



## Sustainable cleaning solutions for today's paint applicators

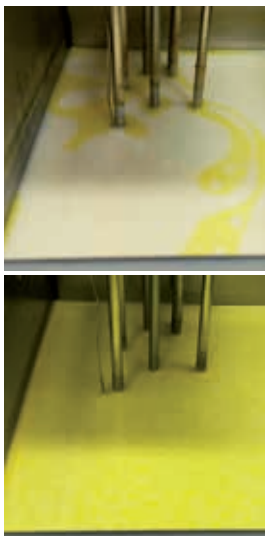


Fig. 1-2:  
UniPrep® cleaner's (top)  
natural degradation capabilities  
results in less organic soil in  
solution compared to  
conventional cleaners (bottom)

### Conventional cleaning

Cleaning and degreasing of a metal substrate surface is essential for all high performance paint applications. To ensure uniform pretreatment coverage and adequate corrosion resistance, the organic and inorganic soils must be removed from the surface through spray or immersion cleaning. For organic soils, conventional alkaline cleaners provide the necessary degreasing characteristics to prepare the metal for pretreatment. However, these cleaners often operate at elevated temperatures (55 - 80 °C), have a short solution life and a declining cleaning efficiency as the organic soils build up. Additionally, conventional cleaners often contain phosphorus, boron and alkylphenol ethoxylates (APEs), all compounds considered substances of concern and increasingly regulated globally.

### A superior approach to cleaning

UniPrep® cleaners are Atotech's alternative to conventional degreasing products. UniPrep® processes are capable of long solution life and low temperature operation. UniPrep® cleaners promote the natural degradation of organic soils removed and emulsified during the cleaning process. This creates a more efficient and stable cleaning process, requiring less frequent cleaner make-ups and reducing wastewater treatment burden. UniPrep® cleaners represent the pinnacle in sustainability, formulated without phosphorus, boron and APEs, providing a solution for environmentally conscious applicators.

### Features and benefits

- Low temperature operation (25-50 °C), reducing energy costs
- Long solution life, consistently achieving 2 - 3x increase versus conventional cleaners
- Repeatable performance throughout cleaner life, improving quality
- Less frequent cleaner make-ups, reducing wastewater treatment burden
- Free of phosphorus, boron and alkylphenol ethoxylates (APEs), minimizing environmental impact

# Long life cleaning solutions

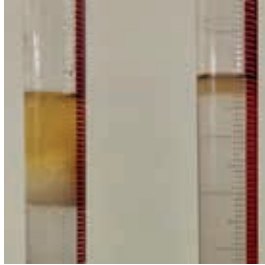


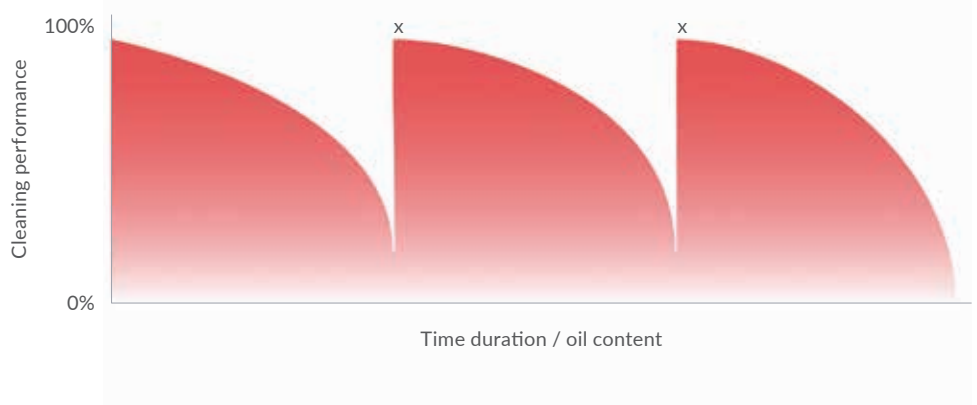
Fig. 1:  
Conventional cleaners (left) vs.  
oil degradation cleaner (right)

## Oil degradation

Alkaline cleaners remove organic soils from substrate surfaces during the cleaning process. In doing so, oil becomes emulsified in solution, reducing cleaning efficiency while significantly increasing the chemical oxygen demand (COD) levels, which are regulated in industrial effluent. UniPrep® cleaners support the natural degradation of the emulsified oils, removing them from the solution thereby reducing COD levels.

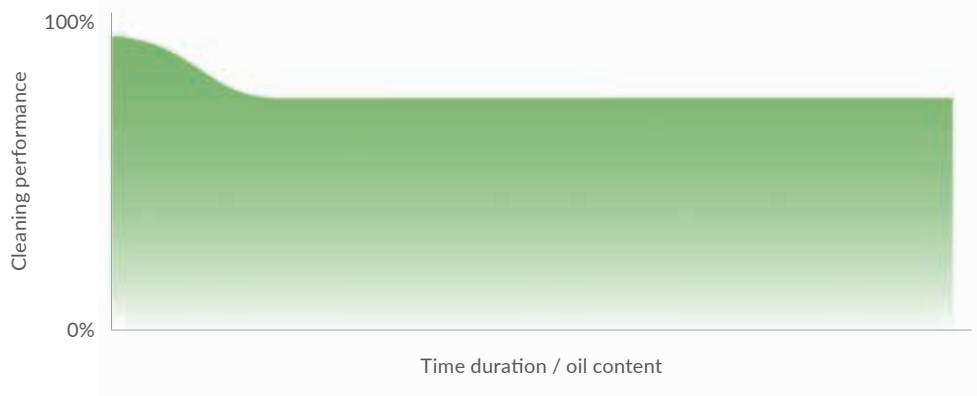
## Conventional alkaline cleaner performance cycle

With conventional cleaners, performance decreases as a function of emulsified oil content in the solution



## UniPrep® long life, low temperature cleaner performance cycle

With Atotech's UniPrep® cleaners, the degradation of emulsified oils results in consistent cleaner performance



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