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DSM Biologics and Upfront to Develop A Fully Disposable Chromatography System Optimized for High Yield Cell Line Production

(Parsippany – April 16, 2008)

DSM Biologics, a business unit of DSM Pharmaceutical Products, and Upfront Chromatography A/S, a leading developer of customized industrial-scale separation services, today announced the collaboration between the two companies to optimize Upfront's new, fully disposable chromatography system for use with DSM's proprietary manufacturing technology. The fully integrated disposable chromatography system will offer biopharmaceutical manufacturers significant efficiency and productivity benefits and is expected to be available for commercial use by the summer of 2008.

The combination of Upfront's unique disposable chromatography system and DSM's proprietary manufacturing technology will deliver a flexible, easy-to-use and high capacity bioprocessing platform that can be scaled from 0.1L to 100L for commercial manufacturing and recovery of a range of biopharmaceuticals, including monoclonal antibodies.

Upfront's proprietary cGMP-manufactured adsorbents, fluid processing platforms and ligand chemistries enable the production of a fully disposable chromatography system for bioprocessing: bringing together the excellent performance of affinity chromatography with the safety and cost-effectiveness of disposable components.

"Industrial chromatography systems were for many years thought to have no fully disposable solution." commented Karen King, President, DSM Biologics. *"Together with Upfront, we will be developing a combination of a unique disposable module and a high yield cell line that will for the first time enable the creation of a fully integrated, disposable biologic manufacturing process."*

Michael Bennett, CEO of Upfront said: *"The biopharmaceutical industry has been seeking fully disposable chromatography systems over recent years. Our technology offers manufacturers all the productivity benefits they expect from industrial-scale chromatography systems and with DSM Biologics we have the perfect partner to drive this combination of disposable systems and high yield cell lines to market."*

About disposable chromatography

Upfront's integrated disposable chromatography system is based on its proprietary Rhobust™ universal processing platform. Rhobust has been implemented in a range of industrial settings for commercial-scale recovery and purification of functional biomolecules, including monoclonal antibodies, direct from crude feedstocks. A key feature of Rhobust, and in particular the disposable system, is that it does not generate pressure during operation: enabling construction of cost-effective, single-use columns from plastic. The combined advantages of disposability and crude feedstock processing has delivered a single high-yielding system which eliminates the requirement for both cleaning validation and further clarification steps, such as filtration and centrifugation.

About Upfront Chromatography

Upfront Chromatography A/S develops and manufactures innovative products and technologies for extraction and recovery of biotherapeutics, functional biomolecules, macromolecular complexes, and even living cells, directly from bioreactors and industrial side-streams.

For customised separation services, Upfront offers access to its proprietary universal process platforms combined with extensive technical and regulatory support. From a feasibility study to commissioning of the final installation, Upfront works with its customers to develop adsorbents, ligand chemistry, columns and other hardware to optimise process performance.

Upfront's research, development and ISO9001-compliant manufacturing facility is situated in Copenhagen, Denmark. Please visit: www.upfront-dk.com

About DSM Biologics

DSM Biologics, a business unit of DSM Pharmaceutical Products, is a global provider of manufacturing technology and services to the biopharmaceutical industry. In addition to offering world-class biopharmaceutical manufacturing services, DSM Biologics has co-exclusive rights, along with Dutch biotech company Crucell N.V., to license the high-producing PER.C6® human cell line as a production platform for recombinant proteins and monoclonal antibodies. The combination of the PER.C6® human cell line and DSM's manufacturing services provides companies with a turn-key biologic manufacturing solution reducing cost, risk and time to market.

DSM – the Life Sciences and Materials Sciences Company

DSM creates innovative products and services in Life Sciences and Materials Sciences that contribute 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 more enjoyable way of life. End markets include human and animal nutrition and health, personal care, pharmaceuticals, automotive, coatings and paint, electrics and electronics, life protection and housing. DSM has annual sales of almost EUR 8.8 billion and employs some 23,000 people worldwide. The company is headquartered in the Netherlands, with [locations](#) on five continents. DSM is listed on Euronext Amsterdam.

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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.