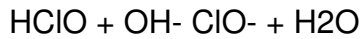


## ELCAT Stage 1

Electrochemically treats wastewater in electrolyzer with insoluble electrodes under anodic polarization

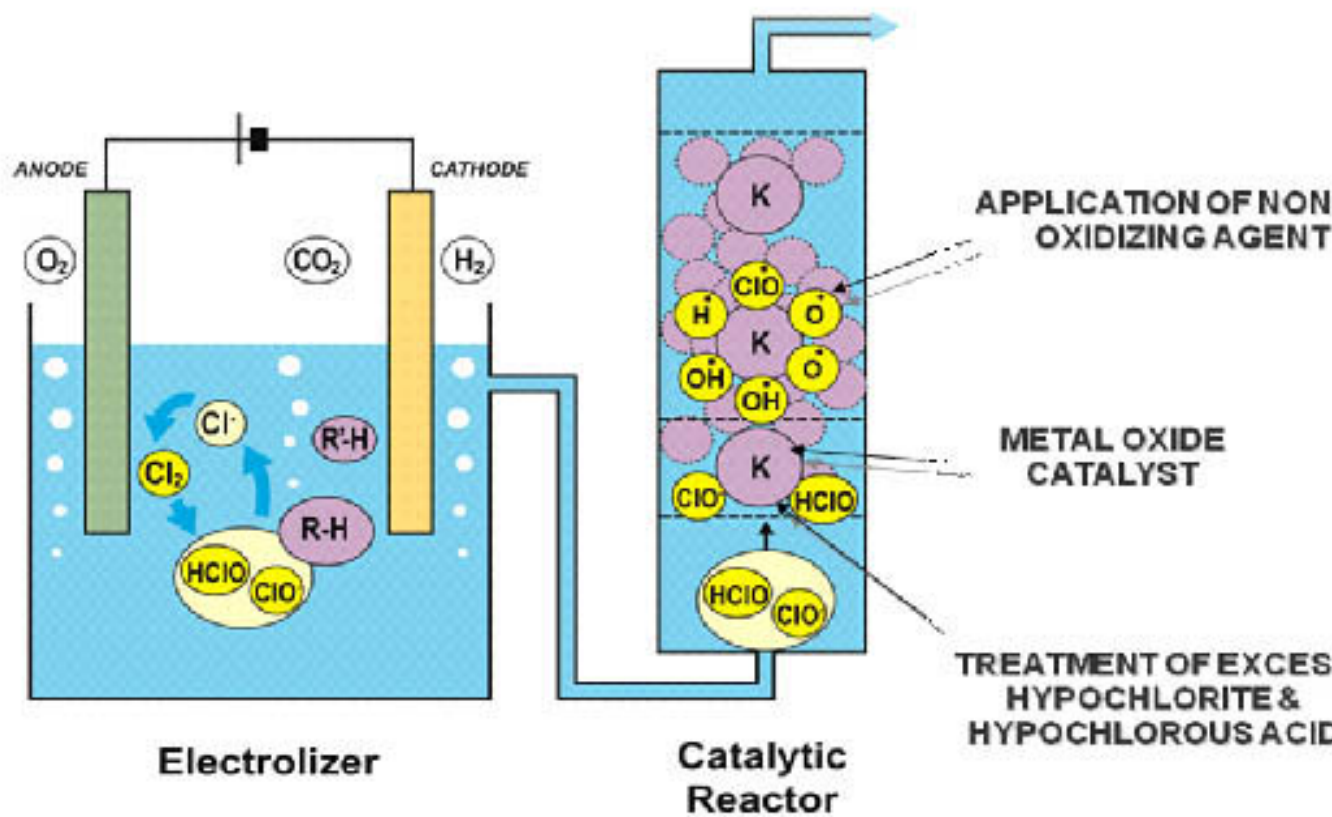
- Easily oxidizable compounds are treated
- Chloride ions ( $Cl^-$ ) in the wastewater form  $Cl_2$  which in turn forms the strong oxidizing agents (hypochlorite and hypochlorous acid)





- Electrochemically generated  $\text{ClO}^-$  and  $\text{HClO}$  oxidize wastewater pollutants ( $\text{R-H}$ )
- This cycle is repeated resulting in high efficiency oxidation and in a very short time

## Catalytic Oxidation



### ELCAT Stage 2

Enhances treatment and provides dechlorination

- Metal oxide catalytic decomposition of  $\text{ClO}^-$  and  $\text{HClO}$  occurs and free radicals ( $\text{ClO}^-$ ,  $\text{Cl}^-$ ,  $\text{OH}^-$  and  $\text{O}^-$ ) form
- Dechlorination occurs through reduction of  $\text{ClO}^-$  and  $\text{HClO}$
- Final polishing occurs through reaction of the free radicals with remaining oxidizable substances

### ELCAT Applications

- Herbicides
- Insecticides
- Textiles
- Organic dyes
- Phenols
- Ammonium
- Polishing



**ELCAT™** is ideal for the treatment of waste containing low concentrations of toxic and non-biodegradable chemicals in industrial wastewater treatment facilities in chemical, pharmaceutical, and other industries.

