



Contribution ID: 1023

Type: Poster

## Transformation of n-hexane on the surface of initially modified nano-Al<sub>2</sub>O<sub>3</sub> surface of the catalyst in an oxygen medium under the influence of gamma rays.

Thursday, 19 May 2022 17:23 (8 minutes)

Initially, the catalyst was modified in an oxygen medium under the influence of surface radiation. The conversion processes were compared on the surface of compacted and unmodified catalysts, in the range  $\Delta T = 380 \div 420^\circ\text{C}$ , the yield of gaseous and liquid products from the conversion of hexane in a mini-flow reactor was studied. The output of the products was monitored with IR and UV spectrometers and gas-liquid chromatographic devices. There was found that as the surface temperature of the catalyst increases, the yield in liquid products decreases by 14%, and the yield of gaseous products increases by 20%. Due to the additional anion centers (O-ads) formed on the surface of the oxygen-modified Al<sub>2</sub>O<sub>3</sub> catalyst under the influence of radiation, the volume yield of oxidation products is higher and has a lower activation energy ( $\Delta E_{\text{in}} = 11.27 \text{ kCal} / \text{mol}$ ).

**Primary author:** Mr MAHMUDOV, Hokman (Institute of Radiation Problems of ANAS)

**Co-authors:** Mr SULEYMANOV, Telman (Institute of Radiation Problems of ANAS); Mrs SABZALIYEVA, Zumurud (Institute of Radiation Problems of ANAS); KHALILOV, Zaur (Institute of Radiation Problems of ANAS); Mrs HASANOVA, Sabina (Institute of Radiation Problems of ANAS); Mrs AZIZOVA, Kamala (Institute of Radiation Problems of ANAS); Mrs ISAYEVA, Gunel (Institute of Radiation Problems of ANAS)

**Presenter:** Mr MAHMUDOV, Hokman (Institute of Radiation Problems of ANAS)

**Session Classification:** Radiation Chemistry

**Track Classification:** Radiation Chemistry