Flue Gas Desulfurization Methods

Environmental Engineering · Answer Key · 9 Questions

1. What type of sorbent is typically used in wet flue gas desulfurization methods?

A) Aqueous suspension sorbent
B) Activated carbon
C) Silica gel
D) Zeolite

2. In dry desulfurization methods, what phenomenon is used to remove gaseous pollutants?

A) Adsorption
B) Absorption
C) Combustion
D) Filtration

3. Which dry desulfurization method involves the injection of sorbent into the flue gas stream?

A) LiFAC
B) SDA
C) Wet scrubbing
D) Electrostatic precipitation

4. What is a key component used in the semi-dry SDA method for flue gas desulfurization?

A) Spray dryer
B) Electrostatic precipitator
C) Activated carbon filter
D) Catalytic converter

5. What is the primary product formed in the wet lime method of flue gas desulfurization?

A) Gypsum (CaSO4)
B) Calcium sulfite (CaSO3)
C) Magnesium oxide (MgO)
D) Sodium sulfate (Na2SO4)

6. What is the typical range of SO2 removal efficiency achieved by wet flue gas desulfurization methods?

A) 90-95%
B) 50-60%
C) 70-80%
D) 30-40%

7. In wet desulfurization, what material is used to treat the flue gases?

A) Lime slurry
B) Activated carbon
C) Silica gel
D) Zeolite

8. What is the purpose of the oxidation process in wet flue gas desulfurization?

A) Convert CaSO3 to CaSO4
B) Remove particulate matter
C) Reduce NOx emissions
D) Increase gas temperature

9. In the wet method using magnesium oxide (MgO), what is the final product after desulfurization?

A) Magnesium sulfate (MgSO4)
B) Magnesium sulfite (MgSO3)
C) Calcium sulfate (CaSO4)
D) Calcium sulfite (CaSO3)