

## INTRODUCTION

Your community is receiving potable water from the Water Treatment Plant. The treated water contains acceptable levels of chlorine for disinfection of some microorganisms and to prevent biofilm growth in the distributions systems.

## WHAT'S CHANGING?

Your community will soon receive water from the Highway 28/63 Regional Water Services Commission pipeline. This water has different characteristics. The water you will be receiving will utilize a different disinfection method, called chloramination (adding chlorine and ammonia), than the chlorination process (chlorine only) currently used.



Chloramination is a safe, proven water disinfection process that has been widely used in communities across Canada, the United States and Europe for several decades. In Alberta, the cities of Edmonton and Lethbridge treat their water via chloramination, and Calgary is also considering switching to this method. The City of Red Deer implemented its chloramination process more than 10 years ago.

## WHAT IS CHLORAMINATION?

Chloramination is an improvement over chlorine alone because it produces lower levels of disinfectant byproducts like trihalomethanes, which are suspected carcinogens that form when chlorine combines with natural organic substances found in our water.

Chloramine is more chemically stable than chlorine and lasts much longer in the local water distribution system than chlorine, allowing it to penetrate more effectively into the system and provide greater protection against contamination from bacteria. This process does not affect mineral content and pH levels.

## WHY CHLORAMINATED WATER IS SAFE

Chloraminated water is safe for drinking by people and animals, cooking, bathing, laundry, gardening and all other general household uses. It can be used safely by women who are pregnant, for mixing baby formula and for cleansing of cuts, scrapes and wounds. Chloramine does not accumulate in the human body.



However, just like chlorine, precautions must be taken to neutralize or remove chloramines by these Special Groups:

- Kidney dialysis patients
- Owners of aquariums, reptiles, amphibians or backyard fish ponds
- Restaurants and supermarkets with live seafood tanks
- Processors of photographic materials
- Business of laboratories requiring high-purity water.

Chloramine-treated water is safe for spraying on all lawns, flowers and vegetable gardens. Chloramine readily dissipates with minimal impact on beneficial soil bacteria because of the soil's need for ammonia.

## CONCERNS FROM DIALYSIS PATIENTS

The situation remains unchanged; like chlorine, chloramines can harm kidney dialysis patients during the dialysis process, if it is not removed from water before it comes into contact with their bloodstream, where it inhibits the ability of their red blood cells to carry oxygen. All dialysis patients can freely drink or bathe in chloraminated water because the body's digestive process neutralizes chloramines.



Patients who perform dialysis at home must check with their health care provider to ensure their own equipment has been properly adapted for use with chloraminated water.

If you are a dialysis patient and have any questions, please contact your doctor or the dialysis center where you are treated.

## CONCERNS FROM FISH OWNERS

Because fish and amphibians pass water through their gills directly into their bloodstream, chloramine (like chlorine) will inhibit the ability of their red blood cells to carry oxygen. Owners of aquariums and ponds will need to adjust their current chlorine removal process to remove chloramines. Chloraminated water is safe for all animals that do not live in water.



Chloramine can be removed from aquarium water or backyard ponds only by using inexpensive water-conditioning agents or an activated carbon filtration system. These products are readily available at pet stores. Chlorine removal agents that are not specifically designed to remove chloramines could leave excess ammonia in the water and harm fish.

Unlike chlorine, chloramine will not dissipate by allowing water to sit in an aquarium or pond exposed to the air. Water pH levels are not affected by chloramines.

## HOW CAN CHLORAMINE AFFECT THE PROCESSING OF PHOTOGRAPHIC MATERIALS?

Photo labs may need to remove chloramines because it may interfere with the chemicals used to develop film, cause staining or adversely impact the colours in paper prints.