Availability, Storage and Handling of Chlorine Disinfection Products for Drinking Water during Covid-19

Please see below for operational guidance on the availability, storage and handling of Chlorine Disinfection Products for drinking water during the COVID-19 pandemic.

Availability

A recent check of chemical suppliers in the province indicates that there are currently no issues with chemical supplies required for drinking water disinfection for Newfoundland and Labrador.

- Chlorine Gas: there are two suppliers for chlorine gas on the island and both have indicated they expect no decrease in supply. Both of them have stock on hand and one company added that they have security of supply in place for all NL customers.
- Sodium Hypochlorite: several suppliers were contacted by the staff of Water Resources Management Division and all have indicated that supply has not been a problem and they don't foresee any problems with future demand.
- Calcium Hypochlorite: two suppliers of calcium hypochlorite were contacted and both indicated no problem with supply; one of them has chemical in stock and both can access additional stock from suppliers.

Storage and Handling

Wear the appropriate personal protective equipment (PPE) for proper handling of chlorine chemicals according to the Safety Data Sheet (SDS) for your product. This equipment could include supplied air respirators (SCBAs), air purifying respirators (full-face piece), chemical splash goggles, face shield, chemical protective suit, chemical resistant gloves and rubber boots.

Refer to the following for storage requirements for chlorine gas, sodium hypochlorite, and calcium hypochlorite:

- Chlorine gas:
  - Only approved chlorine gas rooms can be used for the storage of chlorine gas cylinders, entry limited to qualified personnel only;
  - Rooms should be cool, dry, well-ventilated and in a relatively isolated area;
  - Store cylinders in an upright position secured by chain supports, at about two thirds height, for both empty and full cylinders;
  - Empty cylinders should be separated and tagged;
  - Storage room should be equipped with working chlorine sensors and alarms;
  - Keep away from combustible materials; and
  - Store ton containers on their sides, on steel or concrete supports, equipped with trunnion wheels.

- Sodium Hypochlorite (bleach):
  - Sodium hypochlorite will degrade over time, even if unopened, and should not be stored for more than 3 months;
  - It is very important to **rotate** stock to ensure older supply is used first;
  - Sodium hypochlorite strength is adversely affected by temperature and light, it should be stored in a dark, cool, and dry place; and
  - Access should be limited to qualified personnel.

- Calcium Hypochlorite:
  - Calcium hypochlorite is a fairly stable chlorine disinfectant allowing for longer storage time of up to 1 year;
  - Should be stored in a tightly closed container in a cool, dry place;
  - Contact of calcium hypochlorite with moisture could lead to the formation of chlorine gas which is hazardous;
  - Avoid contact with combustibles such as wood, paper, oil, grease or gasoline vapors which could cause ignition or explosion;
  - Avoid contact with strong acids and bases as violent chemical reactions could occur; and
  - Access should be limited to qualified personnel.

Contact your local OETC Operator Trainer for further guidance if required:

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