Press release

Presse-Information ● Information de presse

1/2019
23 April 2019

https://www.efce.org

Safer photoinitiator synthesis wins 2019 Industrial Innovation Award

An innovative new flow process to produce a photoinitiator for Agfa-Gevaert has been awarded the **2019 Process Intensification Award for Industrial Innovation** by the European Federation of Chemical Engineering (EFCE). The new process prevents the production of liquid bromine, which is both toxic and volatile, making the process both safer and cheaper than the established process.

The process is the final step in Agfa's production of photoinitiators for printing plates and comprises a bromination reaction using sodium hypobromite as the brominating agent. In the original process, this hypobromite was generated on the spot in a batch reactor by the addition of liquid bromine to a cold caustic solution. Handling liquid bromine safely requires dedicated installations, which are expensive and inflexible.

The team at Agfa, consisting of Wim Dermaut, Bart Cappuyns, Gert Engelen and Peter Kempenaers, developed an alternative flow process in which hypobromite is generated in a flow reactor by reacting an aqueous sodium bromide solution with concentrated hypochlorite (bleach). As the process does not require any liquid bromine, it is much safer and more environmentally friendly, and because it does not require elaborate safety precautions or dedicated reactors, the team estimates the final product will be up to 35% cheaper.

To date, the company has proved the concept using a 400 litre pilot plant. Work on a full-scale plant with 1000 litres capacity is underway.

The judges, from EFCE's Working Party on Process Intensification, were particularly impressed that the team applied out of the box thinking to develop the process with very limited investment and no off the shelf flow reactors nor suitable pump skids. The result has been a huge improvement in safety and flexibility.

"Even though there still needs a progress for the industrial scale-up, the objectives for the lower OPEX and CAPEX is promising," the judges noted.

The award, which is sponsored by Technip Benelux B.V., will be presented on 27 May 2019 during the second International Process Intensification Conference (IPIC2) in Leuven, Belgium.

Ends

Related links

EFCE media centre (https://www.efce.info/Media+Centre.html)

EFCE Working Party on Process Intensification (https://www.efce.info/WP_PI)

IPIC2 (https://kuleuvencongres.be/ipic2019/)

Notes to media:

For further information, please contact:

Claudia Flavell-While
tel: +44 (0)1788 534422
email: Claudia@icheme.org

About chemical engineers

Chemical, biochemical and process engineering is the application of science, maths and economics to the process of turning raw materials into everyday products. Professional chemical engineers design, construct and manage process operations all over the world. Oil and gas, pharmaceuticals, food and drink, synthetic fibres and clean drinking water are just some of the products where chemical engineering plays a central role.

About EFCE

Founded in 1953, The European Federation of Chemical Engineering (EFCE) is a non-profit-making association, whose object is to promote co-operation in Europe between non-profit-making professional scientific and technical societies in 30 countries for the general advancement of chemical engineering and as a means of furthering the development of chemical engineering. See www.efce.org

About the sponsor

TechnipFMC is a global leader in subsea, onshore/offshore, and surface projects. With our proprietary technologies and production systems, integrated expertise, and comprehensive solutions, we are transforming our clients' project economics. To learn more about how we are enhancing the performance of the world's energy industry, go to www.TechnipFMC.com
TechnipFMC Process Technology is a global network of centers which look after company's expanding portfolio of onshore process technologies in petrochemicals, refining, hydrogen and syngas polymers and gas monetization.