



INERIS PUBLISHES AN ONLINE TOOL FOR SEARCHING INFORMATION ON THE USE, SUBSTITUTION AND TREATMENT OF CHEMICAL SUBSTANCES

Ineris has developed a [tool to search for information on the use, substitution and effluent treatment of chemical substances](#). It is intended to support to a wide range of stakeholders (manufacturers, engineering office, water agencies, local authorities, etc.) seeking information on possible substance substitutions for a given application.

Available from the Ineris Chemical Substances Portal (PSC), this tool provides access to a database containing information on over 150 substances. This database includes: the function of the substance (monomer, surfactant, catalyst...), NAF codes¹ for sectors of use, if relevant, the chemical nature of the material likely to contain the substance (rubber, PVC...), substitution methods (alternative substances or techniques), pollution control technologies, other means of reduction at source...

The information is taken from the technical and economic data available on the [Ineris Chemical](#)

[Substances Portal](#) (in French) and from certain technical and economic studies carried out elsewhere.

Each year, Ineris publishes and/or updates data sheets and technical-economic studies that enrich the content accessible through this tool.

<https://substances.ineris.fr/technico-economie> (in French)

¹ The NAF code identifies the main sector of activity of a company established in France.

FRAUNHOFER ILT AND IWM: TOWARDS INDUSTRIAL PRODUCTION OF PFAS- FREE SEALS

As part of the pureWaterSeal project, researchers at the Fraunhofer Institutes ILT and IWM² have developed PFAS-free seals that are compatible with water-based lubricants.

To replace fluoropolymer seals, experts at the Fraunhofer IWM Institute have developed DLC³ coatings (i.e. PFAS-free) that are compatible with plastic components that are also PFAS-free.

By combining these coatings and laser microstructuring carried out by

Fraunhofer ILT, the researchers claim to be able to reduce internal tension and mechanical loading in a targeted way. They add that this approach preserves the integrity of the coating while improving its functional properties, including resistance to wear and reduced friction.

In order to rapidly implement this microstructuring on a large scale and start series production, the experts at the Fraunhofer Institutes are working with industrial partners: prototypes are already in use in pumps at geothermal power plants.

According to the researchers, this combination of coating and microstructuring makes it possible to replace petroleum-based lubricants with water-based lubricants which, in their opinion, are preferable in terms of environmental impact.

For more information:
<https://www.fraunhofer.de/en/press/research-news/2025/june-2025/seals-without-pfas-lubricated-with-water.html>

² The Fraunhofer-Gesellschaft is a German institute specialised in research into applied sciences, with 67 institutes, each dedicated to a specific technological field. The Fraunhofer ILT (Institut LaserTechnik) and the Fraunhofer IWM (Institut WerkstoffMechanik) are experts in laser technology and materials mechanics respectively.

³ DLC (Diamond Like Carbon) are amorphous carbon materials deposited as thin layers using vacuum vapour phase technologies. These materials are used in many industries for their ability to reduce friction and wear.

FLUOZERO™: A PFAS-FREE MOLDED-FIBER FOOD PACKAGING SOLUTION

YUTOECO has developed FluoZero™, a technology for producing greaseproof molded-fiber food packaging without the use of PFAS.

According to YUTOECO, packaging treated with FluoZero™ features a dense, grease-resistant plant fiber structure and can withstand a wide temperature range (from -34°C to 220°C) offering long-lasting protection (up to 8 hours). The company reports that articles made with FluoZero™ technology are thinner and stronger than conventional molded-fiber products. They also exhibit greater bending rigidity and breaking strength.

These properties offer, according to the manufacturer, a wide range of applications in food packaging: containers for frozen foods, for fried foods, airline meals... Packaging not tailored for direct contact with food (such as hair dye mixing trays) could also be applications for this treatment.

YUTOECO's FluoZero™ technology is FDA⁴ compliant for food contact, and has obtained USDA⁵ biobased certification, as well as DIN CERTCO⁶ and BPI⁷ compostable certifications.

For more information:
https://www.yutoeco.com/yutoeco-unveils-fluozero-the-pfas-free-greaseproof-revolution-in-molded-fiber-food-packaging_n148

⁴ Food and Drug Administration.

⁵ United States Department of Agriculture.

⁶ Certifying that materials can be used for home and industrial composting.

⁷ Biodegradable Products Institute - BPI certification is a third-party verification of ASTM (American Society for Testing Materials) standards for compostable products in North America.

A PRECERAMIC RESIN AS AN ALTERNATIVE TO PFAS-BASED COATINGS

The EXOCOAT™ Ceramic+ preceramic resin developed by Axcentive transforms into a metal oxide ceramic layer through reaction with moisture in the air. Covalently bonded to the surface, the ceramic layer forms, according to Axcentive, a coating that features non-stick, hydrophobic, oleophobic and abrasion-resistant properties. According to the innovator, the coating is also highly UV-resistant and can withstand high temperatures (up to 600°C).

Axcentive reports that the resin adheres strongly to steel, aluminum, glass and plastics such as PMMA and ABS, as well as to old coating layers.

EXOCOAT™ Ceramic+ resin can be used on its own or formulated with pigments, organic resins, fillers and additives and can be applied with a layer thickness of 0.5 to 2 µm by brush, roller or spray.

According to Axcentive, a key application for EXOCOAT™ Ceramic+-based coatings is anti-graffiti coating on non-porous substrates: graffiti paint will not adhere to this coating or can be easily removed by high-pressure cleaning. EXOCOAT™ Ceramic+ resin can be used for other applications, particularly in the automotive and marine sectors, but also for a variety of industrial applications requiring an easy-to-clean and/or heat-resistant protective coating.

Depending on the designer, polishing or chemical treatment may be considered to remove a layer of EXOCOAT™ Ceramic+ resin.

For more information:
[EXOCOAT™ 143 | Anti-Graffiti & Easy-Clean Coating](https://www.specialchem.com/coatings/guide/nanotechnology-based-solutions-enabling-smart-functional-coatings)

<https://www.specialchem.com/coatings/guide/nanotechnology-based-solutions-enabling-smart-functional-coatings>

CLARIANT LAUNCHES PFAS-FREE AUXILIARIES FOR POLYMER EXTRUSION

Clariant has launched two auxiliaries designed for polymer processing, and more specifically for polyolefin extrusion (polypropylene and polyethylene): AddWorks PPA 101 FG and AddWorks PPA 122 G. AddWorks PPA 101 FG is primarily intended for the EMEA⁸, Americas and SEAP⁹ markets, while AddWorks PPA 122 G is aimed at the Asian market.

Clariant states that the formulation of these products is free of PFAS, silicones and polysiloxanes, and consists, for AddWorks PPA 122 G, of a polyethylene masterbatch¹⁰, generally used up to 1 to 2% in the final application, depending on the process and type of film.

According to the producer, the use of these auxiliaries would increase the efficiency of the extrusion process and result in a smoother film surface, notably by eliminating "sharkskin" defects. He adds that products extruded in this way keep their optical and mechanical properties without any negative impact on dyne¹¹ levels, sealability or coefficient of friction.

According to Clariant, products of the AddWorks PPA range can be used for a wide range of applications, including the extrusion of polyethylene blown and cast films¹² commonly used in the packaging, agricultural and construction sectors.

For more information:
<https://www.clariant.com/en/Business-Units/Additives-and-Adsorbents/Performance-Additives/Packaging/Polymer-Processing-Aids>

<https://www.specialchem.com/polymer-additives/product/clariant-addworks-ppa>

⁸ Europe, Middle East & Africa.

⁹ SouthEast Asia and the Pacific.

¹⁰ A masterbatch is a granulated material composed of a high concentration of colorant or additive.

¹¹ In plastics processing, dyne is a measure of force expressing surface tension. It determines the ease with which a liquid (such as ink or paint) adheres to the surface of a material.

¹² Cast extrusion produces stretchable, multilayer films with good tear resistance. Blown" extrusion produces films with enhanced tear resistance for palletizing products with sharp edges.

RECENTLY PUBLISHED ON THE CHEMICALS SUBSTITUTION WEBSITE...

- / Review of scientific and methodological data on the concept of essential use, with PFAS as a case study ;
- / Per- and Polyfluoroalkyl Substances (PFAS) and alternatives in hydraulic oils and lubricants ;
- / Launch of a tool to help identify PFAS ;

COMING SOON

K 2025

The triennial K trade fair for the plastics and rubber industry, to be held in Düsseldorf from October 8 to 15, 2025, will be organized around several themes: machinery and equipment, raw materials and measurement technologies. Producers of alternatives to bisphenols, phthalates alkylphenol ethoxylates and PFAS are likely to be present.

<https://www.k-online.com/>

CEPE Annual Conference

The European Council of the Paint, Printing Ink and Artists' Colours Industry (CEPE) will be holding its annual conference from 8 to 10 October 2025 in Vienna (Austria). This event will bring together the main stakeholders in the European paint and coatings industry (coatings manufacturers, raw materials suppliers, etc.) including possible producers/distributors of bisphenols and/or phthalates and/or alkylphenol ethoxylates and/or PFAS alternatives.

[Home - The European Council of the Paint, Printing Ink, and Artist's Colours Industry \(CEPE\)](#)

European Food & Beverage Plastic Packaging

The next edition of the Future of Surfactants Summit will bring together in London (United Kingdom) on 11th and 12th June 2025 manufacturers of surfactants and industrial cleaning products and producers and suppliers of raw material.

This meeting will be an opportunity to discuss the latest innovations in the field of surfactants that can replace alkylphenol ethoxylates.

<https://www.wplgroup.com/aci/event/european-food-beverage-plastic-packaging-summit/>