



**Nederlandse Vereniging
van Verftechnici (NVVT)**



Invitation

for the symposium of the NVVT

‘ECS highlights, interesting topics for the coatings industry’

Contributions to this symposium are to be expected from:

- Royal Cosun
- Kraton Chemicals
- Covestro Resins
- Croda
- Delft Solids Solutions

The NVVT - Dutch Association of Paint Technicians invites you for the symposium on:

Date	Tuesday 28 September 2021
Location	't Veerhuis Vergadercentrum Nijemonde 4 3434 AZ NIEUWEGEIN
Time	Start 13.25 hrs. Closure 16.35 hrs.

Program

12.30 hrs **Reception and registration with lunch**

13.25 hrs **Opening by André van Linden – chairman NVVT**

13.30 hrs **Novel biobased corrosion inhibitor & building blocks based on sugar beet pulp**

Robert Lazeroms, Royal Cosun

Cosun Biobased Products (CBP) offers biobased solutions. The activities range from development to manufacturing and supply of biobased functional chemicals. Within Cosun R&D and CBP, we have developed a biorefinery concept on sugar beet pulp. Within this flexible concept, we are able to isolate cellulosic fibers, 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 preliminary (external) tests, it shows equal or better performance to commercial fossil benchmarks. For higher volume outlets, polymers can be made using Galactaric acid as an intermediate to GalX. This novel platform building block shows new opportunities to biobased coatings and crosslinkers. In shared research with companies and universities, GalX shows good Mw and Tg. Besides these parameters, the improved water solubility and water stability compared to adipic acid is an unmet market need for new formulations.

14.00 hrs **Tall oil fatty acid as 100% bio-based building blocks for alkyd emulsions**

Patrick van Waes, Kraton Chemicals

Many waterborne coatings still have a high degree of fossil fuel based materials inside. The usage of Tall Oil Fatty Acid (TOFA) as renewable building block derived from Crude Tall Oil refining allows a drastic reduction of fossil fuel dependency. TOFA's main use today is in the production of solventborne alkyds. This paper will showcase the impact of TOFA as 100% bio-based material in the development of alkyd emulsions. As a low carbon footprint building block, it minimizes the fossil fuel content, while maintaining or even improving the properties of the final alkyd emulsion paint. The first part of this paper will explain how a stable alkyd emulsion is produced in the lab and which parameters are critical during the production. The second part of the presentation will compare different fatty acids, their composition and impact on paint properties such as hardness, gloss and gloss retention, yellowing and drying. Finally the sustainability elements and extreme low carbon footprint aspect of TOFA is explained.

14.30 hrs **Break**

- 15.00 hrs** **Polymeric Aziridines as easy to handle, effective and safer Waterborne Crosslinker**
Ad Overbeek, Covestro Resins
Polymeric aziridines will be presented as a new class of crosslinkers for waterborne coatings. They have a much-improved toxicological profile compared to conventional aziridines and labelling is now more comparable to carbodiimides. Performance benefits, like a much longer potlife and an improved 'value in use', will be compared to conventional aziridines and carbodiimides. Also the rate and the efficiency of crosslinking, as well as the influence of the hydrophilic modification of the crosslinkers on water miscibility and final performance, will be shown. Finally, the effect on the properties of different types of coatings will be presented.
- 15.30 hrs** **Smart technology providing permanent antistatic properties to substrates**
Tina Arbatan, Croda
In modern society the demand of smart and multi-functional coatings is becoming continuously more important. Consider coating areas like food production, car interiors, health institutes and ESD safety. We have developed a technology that overcomes the challenges with current known systems, preventing development of static charge build-up on surfaces. The disadvantage of current technology is that the activity will decrease in time, creating a surface that increases a static charge build-up leading to undesirable shock or electrical damage. We now introduce a novel polymer technology that is designed to be incorporated into the coated surface where it provides intrinsic lasting antistatic protection. The technology uses a tethered function that gives the substrate a unique property incorporated within the polymer matrix: this functional modification provides the coated substrate protection against accumulation of static electrical charge. The inclusion of the novel technology does not compromise the paint and coating properties.
- 16.00 hrs** **European CLP Regulations and its Impact on Powder Coatings, Paints, and Inks**
Johan Groen, Delft Solids Solutions
How to Assess "Particles with Aerodynamic Diameter < 10 micrometers"? The European Commission has classified titanium dioxide (TiO₂) as a substance being carcinogenic by inhalation. In February 2020 the official regulation in regards to TiO₂ was published. This powdered TiO₂ was labeled as a class 2 carcinogen. These new regulations demand a large change of industry, especially within the powder coating industry.
As of October 1st 2021, all powder mixtures containing at least 1% TiO₂ particles with an aerodynamic particle size smaller than ten micrometers (10 µm) are to be marked with a mandatory warning label. This warning is to indicate to the users the risk of respiratory effects of dust particles or droplets, as found in the regulatory EUH211 and the EUH212. With the now published regulation, it will be legally binding to make labeling amendments to every mixture that contains more than 1% of these TiO₂ particles.
In this presentation we will elaborate on how we quantitatively assess the fraction of airborne particles with aerodynamic diameter smaller than 10 micrometers in powder samples following available European standards. This assessment will assist in the decision whether the particular product requires labeling or not.
- 16.30 hrs** **Closure**
- 16.35 hrs** **End of study day**

REGISTRATION FEES

	Visit 1 'study day'
Members NVVT	free
Non Members	€ 60,-
Retired and students	€ 30,-

ATIPIC members are offered 50% reduction of the registration fee.

Registration

If you are interested to attend this symposium, please register your attendance at

www.vvuf.nl/kalender

Your registration will be confirmed automatically. A week before the event you will receive the confirmation with the ultimate details. In case you do not receive this latter confirmation, please send an email to event@vvuf.nl.

Registrations are to be made at the latest 24 September 2021

Upcoming symposia

23 November 2021 Binders

Board of the NVVT

André van Linden, chairman

Wil van Meer, secretary

Dirk Klomp, treasurer

Michel la Faille

Jaap Akkerman

Martin Bloem

Sander van Loon

Anil Laurent

**The board of the NVVT is looking forward to meeting you
on 28 September 2021**