

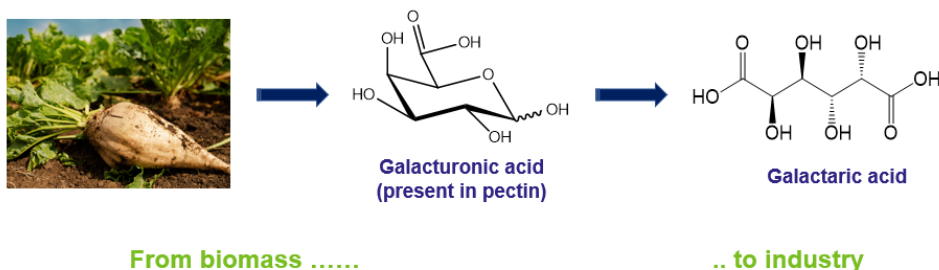
Galactaric acid as a platform molecule based on sugar beet pulp

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Abstract

Royal Cosun offers biobased solutions. The activities range from development to manufacturing and supply of biobased functional chemicals. Last decade, we have developed a biorefinery concept based on sugar beet pulp. Within this flexible concept, we are able to isolate cellulosic fibers, pectin and different monosaccharides. One of the key monosaccharides is D-Galacturonic acid. Using mild processing conditions, galacturonic acid can be isolated and selectively oxidized to **Galactaric acid** (commercial name: Mucic acid). This molecule has multiple outlets including a **corrosion inhibitor**. It offers unique functionalities and shows distinguishing results to aluminium. In external tests, it shows equal or better performance to some commercial fossil benchmarks. The **adhesion** of the inhibitor is in line with international standards and contributes to **coating adhesion** as well.

Secondly, Galactaric also acts as a **natural chelating agent**, which is **readily biodegradable**. This property is of an added value to for example personal care as a preservative booster, where it is an alternative to fossil chelating agents, which are **under pressure in the market**.



Relevant IP

1. Lazeroms, R.; Vaders E.; Method for removing metal stains from a metal surface, WO2021/170635 A1, **2021**.
2. Lazeroms, R.; Bouwman J.; Van den Berg S., Surface treatment compositions, WO2020/043884 A1, **2020**.
3. Lazeroms, R.; Raaijmakers, H.; Koning, C. E.; Papegaaij, A.; Urmanova, A. Bis-Diox(OI)Ane Compounds. WO2018/074926 A1, **2018**.

Biography



Robert Lazeroms works as a project manager chemistry within Royal Cosun. During his industrial career, he worked within the pharmaceutical industry for 12 years before he started his chemistry activities within Royal Cosun in 2012. Since 2019, he is leading the activities in the field of Galactaric acid. The presentation will highlight most important results from last 5 years, where it was demonstrated that Galactaric acid shows beneficial properties in the field of anticorrosion. Today, Galactaric acid is a platform molecule with multiple outlets. Email: robert.lazeroms@cosun.com