



**BIODEGRADABLE  
POLYURETHANE DISPERSIONS.**  
**WHY NOT?**

Covestro raw materials can enable biodegradable coatings and composite solutions.

**Impranil®**

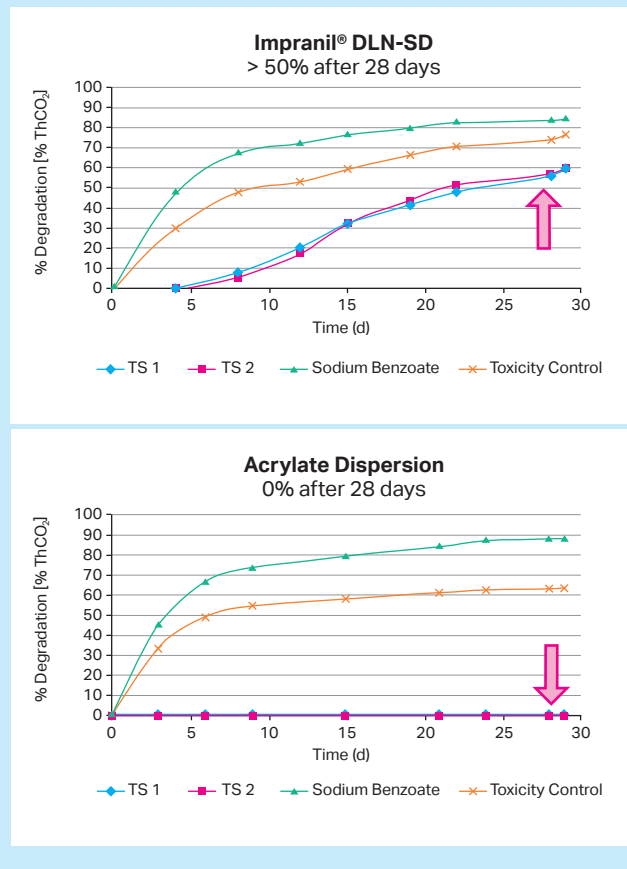


# Impranil®: Covestro raw materials can enable biodegradable coatings and composite solutions

## Impranil® DLN-SD Biodegradability

### Example of OECD 301 Results

- Impranil® DLN-SD vs Acrylate Dispersion



Biodegradability is getting more and more a key topic for polymer materials in various applications such as prints for T-shirts or coatings and binders in the packaging industry. Yet, there is still some confusion in the discussion with various terms mentioned in this context such as “degradability”, “compostability” or “renewability”.

Bio-based polymers are (partly) derived out of renewable biomass. Whereas biodegradable polymers degrade in specific environments. The origin of the raw materials and the biodegradability characteristics are not directly inter-linked but depend on the chemical structure of the molecule. Bio-based polymers that do not degrade easily as well as fossil-based polymers with high degradability rates can be found. As these polymers can be used in different applications, biodegradability tests must be carried out in the relevant environment such as seawater, soil or under industrial compostability conditions.

When developing new products, Covestro considers sustainability around the entire product life cycle. This includes the raw materials, production and processing as well as the application and end-of-life options of our products.

Covestro's Impranil® DLN-SD is a fossil-based polyurethane dispersion showing promising degradability rates in water. It was tested for biodegradability according to the CO<sub>2</sub>-evolution test (OECD test standard 301) and shows a degradation of above 50% in 28 days. In general, biodegradability rates of Impranil® DLN-SD polymers are significantly higher than other film formers such as acrylic dispersions and therefore contribute to a reduced end-of-life impact. Beside the good biodegradable properties, Impranil® DLN-SD can be used in various applications due to its dry hand feel, good scratch and washing resistance when crosslinked as well as good film forming properties and good compatibility with NBR (suitable to compound with NBR for gloves).



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