Misty CO_2™

Clean, Safe and Inexpensive Way to Generate Acid at Mine Sites Using Carbon Capture

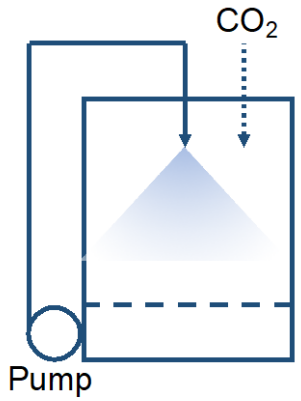
Treating mine water to remove dissolved metals often results in a pH that is too alkaline for discharge to receiving waters, so mines need a source of acid to reduce pH levels of mine water. Using concentrated acid to lower pH has inherent dangers, costs and risks to people, the environment, and to mine operations. waterStrider offers a safer and less expensive alternative using carbon capture to create an inexpensive source of acid that can also generate carbon capture credits.

Current Methods of Supplying Acid to Mine Sites:

1. Sulphuric acid – inherent risks and costs of potential chemical spill and worker exposure to handling hazardous chemicals and costs to acquire and transport
2. Carbon dioxide (pressurized) - inherent dangers of handling pressurized gas and costs to acquire and transport

waterStrider's Method – Misty CO_2

Misty CO_2 captures a free source of CO_2 from the exhaust of generators or other engines that use diesel fuel or natural gas. Similar to a can of carbonated beverage, CO_2 dissolved in water forms carbonic acid that can counter highly alkaline water to lower pH to near neutral levels for regulatory compliance. By spraying alkaline water into an enclosed tank headspace filled with CO_2 gas, the pH of alkaline treated mine water is lowered to any pH down to pH neutrality. This patented technology is called Misty™.



How Misty works

Water is pumped through spray nozzles into a tank filled with carbon dioxide gas

CO_2 Gas:

- Exhaust from a diesel or natural gas generator or incinerator
- Acidity decreases pH of alkaline water

What Misty does

- Neutralizes pH
- Consumes CO_2
- Lowers fouling potential of treated water
- Enables regulatory compliance for pH

Why Misty is Useful

Misty is a simple and practical carbon capture and utilization technology. Misty replaces acid to neutralize alkaline pH, saving costs to purchase acid. With Misty, significant risks of dosing excess acid, transporting hazardous chemicals, and worker safety during chemical handling are avoided. By using waste CO_2 to displace the inherent high carbon intensity of purchased acid, Misty lowers GHG emissions. Misty can earn carbon capture credits.

Misty operating costs are low since the energy requirements for pumped fine mist spray recirculation are small. With Misty CO_2, there are no other operating costs.

Misty is modular by nature, transportable, compact, and requires no civil infrastructure. The size of each Misty system depends on the mine water flow rate and on the pH change required.

For more information, please contact:

Andriyko Herchak, CEO & Dr. Rob Stephenson, CTO and Founder at: info@waterstridertmt.com