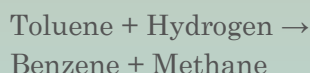


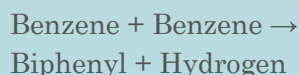


## PSE-LAB EDITORIAL: OUR IN-DEPTH ANALYSIS ON THE HDA PROCESS

The Hydrodealkylation (HDA) of toluene is a chemical reaction that yields benzene according to the following:



The mechanism of reaction involves radicals where several molecules with high molecular mass are produced as byproducts. The main one is biphenyl, which is produced according to:



The conversions of the reaction yielding benzene are limited because of these consecutive side-reactions. It is therefore very convenient for HDA plants to employ recycles.

The separation of benzene and byproducts from the reactants is usually easy.

As for methane, it is produced in the first reaction and, depending on the supplier, it can also be contained in commercial hydrogen. Since separating it from hydrogen is extremely expensive, a vent is customary in HDA plants.

## POLITECNICO DI MILANO ANNOUNCES THE RESULTS OF THE HIRING PROCESS

A spokesman of Politecnico di Milano announced that the university has completed the hiring process and has selected 31 teams consisting of a total of 69 Process Engineers.



The exceptional, massive hiring can be explained with the recent construction of several HDA plants.

The PSE Journal is carefully following the situation. In our coming issues, we are going to analyze the performance of the plants, discuss the challenges and choices they face, and cover any future development.

### IN THE NEXT ISSUE

The staff of the PSE Journal is wondering whether the construction of a massive array of HDA plants by Politecnico has the potential to significantly affect the global market and the price of the commodities involved.

What's known: 35 HDA plants have been built, each with the potential to produce 20 kmol/h of benzene. The consumption of toluene is going to be a bit higher, due to side reactions (see our editorial), but the yield of the plants has not been disclosed yet.

An exclusive in-depth analysis will be published in the next issue.

### SPONSORED CONTENT – Politecnico di Milano

We are proud to announce that 31 teams have been selected as part of our hiring process.

We thank all the teams that took part to the hiring process. To sign the contract and perform the on-boarding process, please visit [tiny.cc/pse18w3](http://tiny.cc/pse18w3)

### FINANCE

Average weekly figures:  
8/10-14/10 week

|                        |                |
|------------------------|----------------|
| Crude oil <sup>1</sup> | 47.25 (-38.9%) |
| Benzene <sup>1</sup>   | 142.86 (+2.6%) |
| Toluene <sup>1</sup>   | 87.61 (-34.3%) |
| Propylene <sup>2</sup> | 871.56 (-6.2%) |
| Diphenyl <sup>2</sup>  | 627.34 (-0.5%) |



### 15/10-21/10 week

Forecasts by OPEC:

|                        |                |
|------------------------|----------------|
| Crude oil <sup>1</sup> | 56.46 (+19.5%) |
|------------------------|----------------|

Forecasts by our expert:

|                        |                |
|------------------------|----------------|
| Benzene <sup>1</sup>   | 143.80 (+0.7%) |
| Toluene <sup>1</sup>   | 95.53 (+9.1%)  |
| Propylene <sup>2</sup> | 857.24 (-1.6%) |
| Diphenyl <sup>2</sup>  | 637.76 (+1.7%) |

(1) EUR per bbl (159 L)

(2) EUR per metric ton