

Index group is a part of atoms of the reacting molecule which directly interacts with the surface of the catalyst at adsorption.

The induction period is the initial stage of the chemical transformation, during which an increase in the reaction rate is observed (self-acceleration of the reaction). The induction period can be observed in catalytic processes due to various factors (for example, autocatalysis, heating of the system in the case of highly exothermic reactions, adsorption of interfering impurities from the reaction mixture onto the catalyst, etc.).

The integrated mode of the reactor is an operating mode of the reactor of ideal replacement at which considerable conversion of initial reagents at the outlet from the reactor is reached.

The intensity (I) is a criterion of overall performance of the device. It allows to compare devices of various power by efficiency and is expressed in kg/m^3 or kg/m^2 . The intensity (the device, the car, the reactor) is the relation of its productivity to unit of the size characterizing the sizes of a working part of the device – the volume of reactor V or the area of its section S:

$$I = P/V \quad \text{or} \quad P/S,$$

where P is **productivity**.

The interface of the phases is the boundary separating the two neighboring phases. Sometimes this term refers to a surface layer thickness of a few atoms, which are different in energy from atoms in the bulk of each phase. For solid particles, this is an external monolayer consisting of a regular matrix of surface atoms (or ions), as well as internal and external surface defects of various types.

Internal surface is a part of an interface of phases which belongs to pores in particles of the catalyst or adsorbent. Other part of a surface belongs to an external (geometrical) surface of particles. At high porosity the internal surface can considerably (to 106 times) to surpass an external surface in the area.

Isomerization is a catalytic process for obtaining high-octane components of commercial gasoline from low-octane oil fractions. As a result of the process, linear hydrocarbons are isomerized into branched hydrocarbons. Heterogeneous acid catalysts of various types are used: aluminoplatinum fluorinated catalysts (high-temperature isomerization, 360-440°C), zeolite catalysts (medium-temperature isomerization, 250-300°C); alumina promoted by chlorine, or sulfated zirconium oxide (low-temperature isomerization, 120-180°C).

Isomerism is the phenomenon of the existence of compounds that have the same composition (the same molecular formula), but a different structure

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Kerosene (kerosine) is a fraction of petroleum that was initially sought as an illuminant in lamps; a precursor to diesel fuel.

Kerosene type jet fuel is a distillate used for aviation turbine power units. It has the same distillation characteristics between 150°C and 300°C (generally not above 250°C) and flash point as kerosene.

The kinetic mode is implementation of catalytic reaction in conditions when the kinetics of process isn't complicated by diffusion processes (for example, the intra kinetic mode for the heterogeneous catalyst).

The Kipp apparatus is a device for producing gases in laboratory conditions, based on the interaction of an acid with an appropriate reagent (with a metal to produce hydrogen, with calcium carbonate to produce carbon dioxide, with iron (II) sulfide to produce hydrogen sulfide, etc.)

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