

The Good Adsorbents for Organic Reagents in Waste Water Treatment

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Dilution is not solution for pollution! This must be our slogan to protect earth for our children. One of the most important

problems in industry is water pollution by organic reagents. For example in some industries like tanning, leather industry,

detergents industry, textile industry, electroplating industry and so on, usually different poisonous organic compounds

poured in rivers and seas. [1] Among these organic compounds Proteins, Phenols, Amines, Diazo Compounds could be

named. These compounds have fatal effects on natural ecosystem life.

Today, one of the most efficient methods to eliminate these compounds is using adsorbents reagents. Among these materials

we can name Zeolites. They are solid and crystalline materials with a diameter smaller than 2 nm. Their main elements are

Aluminum, Oxygen and Silicon. The difference between them depends on their unit cell structures. The other important

factor is their particle sizes. This fact led us to the world of Nanotechnology.

As we reported earlier, we have successfully used gypsum as a new solid phase for chromatography and introduced their

application in industry. [2, 3]

As we reported later, gypsum provided a good interaction with a vast variety of organic compounds like amines, phenols,

amino acids etc. so we introduced it as a solid phase for separation of different organic compounds in industrial wastes. [4]

Based of theoretical principles there is an inverse relation between adsorption and Rf. It means that how much an Rf on

gypsum TLC [3] smaller, its adsorption over gypsum is grater.

Here we would like to extend our results for new organic compounds.

Different Rf s on the gypsum TLC with Pet. Et. : Hex. (85: 15) as eluant. Organic Compound (Rf)

4-Methoxyphenol (0.60), 4-Aminoacetophenoxy (0.25), Acetanilide (0.38),
p-Anisidine (0.60), 2-Aminobenzaldehyde

(0.80), 2-Amino-5-methylbenzoicacid (0.10), o-Benzoicsulfimid (0.11), Oxindole
(0.23), 3,5-Diaminobenzoicacid (0.02),

Hexamethylendiamine (0.20), 4-Methyl-3-nitroaniline (0.67),
p-Toluenesulfonhydrazide (0.77), 4-(Dimethylamino)pyridine

(0.12), 1,4-Dimethoxybenzen (0.86), 4-Nitrobenzoicacid (0.90).

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