

# Diya Chemicals

## Green Dioxide Application in Poultry Industry

Chlorine dioxide is an effective disinfectant that offers an alternative to the standard chlorine that is used within poultry processing in carcass washing applications.

### Properties of Chlorine Dioxide.

Chlorine Dioxide is a powerful oxidizing agent and biocide, with broad spectrum efficacy against bacteria, fungi, algae, viruses and protozoa. The basic properties of chlorine dioxide that differentiate it from other oxidizing biocides/disinfectants are:

Chlorine dioxide possesses broad spectrum anti-microbial capabilities.

- Chlorine dioxide is not sensitive to system pH. .
- Chlorine dioxide is very specific and enters into only a few side reactions when compared with chlorine, it does not chlorinate organics, therefore it does not form THMs.
- Provides a residual disinfectant level.
- Chlorine dioxide is significantly less corrosive than chlorine.
- Approved by the EPA for drinking water disinfection
- Chlorine dioxide is 100  $\blacklozenge$  1000 times more effective at removing/preventing biofilm than chlorine.

### Chlorine Dioxide Applications Within Poultry Processing.

#### Poultry Processing Flow Diagram.

Unloading and shackling → Stunning → Bleeding → Scalding → Plucking → Evisceration → Carcass Wash → Chilling (Spin Chilled / Air Chilled) → Sorting → Packaging.

The main problem is to control cross-contamination. Contamination of carcasses can occur via contact with soiled surfaces, equipment or the hands of operatives. Microorganisms can also be spread in airborne dust particles and droplets and through any rupture of the intestines during evisceration.

Chlorine dioxide is best dosed at the various unit processes to act as a break in contamination thereby reducing/eliminating cross contamination as well as removing superficial microorganisms before they have an opportunity to become attached and penetrate the carcass.

The typical/possible applications are:

- Maintenance of a low residual in the scalding tank (0.5ppm).
- Carcass Sprays.
- Spin chillers.

