

37. Ways to intensify heterogeneous processes:

- A) decrease in temperature, increase in pressure and concentration;
- B) increase in product yield;
- C) an increase in the contact surface of the phases and an increase in temperature;
- D) the use of catalysts, improving the quality of products;
- E) vigorous stirring.

38. Ways to intensify heterogeneous processes:

- A) increase in product yield;
- B) an increase in the concentration of the reagent, an increase in the cost of the product;
- C) the use of catalysts, improving the quality of products;
- D) the formation of the porous structure of the catalyst;
- E) vigorous stirring.

39. The disadvantages of contact devices with a fixed catalyst bed:

- A) contamination of reaction products with catalyst dust;
- B) rapid abrasion of the catalyst grains;
- C) low productivity of the catalyst due to difficulties in using the inner surface of its grains;
- D) low efficiency;
- E) bulkiness.

40. The disadvantages of contact devices with a fixed catalyst bed:

- A) the inability to use a fine-grained catalyst due to its caking;
- B) contamination of reaction products with catalyst dust;
- C) a low efficiency;
- D) bulkiness;
- E) high catalyst load of the reactor.

41. The disadvantages of contact devices with a fixed catalyst bed:

- A) the need to stop the contact apparatus to replace the spent catalyst;
- B) rapid abrasion of the catalyst grains;
- C) contamination of reaction products with catalyst dust;
- D) low efficiency;
- E) bulkiness.

42. The advantages of contact devices with a moving and fluidized bed of catalyst:

- A) efficiency and stability;
- B) simplicity of hardware design;
- C) the purity of the products obtained;
- D) ease of supply of raw materials and ease of construction.
- E) the ability to supply reagents with a temperature below the ignition temperature of the catalyst.

43. The advantages of contact devices with a moving and fluidized bed of catalyst:

- A) ease of regeneration and replacement of the catalyst;
- B) efficiency and stability;
- C) simplicity of hardware design;
- D) the purity of the products obtained;
- E) ease of feed and ease of construction.

44. Advantages of contact devices with a moving and fluidized catalyst bed:

- A) the full use of the inner surface of the catalyst grains and high performance;