

May 16, 2012
Safe use of Calcium Hypochlorite Procedures

SOP #: PFR- Rec-001

The purpose of this operating procedure is to ensure the safe handling and use of Calcium Hypochlorite for the wading pool operations.

The following procedures *must* be followed by *all* staff operating a wading pool.

Definitions:

Calcium Hypochlorite: Chemical used to sanitize pool water. It is supplied in granular form in 2 kg containers. Calcium hypochlorite is premixed with water then added to the pool basin prior to allowing bathers in the pool and periodically throughout the day to maintain sanitation. Calcium Hypochlorite raises pH. The handling of calcium hypochlorite requires the use of personal protective equipment.

Pour and scoop method: while walking pour some of the chlorine mixture into the pool water, then dip the bucket into the pool scooping up some fresh water. Continue pouring and scooping until all chlorine mixture has been added to the pool basin. Caution: ensure proper lifting and bending technique.

Hazards and Controls:

Hazards: Respiratory, eye and skin irritation. Calcium hypochlorite is incompatible with acids, oxidizers and combustible/flammables. Use only 2 kilogram containers of calcium hypochlorite. Larger containers may require the use of a fit-tested respirator.

Use of personal protective equipment is mandatory.

Personal Protective Equipment

Gauntlet gloves (rubber/nitrile), Steel toed rubber safety boots, tyvek coveralls, Face shield or Goggles.

Required Tools/ Supplies/Materials

Calcium Hypochlorite

Long stir stick (i.e. broom handle) used exclusively for mixing Calcium Hypochlorite

Large Bucket used exclusively for mixing Calcium Hypochlorite

Procedure for Safe use of Calcium Hypochlorite

Steps:

1. Obtain access to storage shed or storage trunk.

2. Gather all materials needed to perform procedure. (T – Bars/Water keys to operate fill and drain valves.
Wading Pool Pit Access Lifter (Wading Pool PAL)

Personal Socks, Steel toed rubber safety boots, Tyvek Coveralls, Face shield or Safety Goggles, Long stir stick,
Calcium Hypochlorite 2kg container, large bucket used for mixing.

3. Fill wading pool half full with water. (pool may already be full if only adding supplementary amounts of chlorine through the day). Refer to Pit cover SOP # **PFR-Rec-002** before opening/closing pit covers.
4. Fill mixing bucket 2/3 full with fresh potable water.
5. Don required P.P.E. (Tyvek coveralls, Steel toed rubber safety boots, Face shield or Goggles, Gauntlet gloves). **ALL employees must wear required PPE**
6. At ground level, upwind (back to the wind) proceed to open 2 kg Calcium Hypochlorite container, pour calcium hypochlorite into cap of container and dispense into mixing bucket. Repeat, adding a second capful to the mixing bucket. Replace the lid on to the Calcium Hypochlorite container.
7. Using long stir stick, mix thoroughly until fully dissolved. (This may take a few minutes)
8. Enter Wading pool basin with chlorine mixture, and dispense evenly throughout water using a pour and scoop method (see definition). Empty the remaining contents of the bucket into the pool basin. Steps 6 – 8 may need to be repeated (adding additional doses of Calcium Hypochlorite) to ensure minimum Free Available Chlorine (FAC) levels are reached.
9. Continue filling wading pool, and ensure ALL Calcium Hypochlorite granular has been dissolved.
10. Thoroughly rinse and clean mixing bucket.
11. Once desired water level is met, turn off water.
12. Sample water for Chlorine level. (Must be at least 5ppm FAC). If FAC level is correct. Return all PPE and other equipment to storage area or designated area until needed. Open wading pool for operation.
13. If additional Calcium Hypochlorite is needed, repeat steps 5-11.

These steps must be taken by all staff when operating a wading pool. This includes wading pool attendants, wading pool coordinators, community recreation programmers and aquatic supervisors. All tools and personal protective equipment will be supplied to each location to ensure the proper steps can be taken. Failure to follow these steps may lead to disciplinary action.

Also refer to:

The Wading Pool Manual	Section 4.8 – WHMIS & Safety Equipment
	Section 4.9 – Confined Spaces
	Section 4.10 – Use of Protective Equipment

City of Toronto Human Resources Policy – Confined Space

The Occupational Health & Safety Act, R.S.O. 1990, Confined Space Regulation 632/05

MSDS sheet for Calcium Hypochlorite

Approval Date: May 16, 2012 (at Branch Aquatic Supervisor meeting)

Date of last Review: May 16, 2012

Next Review: Spring 2013

To be reviewed annually by the Aquatic Supervisor team and Corporate Occupational Health & Safety.