

- B)  $\text{K}_2\text{SO}_3$ ,  $\text{NH}_4\text{HSO}_3$ ,  $\text{KOH}$ ,  $\text{K}_2\text{CO}_3$ ,  $\text{CuO}$ ,  $\text{MgO}$ ,  $\text{PbO}$ ;
- C)  $\text{CuS}$ ,  $\text{NH}_4\text{Cl}$ ,  $\text{Ca}(\text{OH})_2$ ,  $\text{CaCO}_3$ ,  $\text{CaCl}_2$ ,  $\text{MgCl}_2$ ,  $\text{ZnCl}_2$ ;
- D)  $\text{K}_2\text{S}$ ,  $(\text{NH}_4)_2\text{S}$ ,  $\text{Ba}(\text{OH})_2$ ,  $\text{BaCO}_3$ ,  $\text{CuO}$ ,  $\text{Al}_2\text{O}_3$ ,  $\text{UO}_3$ ;
- E)  $\text{CaSO}_4$ ,  $(\text{NH}_4)_2\text{SO}_4$ ,  $\text{LiOH}$ ,  $\text{MgCO}_3$ ,  $\text{MgCl}_2$ ,  $\text{CuCl}_2$ ,  $\text{BaCl}_2$ .

**32. Methods based on the extraction of  $\text{SO}_2$  from exhaust gases using solid sorbents are called:**

- A) electrochemical;
- B) neutralizing;
- C) hydrothermal;
- D) adsorption;
- E) electrothermal.

**33. The adsorption method for the extraction of  $\text{SO}_2$  from exhaust gases is carried out on the following adsorbents:**

- A) bentonite,  $\text{CaCl}_2$ ,  $\text{MgCl}_2$ ,  $\text{ZnCl}_2$ ,  $\text{CuCl}_2$ ,  $\text{BaCl}_2$ ;
- B) alumina,  $\text{CaCO}_3$ ,  $\text{MgCO}_3$ ;
- C) alumina,  $\text{MgO}$ ,  $\text{BaCO}_3$ ,  $\text{K}_2\text{CO}_3$ ;
- D) molecular sieves,  $\text{CuSO}_4$ ,  $\text{Al}_2\text{O}_3$ ,  $(\text{NH}_4)_2\text{SO}_3$ ,  $\text{K}_2\text{CO}_3$ ;
- E) activated carbon,  $\text{MnO}_2$ ,  $\text{Na}_2\text{CO}_3$ .

**34. As catalysts for the extraction of  $\text{SO}_2$  from exhaust gases are used:**

- A)  $\text{Fe}_2\text{O}_3$ , bentonite,  $\text{CaCl}_2$ ;
- B)  $\text{MgO}$ , alumina,  $\text{H}_2\text{SO}_4$ ;
- C)  $\text{CaO}$ ,  $\text{Al}_2\text{O}_3$ ;
- D)  $\text{MnO}_2$ , activated carbon,  $\text{H}_2\text{S}_2\text{O}_8$ ;
- E)  $\text{ZnO}$ , expanded clay,  $\text{H}_2\text{S}_2\text{O}_3$ .

**35. The following methods are used to reduce  $\text{SO}_2$  emissions from exhaust gases in the production of sulfuric acid:**

- A) double contacting;
- B) adsorption;
- C) thermal neutralization;
- D) electrochemical;
- E) electrothermal.

**36. The main method of purification of exhaust gases from  $\text{SO}_2$ , which has found industrial application, is:**

- A) carbonate method;
- B) the calcareous method;
- C) sulfate method;
- D) sulfite method;
- E) ammonia method.

**37. The following formula corresponds to an aqueous solution of sulfuric acid:**

- A)  $2\text{SO}_3 \cdot 3.5\text{H}_2\text{O}$ ;
- B)  $\text{SO}_3 \cdot \text{H}_2\text{O}$ ;
- C)  $0.5\text{SO}_3 \cdot 2\text{H}_2\text{O}$ ;
- D)  $\text{SO}_3 \cdot 2.5\text{H}_2\text{O}$ ;
- E)  $\text{SO}_3 \cdot 3.5\text{H}_2\text{O}$ .

**38. The main stages of obtaining sulfuric acid by contact method from pyrites are:**