

Reforming of gasoline oil fractions is a catalytic process carried out to increase the octane number in gasoline fractions with a boiling point of 80-180°C (naphtha). In the process of reforming, alkane molecules undergo rearrangement without changing the number of carbon atoms in the molecule (isomerization, dehydrogenation and dehydrocyclization reactions). Bifunctional catalysts containing active centers of acidic and dehydrogenating type, for example, Pt/Al₂O₃, are used.

Reformulated gasoline (RFG) is gasoline designed to mitigate smog production and to improve air quality by limiting the emission levels of certain chemical compounds such as benzene and other aromatic derivatives; often contains oxygenates.

Renewable natural resources are natural resources that are capable of self-healing, due to the intake of solar energy and the substances caused by it (water, winds, rivers and oceans, soil, plants, animals).

Renewable sources of energy is energy of the Sun, wind, Earth's heat, natural motion of water currents (tides, wave), except for large hydro, biomass and waste energy, and energy of temperature gradients existing in nature.

Regeneration is the treatment of the deactivated catalyst under conditions other than the reaction one. Regeneration is carried out in order to completely or partially restore the catalytic activity.

Relative catalytic activity is a value determined to compare the activity of several catalysts when they interact with a reaction mixture of the same composition. Usually compare time demanded for achievement of the same degree of transformation of reaction mixture on different catalysts. An alternative way is comparison of temperature at which various catalysts give identical conversion at the same time of reaction. The method of relative catalytic activity is applicable for a number of similar catalysts when the mechanism of catalytic reaction doesn't change.

Relative humidity of the gas is the ratio of water vapor (in shares units or percentage) in the gas, to the maximum possible water vapor content in the same gas under the same conditions.

Reproduction of natural resources is a complex of measures aimed at artificial maintenance of natural resources and conservation of the ecosystem in a productive state.

Reserves are well-identified resources that can be profitably extracted and utilized with existing technology.

Residuum (resid; pl. residua) is the residue obtained from petroleum after nondestructive distillation has removed all the volatile materials from crude oil, e.g., an atmospheric (345°C, 650°F) residuum.

Resins are that portion of the maltenes that is adsorbed by a surface-active material such as clay or alumina; the fraction of deasphalted oil that is insoluble in liquid propane but soluble in n-heptane.

Resource is the total amount of a commodity (usually a mineral but can include nonminerals such as water and petroleum) that has been estimated to be ultimately available.

The reverse spillover is the transfer of adsorbed particles from the carrier to the active component in the supported (deposited) catalyst as a result of surface diffusion.

Risk management is a systematic approach (assessment, risk analysis) and practical measures aimed at reducing the potential harm from man-made (technogenic) hazards.

A rock is a mineral mass of more or less constant composition and structure, usually consisting of several minerals, sometimes from one mineral (for example, gypsum), and is involved in the structure of the earth's crust. The rocks are divided into three large groups according to their origin: magmatic, sedimentary and metamorphic.

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The Sabatier reaction, or the Sabatier Process, is the reaction of hydrogen with carbon dioxide at elevated temperature and pressure in the presence of a nickel catalyst to produce