Keywords


Relevant Vocabulary

- **Feed Solution**: a solution containing multiple different chemicals that facilitates the introduction of ammonia into the wastewater.
- **Single-Stage Bioreactor**: an apparatus that performs both the aerobic and anoxic periods during wastewater treatment.
- **Nitrification**: the biological process of oxidizing ammonia into nitrite and oxidizing that nitrite into nitrate - the entire process from ammonia to nitrate is nitrification.
- **Denitrification**: the biological process of reducing nitrite and nitrate to nitrogen gas - usually performed by denitrifying bacteria. The goal of denitrification is to completely convert the nitrate from the nitrification process into nitrogen gas so that it can escape into the atmosphere.
- **Calibration Curve**: a graphical curve that represents the ideal levels of conversion. We compare our actual values to these values to judge how well our bioreactor is processing the ammonia input.

Sample Questions

- During which period, anoxic or aerobic, does the nitrification process occur?
  - Aerobic
- What process does the bioreactor rely on to begin the filtration process?
  - Forward osmosis
- What purpose does the LACHAT serve?
  - It identifies the ammonia, nitrite, and nitrate levels in the samples - tells us if the bioreactor is doing its job.
- Why are we looking into this way of treating wastewater? What are its real-world applications?
  - We’re hoping to use these systems overseas on military bases because they work off recycled water and are very low energy so they prevent dangerous and costly importation and exportation of water.