

DSM and ROQUETTE jointly develop bio-based intermediate for 'green' performance materials

Royal DSM N.V., the global Life Sciences and Materials Sciences company headquartered in the Netherlands, and the French starch and starch-derivatives company ROQUETTE have joined forces to implement and commercialize the fermentative production of biorenewable succinic acid, which -amongst other applications- opens the possibility to produce bio-based performance materials. By the end of 2009 a demonstration plant in Lestrem (France) will be operational.

Succinic acid is a chemical currently produced as a derivative from crude oil and natural gas. It is commonly used directly in a variety of industry applications, such as pharmaceuticals, food and automotive and also as an intermediate for the production of several (high-performance) polymers.

The bio-based succinic acid will be produced in a fermentative way with the use of renewable resources. The novel production process developed by DSM and ROQUETTE will stimulate further market development of bio-based and biodegradable polymers that use succinic acid as an intermediate.

Fermentation processes with the use of renewable resources are sustainable and will in this case lead to an energy saving of 30-40% compared to a typical chemical process, thus reducing CO₂ emissions. As this is the first bio-based production process in which CO₂ is actively used in the production, it creates an even bigger positive impact on CO₂ emission levels. Fermentative production processes not only lead to positive effects on the environment, they also save money by reducing the need for energy. Thus the bio-based succinic acid is beneficial for both planet and profit.

The current target of the cooperation is to have a demonstration plant in Lestrem (France) operational at the end of 2009. The capacity of this plant will amount to several hundred metric tonnes per year. It is expected that after a successful trial the technology will be transferred to large-scale production within two years. For DSM as well as ROQUETTE the demonstration-plant production of bio-based succinic acid presents an excellent opportunity to combine their core competencies. Within the scope of this collaboration, the DSM-ROQUETTE alliance has created a strong backward integrated feedstock position as well as a strong forward integrated position towards performance chemicals/materials.

Volkert Claassen, DSM Vice-President White Biotechnology, comments: "This cooperation with ROQUETTE is the first tangible result of DSM's Emerging Business Area White Biotechnology and clearly shows the innovation opportunities of cross-synergy between DSM's strong technology platforms in Life Sciences (biotechnology) and Materials Sciences. This synergy opens a new window for green performance materials."

"The bio-succinic acid project is part of our global sustainable strategy to develop the bio-based chemistry. Our alliance with DSM will significantly speed up this process to use more and more renewable raw materials for chemicals on integrated biorefineries," says Marc Roquette, Chairman and CEO of ROQUETTE.

The cooperation of DSM and ROQUETTE in this bio-based chemicals project is a direct spin-off from the BioHub® program that was approved in 2006 by the French Industrial Innovation Agency. The aim of the BioHub® program is to develop new business opportunities by establishing cooperation between scientific institutes, universities and front-running companies in Europe in the field of industrial or 'white' biotechnology. DSM and ROQUETTE are amongst the leading companies in the white biotechnology field.

DSM

DSM creates innovative products and services in life sciences and materials sciences, contributing to the quality of life. DSM's products and services are used globally in a wide range of markets and applications, supporting a healthier, more sustainable and enjoyable way of living. End markets include human and animal nutrition and health, personal care, pharmaceuticals, automotive, coatings and paint, electrics & electronics, life protection and housing. The company strategy, [Vision 2010 - Building on Strengths](#), focuses on accelerating profitable and innovative growth of the company's specialties portfolio. The key drivers of this strategy are market-driven growth and innovation, an increased presence in emerging economies and operational excellence. DSM has annual sales of almost EUR 9 billion and employs some 22,000 people worldwide. The company is headquartered in the Netherlands, with [locations](#) in Europe, Asia, the Americas, Africa and Australia. More information on DSM can be found at www.dsm.com.

ROQUETTE

ROQUETTE is one of Europe's largest and one of the world's most advanced starch and starch-derivatives businesses and world leader in polyols (sugar alcohols). ROQUETTE derives over 650 products from six million tonnes of maize, wheat, peas and potatoes, and adds outstanding value to over 500,000 hectares of agricultural output. ROQUETTE has annual sales of more than EUR 2 billion and employs some 6,000 people worldwide.

ROQUETTE is a private family business dedicated to long-term development. With production facilities in Europe, North America and Asia, ROQUETTE serves customers all over the world in the food, paper/board, biochemicals, chemicals, pharmaceuticals, cosmetics and animal nutrition sectors. The company is headquartered in Lestrem (France). More information: www.roquette.com.

For more information:

DSM Corporate Communications
Nelleke Barning
tel. +31 (0) 45 5782017
fax +31 (0) 45 5740680
e-mail media.relations@dsm.com

DSM Investor Relations
Hans Vossen
tel. +31 (0) 45 5782864
fax +31 (0) 45 5782595
e-mail investor.relations@dsm.com

ROQUETTE

Dominique Bernard - Marie-Laure Empinet
tel : +33 (0) 3 21 63 91 15
fax :+33 (0) 3 21 63 94 59
email dominique.bernard@roquette.com

Forward-looking statements

This press release contains forward-looking statements. These statements are based on current expectations, estimates and projections of DSM management and information currently available to the company. The statements involve certain risks and uncertainties that are difficult to predict and therefore DSM does not guarantee that its expectations will be realized. Furthermore, DSM has no obligation to update the statements contained in this press release.

Unsubscribe to DSM Press Releases: http://www.dsm.com/en_US/html/media/subscribe_en.htm