

# A CONTAMINANT ASSOCIATED WITH THE COVID-19 PANDEMIC: CHLORINE DIOXIDE AND ITS ENZYMATIC AND CARDIAC EFFECTS ON TRACHYCEPHALUS TYPHONIUS TADPOLES.-



## TEST SUBSTANCE

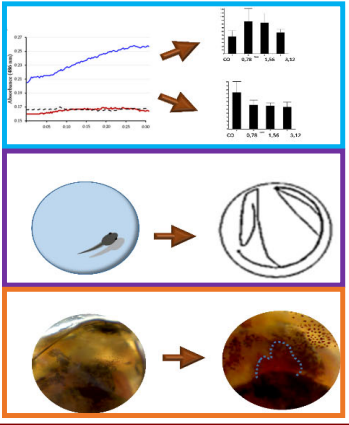
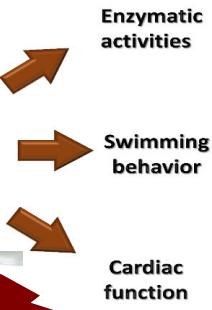
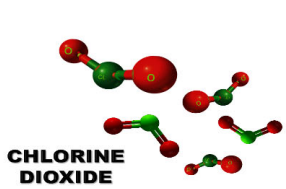
- ✓ Chlorine dioxide (ClO<sub>2</sub>)
- ✓ Concentrations
- ✓ 0.78, 1.56 and 3.12 mg ClO<sub>2</sub> L<sup>-1</sup>
- ✓ Control (CO, dechlorinated water)

## BIOASSAYS

- ✓ *Trachycephalus typhonius* larvae (Gosner Stage 28-32)
- ✓ Controlled lab conditions
- ✓ 24-48 h LC<sub>50</sub>; NOEC and LOEC exposure
- ✓ 24-96 h sublethal biomarkers

## SUB LETHAL BIOMARKERS

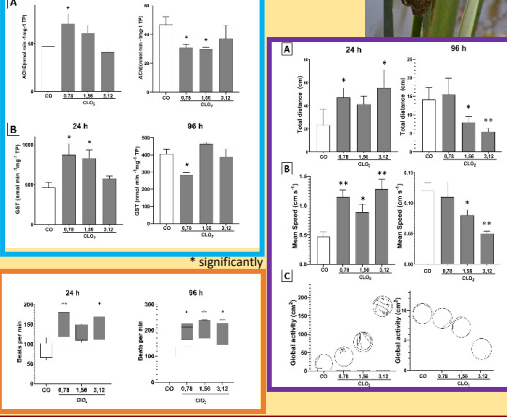
- ✓ Acetylcholinesterase (AChE) and Glutathione-S-transferase (GST)
- ✓ Swimming behavior (Total distance moved (cm), mean speed (cm seg<sup>-1</sup>), and global activity (cm<sup>2</sup>)
- ✓ Heart rate (beats min<sup>-1</sup>)



## ACUTE AND SUBLETHAL EFFECTS

**ACUTE TOXICITY (48 H)**  
 LC<sub>50</sub> = 4.17 mg L<sup>-1</sup> (CL: 3.73- 4.66)  
 NOEC = 1.56 mg L<sup>-1</sup>  
 LOEC = 3.12 mg L<sup>-1</sup>

## SUBLETHAL EFFECTS (24-96 H)



**THE RISK OF ENVIRONMENTAL EMERGING AND REGULATED CONTAMINANTS ON AQUATIC ECOSYSTEMS**  
 CARDIOTOXICITY  
 DISORDERS OF ANTIOXIDANT SYSTEMS  
 NEUROTOXICITY

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