

- B) soda ash;
- C) sodium hydroxide;
- D) sodium pyrophosphate;
- E) calcium hydroxide.

42. The main stages of the technology for producing sodium pyrophosphate:

- A) ammonization of disodium phosphate → carbonization → drying → calcination → finished product;
- B) decomposition → filtration → drying → packaging → finished product;
- C) acid neutralization with soda ash → disodium phosphate dehydration → calcination;
- D) decomposition → filtration → washing → drying → finished product;
- E) neutralization of ether with soda → drying → calcination.

43. The neutralization of phosphoric acid in the production of sodium pyrophosphate goes according to the equation:

- A) $2\text{H}_3\text{PO}_4 + \text{CaCO}_3 = \text{Ca}(\text{H}_2\text{PO}_4)_2 \cdot \text{H}_2\text{O} + \text{CO}_2$;
- B) $\text{H}_3\text{PO}_4 + \text{Na}_2\text{CO}_3 = \text{Na}_2\text{HPO}_4 + \text{H}_2\text{O} + \text{CO}_2$;
- C) $4\text{H}_3\text{PO}_4 + \text{Ca}_3(\text{PO}_4)_2 + 3\text{H}_2\text{O} = 3\text{Ca}(\text{H}_2\text{PO}_4)_2 \cdot \text{H}_2\text{O}$;
- D) $3\text{H}_3\text{PO}_4 + 2.5\text{Na}_2\text{CO}_3 = 2\text{Na}_2\text{HPO}_4 + \text{NaH}_2\text{PO}_4 + 2.5\text{H}_2\text{O} + 2.5\text{CO}_2$;
- E) $2\text{H}_3\text{PO}_4 + \text{MgCO}_3 = \text{Mg}(\text{H}_2\text{PO}_4)_2 \cdot \text{H}_2\text{O} + \text{CO}_2$.

44. TPA (thermal phosphoric acid) and soda ash are used as raw materials in the production of appropriate salts:

- A) $\text{Ca}(\text{H}_2\text{PO}_4)_2 \cdot \text{H}_2\text{O}$ and MgSO_4 ;
- B) Na_3PO_3 and CaCl_2 ;
- C) $\text{Na}_4\text{P}_2\text{O}_7$ and $\text{Na}_5\text{P}_3\text{O}_{10}$;
- D) $\text{Mg}(\text{H}_2\text{PO}_4)_2 \cdot \text{H}_2\text{O}$ and CaCl_2 ;
- E) $\text{AlPO}_4 \cdot 2\text{H}_2\text{O}$ and MgSO_4 .

45. The first form of sodium tripolyphosphate includes:

- A) lumpy, high temperature (above 450°C);
- B) non-lumpy, low temperature (below 450°C);
- C) soluble, low temperature (below 250°C);
- D) non-hygroscopic, high temperature (above 350°C);
- E) granular, low temperature (below 350°C).

46. The second form of sodium tripolyphosphate includes:

- A) non-compacting, low temperature (below 450 °C);
- B) clumping, high temperature (above 450 °C);
- C) soluble, low temperature (below 250 °C);
- D) non-hygroscopic, high temperature (above 350 °C);
- E) granular, low temperature (below 350 °C).

47. The following additives are used to stabilize the low-temperature form of sodium tripolyphosphate:

- A) soda ash, ammonium sulfate, limestone;
- B) precipitate, soda, kieselguhr;
- C) ammonium nitrate, potash, trona;
- D) kieselguhr, urea, ammonium nitrate;
- E) sodium nitrate, urea, limestone.

48. The best method for purifying sodium phosphates from impurities is: