added to titania and produces a synergy effect for photocatalytic purification. Photocatalysis can operate with solar light and becomes "Helio-photocatalysis". The contaminants degraded in the laboratory could be degraded in the large scale (500 L) solar pilot plant of the Plataforma Solar in Almeria (Spain), following the same kinetic laws.
Titania can be deposited on various supports (glass, quartz, metals...) to produce self-cleaning materials (windows, lightings, walls,etc), exposed to sun light. Humid air can be purified with the removal of toxics and odors.
IN CONCLUSION, PHOTOCATALYSIS IS AN EFFICIENT, CHEAP AND ROBUST MEANS TO DECONTAMINATE AIR AND WATER, ESPECIALLY IN ARID SUNNY AREAS.

10:05-10:25. EFFECT OF THE Fe_2O_3 IN THE PHOTOACTIVITY OF THE SULFATED Fe_2O_3/TiO_2 CATALYSTS SOL-GEL. Enrique Sánchez-Mora[1] , Francisco Tzompantzi Morales[2], 1) Universidad Autónoma de Nuevo León, División de Estudios Superiores, CP. 64570, Monterrey, Nuevo León, México. 2) Tecnológico de Estudios Superiores de Ecatepec, Valle del Mayo S/N, Esq. Av. Central, Col. Valle de Anáhuac, Ecatepec, Estado de México.

Photocatalytic oxidation is an alternative method for the destructive removal of organic compounds in wastewaters. The most used catalyst nowadays is TiO_2 and the trend is to modify its photocatalytic properties. In this work the effect of Fe_2O_3 (1, 3, 5 y 7% weight) in the sulfated TiO_2-Fe_2O_3, calcined at 500°C and prepared by a sol-gel method was studied. The samples were characterized by FTIR, DRX and UV-Vis spectroscopy. The photocatalytic activity was evaluated in the 2,4 dinitroaniline decomposition. The FTIR and DRX studies showed that all samples exhibit sulfate and hydroxy superficial groups and that the crystalline structure is mainly anatase. The values of band gap energy of the solids calculated from its UV-Vis spectra were 3.14, 2.94, 2.83, 2.82 and 2.80 eV for TiO_2 samples, and Fe_2O_3/TiO_2 at 1, 3, 5 and 7% respectively. The photocatalytic studies showed that a 50% of organic compound decomposition was achieved at 59, 64, 16, 48 and 50 minutes for TiO_2, and Fe_2O_3/TiO_2 at 1, 3, 5 and 7% respectively.

10:30-10:45. Coffee break

10:45-11:05. PARTIAL HYDROGENATION OF BENZENE TO CYCLOHEXENE WITH RUTHENIUM SUPPORTED CATALYST
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Green Chemistry is the manufacture of chemicals with decreased waste and pollutants. The major part of cyclohexanol, an important intermediate in the manufacture of Nylon, comes from cyclohexane oxidation which is a low efficient process producing great quantities of undesired products. Asahi has developed a new production process of cyclohexanol from partial hydrogenation of benzene to cyclohexene. In this process ruthenium particles are used as catalyst in a biphasic system (benzene/water). However, to obtain good yields of cyclohexene, great quantities of zinc salts have to be added in the aqueous phase to change the surface of ruthenium particles from hydrophobic to hydrophilic. In this work we supported the ruthenium particles on a hydrophilic support (Silica Aerosil 200) and studied the influence of catalyst weight, hydrogen pressure, reaction temperature and the presence of $ZnSO_4$. In the studied conditions and in the absence of $ZnSO_4$, the best cyclohexene yield (18 mol%) was obtained using 0,025 g of catalyst at 423 K and 5,0 MPa of H_2 after 40 min of reaction time. The addition of $ZnSO_4$ to the reaction medium, in these conditions, in spite of improving the initial selectivity it does not increase the cyclohexene yield as described for the non-supported catalyst. (FAPESP – Proc. nº 97/06190-1)

11:05-11:25. POTASSIUM´S EFFECT OVER THE SELECTIVITY TO HIGH OCTANE GASOLINE IN CATALYSTS FOR NAPHTHA REFORMING PROCESS Jesús Manuel Bautista B, M. Lourdes Ramírez L, Sandra D. Arvizu T, Blanca L. Medellín R, Gabriela Espinosa S. Instituto Mexicano del Petróleo, Eje Central Lázaro Cárdenas 152, Delegación Gustavo A. Madero, CP 078730, México D.F., Phone: 53-33-84-61, Fax: 53-33-84-29, e-mail: *jbautist@www.imp.mx*.

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