or contamination.
May ignite combustibles (wood, paper, oil, clothing, etc.)
Runoff may create fire or explosion hazard.
Some will react explosively with hydrocarbons (fuels)
These substances will accelerate burning when involved in a fire.
Emits toxic fumes under fire conditions.
Chlorine gas may be generated.

Hazardous Combustion Products
- Decomposition products may include the following materials: carbon oxides; halogenated compounds; metal oxide/oxides.

5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
Wear positive pressure self-contained breathing apparatus (SCBA).
SMALL FIRES: Move containers from fire area if you can do it without risk.
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.
No action shall be taken involving any personal risk or without suitable training.
This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Use extreme caution in handling spilled material. Ventilate the area before entry. Use spark-proof tools and explosion-proof equipment. Do not walk through spilled material. Do not mix this product with any other chemicals, including any other pool chemicals of any kind, such as other disinfection or "shock" pool products. Contamination with moisture, acids, organic matter, other chemicals (including, but not limited to cleaning chemicals and other pool chemicals), petroleum or paint products or other easily combustible materials may start a chemical reaction with generation of heat, liberation of hazardous gases and possible violent reaction leading to fire or explosion. Wear appropriate personal protective equipment, avoid direct contact. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Emergency Procedures
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Do not get water inside container.

6.2 Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Avoid generating dust.
If fire or decomposition occurs in area of spill, immediately douse with plenty of water. Otherwise, sweep up all visible material using a clean (new, ifpossible), dry shovel and broom and immediately dissolve material in a water-filledcontainer.
Spilled material that has been swept up and dissolved in water should be used immediately in the normal application for which this product is being consumed.

6.4 Reference to other sections

- Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- Use extreme caution in handling spilled material. Use only with adequate ventilation. Keep away from combustible material. Strong oxidizer. Contact with other material may cause fire. Use spark-proof tools and explosion-proof equipment. Do not mix this product with any other chemicals, including any other pool chemicals of any kind, such as other disinfection or "shock" pool products. Contamination with moisture, acids, organic matter, other chemicals (including, but not limited to cleaning chemicals and other pool chemicals), petroleum or paint products or other easily combustible materials may start a chemical reaction with generation of heat, liberation of hazardous gases and possible violent reaction leading to fire or explosion. Always add product to large quantities of water to fully dissolve product. Do not pour water into product, always add product to water. Use only a clean (new, if possible), dry scoop made of metal or plastic each time product is taken from the container. Do not use with stabilized chlorine or bromine tablet chemical feeders. Do not add this product to any dispensing device containing remnants of any other product or pool chemical. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Empty containers retain product residue and can be hazardous. Do not reuse container. Residual material remaining in empty container can react to cause fire. Thoroughly flush empty container with water then destroy by placing in trash collection.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Ventilate enclosed areas. Keep only in the original container. Keep container closed. Separate from acids, alkalis, reducing agents and combustibles. See NFPA 400. Hazardous Materials Code for further information. Store in a cool, dry, well-ventilated place. If product becomes contaminated or decomposes do not reseal container. If possibleisolate container in open air or well-ventilated area.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	**ACGIH**	**Canada British Columbia**	**Canada Ontario**	**Canada Quebec**	**NIOSH**
C.I. Pigment Blue 15	TWAs	1 mg/m3 TWA (dust and mist, as Cu) *as Copper compounds*	Not established	Not established	Not established	1 mg/m3 TWA (dust and mist, as Cu) *as Copper compounds*
Calcium chloride (10043-52-4)	TWAs	Not established	Not established	5 mg/m3 TWA	Not established	Not established
Calcium hydroxide (1305-62-0)	TWAs	5 mg/m3 TWA	5 mg/m3 TWA	5 mg/m3 TWA	5 mg/m3 TWAEV	5 mg/m3 TWA
Calcium carbonate (471-34-1)	TWAs	Not established	Not established	Not established	10 mg/m3 TWAEV (total dust)	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)

Exposure Limits/Guidelines (Con't.)		
	Result	OSHA
Calcium hydroxide (1305-62-0)	TWAs	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)

8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

Personal Protective Equipment

Respiratory

- If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Eye/Face

- Wear chemical splash goggles and face shield.

Skin/Body

- Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. HANDS: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. GLOVES: Nitrile, neoprene, and butyl rubber.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene
NIOSH = National Institute of Occupational Safety and Health
OSHA = Occupational Safety and Health Administration
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures
TWAEV = Time-Weighted Average Exposure Value

Section 9 - Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Various colored solid (tablets) with a slight chlorine odor.
Color	Various colors.	Odor	Slight chlorine odor.
Odor Threshold	No data available		
General Properties			
Boiling Point	Decomposes @ 170-180°C (338-356°F)	Melting Point/Freezing Point	No data available
Decomposition Temperature	170 to 180 °C(338 to 356 °F)	pH	Alkaline
Specific Gravity/Relative Density	No data available	Bulk Density	1 to 1.07 g/cm³
Water Solubility	Soluble 100 %	Viscosity	No data available
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available	Volatiles (Wt.)	0 %

Volatiles (Vol.)	0 %		
Flammability			
Flash Point	Not relevant	UEL	Not relevant
LEL	Not relevant	Autoignition	No data available
Self-Accelerating Decomposition Temperature (SADT)	60 °C(140 °F)	Flammability (solid, gas)	No data available
Environmental			
Octanol/Water Partition coefficient	No data available		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- The product may not be stable under certain conditions of storage or use. Product decomposes at approximately 170-180°C (338-356°F) releasing oxygen gas and some chlorine gas.

10.3 Possibility of hazardous reactions

- Hazardous reactions or instability may occur under certain conditions of storage or use. Conditions may include the following: contact with combustible materials, contact with acids/ammonia. Reactions may include the following: risk of causing or intensifying fire, liberation of toxic gas.

10.4 Conditions to avoid

- Heating may cause a fire or explosion. Excessive heat will cause decomposition resulting in the release of oxygen and chlorine gas.

10.5 Incompatible materials

- Highly reactive or incompatible with the following materials: moisture, combustible materials, organic materials, metals, acids, alkalis, oxidizing materials, reducing materials, ammonia, petroleum products, paint products, wood and paper, and pool chemicals. Acid or ammonia contamination will release toxic gases.

10.6 Hazardous decomposition products

- Depending on conditions, product slowly releases chlorine gas.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Calcium chloride (0.1%)	10043-52-4	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 1 g/kg
Calcium hydroxide (1% TO 3%)	1305-62-0	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 7340 mg/kg; **Irritation:** Eye-Rabbit • 10 mg • Severe irritation
Calcium carbonate (1% TO 3%)	471-34-1	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 6450 mg/kg; **Irritation:** Eye-Rabbit • 750 µg 24 Hour(s) • Severe irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Moderate irritation
		Acute Toxicity: Ingestion/Oral-Rat LD50 • 3000 mg/kg; **Irritation:** Eye-Rabbit • 100 mg 24 Hour(s) • Moderate irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Mild irritation;

Sodium chloride (10% TO 30%)	7647-14-5	**Multi-dose Toxicity:** Ingestion/Oral-Rat TDLo • 201.6 g/kg 6 Week(s)-Intermittent; *Vascular*:**BP elevation not characterized in autonomic section**; **Mutagen:** Unscheduled DNA synthesis • Ingestion/Oral-Rat • 16800 mg/kg 4 Week(s)-Continuous; **Reproductive:** Ingestion/Oral-Rat TDLo • 56400 mg/kg (5D pre-21D post); *Reproductive Effects:Maternal Effects*:**Postpartum**; *Reproductive Effects:Effects on Newborn*:**Biochemical and metabolic**
Pentasodium triphosphate (< 1%)	7758-29-4	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 3120 mg/kg; *Behavioral*:**Somnolence (general depressed activity)**; *Behavioral*:**Coma**; Skin-Rabbit LD50 • >4640 mg/kg; *Behavioral*:**Somnolence (general depressed activity)**; *Lungs, Thorax, or Respiration*:**Dyspnea**; **Irritation:** Skin-Rabbit • 500 mg 24 Hour(s) • Moderate irritation
Calcium hypochlorite (65% TO 76%)	7778-54-3	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 850 mg/kg

GHS Properties	Classification
Acute toxicity	**EU/CLP** • Acute Toxicity - Oral 4 - ATEmix (oral)= 1118 mg/kg **UN GHS 3** • Acute Toxicity - Oral 4 - ATEmix(oral)=1037 mg/kg **OSHA HCS 2012** • Acute Toxicity - Oral 4 - ATEmix(oral)=1037 mg/kg **WHMIS 2015** • Acute Toxicity - Oral 4 - ATEmix (oral) = 1058 mg/kg
Skin corrosion/Irritation	**EU/CLP** • Skin Corrosion 1B **UN GHS 3** • Skin Corrosion 1B **OSHA HCS 2012** • Skin Corrosion 1B **WHMIS 2015** • Skin Corrosion 1B
Serious eye damage/Irritation	**EU/CLP** • No data available **UN GHS 3** • Serious Eye Damage 1 **OSHA HCS 2012** • Serious Eye Damage 1 **WHMIS 2015** • Serious Eye Damage 1
Skin sensitization	**EU/CLP** • No data available **UN GHS 3** • No data available **OSHA HCS 2012** • No data available **WHMIS 2015** • No data available
Respiratory sensitization	**EU/CLP** • No data available **UN GHS 3** • No data available **OSHA HCS 2012** • No data available **WHMIS 2015** • No data available
Aspiration Hazard	**EU/CLP** • No data available **UN GHS 3** • No data available **OSHA HCS 2012** • No data available **WHMIS 2015** • No data available
Carcinogenicity	**EU/CLP** • No data available **UN GHS 3** • No data available **OSHA HCS 2012** • No data available **WHMIS 2015** • No data available
Germ Cell Mutagenicity	**EU/CLP** • No data available **UN GHS 3** • No data available **OSHA HCS 2012** • No data available **WHMIS 2015** • No data available
Toxicity for Reproduction	**EU/CLP** • No data available **UN GHS 3** • No data available **OSHA HCS 2012** • No data available **WHMIS 2015** • No data available

STOT-SE	**EU/CLP** • No data available **UN GHS 3** • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation **OSHA HCS 2012** • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation **WHMIS 2015** • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
STOT-RE	**EU/CLP** • No data available **UN GHS 3** • No data available **OSHA HCS 2012** • No data available **WHMIS 2015** • No data available

Potential Health Effects

Inhalation

Acute (Immediate)
- May cause corrosive burns - irreversible damage. May cause respiratory irritation.

Chronic (Delayed)
- Repeated or prolonged exposure to corrosive fumes may cause bronchial irritation with chronic cough.

Skin

Acute (Immediate)
- Causes severe skin burns.

Chronic (Delayed)
- Repeated or prolonged exposure to corrosive materials will cause dermatitis.

Eye

Acute (Immediate)
- Causes serious eye damage. Direct contact with the eyes can cause irreversible damage, including blindness.

Chronic (Delayed)
- Repeated or prolonged exposure to corrosive materials or fumes may cause conjunctivitis.

Ingestion

Acute (Immediate)
- Harmful or fatal if swallowed. May cause irreversible damage to mucous membranes.

Chronic (Delayed)
- Repeated or prolonged exposure to corrosive materials or fumes may cause gastrointestinal distrubances.

Key to abbreviations

LD = Lethal Dose

TD = Toxic Dose

Section 12 - Ecological Information

12.1 Toxicity

	CAS	
Calcium Hypochlorite Tablets	NDA	**Aquatic Toxicity-Fish:** 96 Hour(s) *Bluegill - Lepomis macrochirus* 57-60 µg/L [Fresh water] Comments: Calcium hypochlorite 96 Hour(s) LC50 *Atlantic silverside - Menidia menidia* 37 µg/L [Marine water] Comments: Calcium hypochlorite 96 Hour(s) LC50 *Bluegill - Lepomis macrochirus* 1294600 µg/L [Fresh water] Comments: Sodium chloride 96 Hour(s) LC50 *Guppy - Poecilia reticulata* 356 mL/kg [Marine water] Comments: Calcium hydroxide 96 Hour(s) NOEC *Guppy - Poecilia reticulata* 56 mg/L [Marine water] Comments: Calcium hydroxide **Aquatic Toxicity-Crustacea:** 48 Hour(s) EC50 *Water flea - Daphnia magna* 402600-469200 µg/L [Fresh water] Comments: Sodium chloride 48 Hour(s) EC50 *Water flea - Daphnia magna* 0.073-0.079 µg/L [Fresh water] Comments: Calcium hypochlorite

- LC50: 0.088 mg/L (96 hr, Bluegill Sunfish) Very toxic to aquatic life. Do not allow to enter groundwater, surface water or drains. Hazardous to the aquatic environment Chronic 1.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste

- The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Spilled material that has been swept up and dissolved in water should be used immediately in the normal application for which this product is being consumed. If this is not possible, material may be neutralized. Please contact Axiall Corporation Emergency Response team for guidance at 304-455-6882. Note: Only properly neutralized material should be flushed to sewer. Unneutralized material can cause environmental damage to receiving water or can interfere with treatment plant operation. Care must be taken when using or disposing of chemical materials and/or their containers to prevent environmental contamination. Empty containers retain product residue and can be hazardous. Residual material remaining in empty container can react to cause fire. Thoroughly flush empty container with water then destroy by placing in trash collection. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN2880	CALCIUM HYPOCHLORITE, HYDRATED	5.1	II	Marine Pollutant
TDG	UN2880	CALCIUM HYPOCHLORITE, HYDRATED	5.1	II	Marine Pollutant
IMO/IMDG	UN2880	CALCIUM HYPOCHLORITE, HYDRATED	5.1	II	Marine Pollutant
IATA/ICAO	UN2880	CALCIUM HYPOCHLORITE, HYDRATED	5.1	II	Chronic Aquatic Toxicity

14.6 Special precautions for user

- Under 49 CFR (DOT), non-bulk U.S. domestic shipments by ground do not require Marine Pollutant markings or labels, nor does Marine Pollutant need to be mentioned on shipping papers.

14.7 Transport in bulk according to Annex II of

- Data lacking.

Marpol and the IBC Code

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute, Fire

FIFRA – Pesticide Labeling

This chemical is a pesticide product registered by the Environmental Protection Agency and is regulated under FIFRA. Pesticide products are exempt from TSCA and not subject to inventory requirements.

- This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

Inventory						
Component	**CAS**	**Canada DSL**	**Canada NDSL**	**EU EINECS**	**EU ELNICS**	**TSCA**
Calcium chloride	10043-52-4	Yes	No	Yes	No	Yes
Calcium hydroxide	1305-62-0	Yes	No	Yes	No	Yes
Calcium carbonate	471-34-1	Yes	No	Yes	No	Yes
Calcium chlorate	10137-74-3	No	No	Yes	No	No
Calcium hypochlorite	7778-54-3	Yes	No	Yes	No	Yes
Sodium chloride	7647-14-5	Yes	No	Yes	No	Yes
Pentasodium triphosphate	7758-29-4	Yes	No	Yes	No	Yes

Canada

Labor

Canada - WHMIS 1988 - Classifications of Substances

• Calcium chloride	10043-52-4	D2B
• Calcium hypochlorite	7778-54-3	C, E
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	E
• Sodium chloride	7647-14-5	Uncontrolled product according to WHMIS classification criteria
• Calcium carbonate	471-34-1	Uncontrolled product according to WHMIS classification criteria

Canada - WHMIS 1988 - Ingredient Disclosure List

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	1 %
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

Environment

Canada - CEPA - Priority Substances List

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	10 lb final RQ; 4.54 kg final RQ
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed

• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

U.S. - TSCA (Toxic Substances Control Act) - Section 12(b) - Export Notification

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed

• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed
U.S. - California - Proposition 65 - Developmental Toxicity		
• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed
U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)		
• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed
U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)		
• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Female		
• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Male		
• Calcium chloride	10043-52-4	Not Listed
• Calcium hypochlorite	7778-54-3	Not Listed
• Calcium chlorate	10137-74-3	Not Listed
• Pentasodium triphosphate	7758-29-4	Not Listed
• Calcium hydroxide	1305-62-0	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Calcium carbonate	471-34-1	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

15.3 Other Information

- WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H315 - Causes skin irritation
  H318 - Causes serious eye damage
  H319 - Causes serious eye irritation
  H412 - Harmful to aquatic life with long lasting effects

Revision Date

- 26/September/2016

Preparation Date

- 26/June/2015

Disclaimer/Statement of Liability

- The technical data given herein is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release, and is not to be considered a warranty or quality specification. No guarantee is being given as to the end use performance. The product is sold on the basis that buyers test the product for their specific purposes. This information related to the material designated and may not be valid for such material used in combination with any other materials or in any process.

Key to abbreviations

NDA = No Data Available