



Application Note AN-PAN-1053

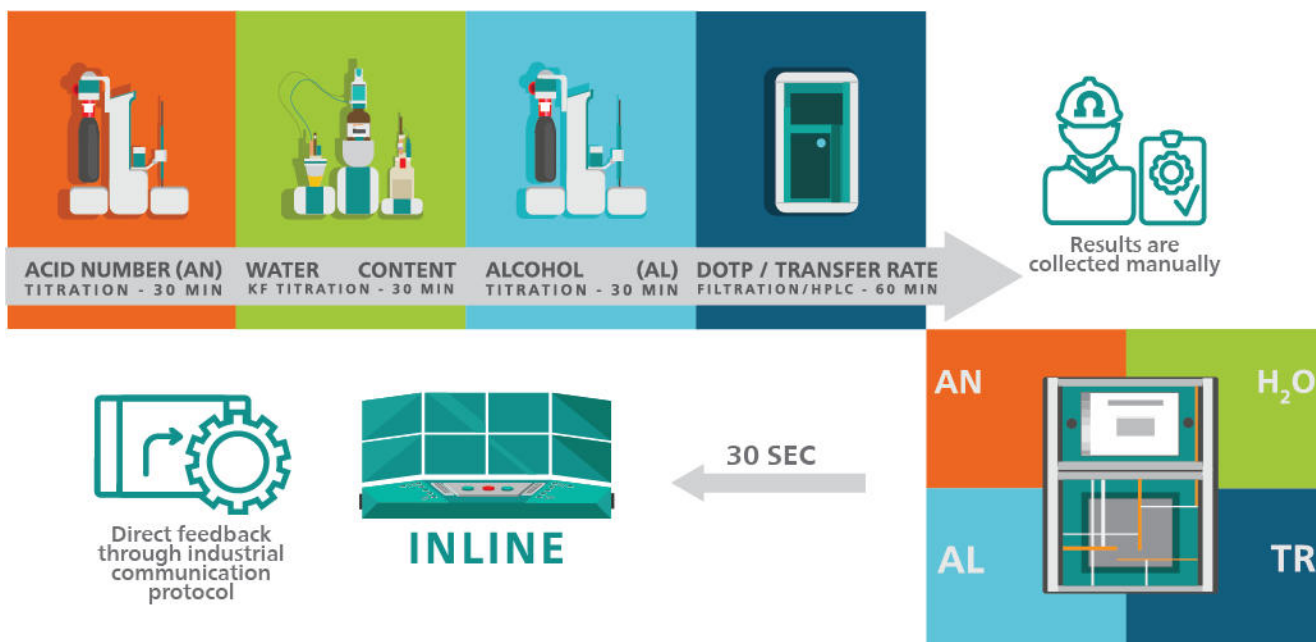
インライン分析によるエステル化を介したDOTP製造のモニタリング

(DOTP)

DOTP
(NIRS)DOTP

(PVC)()
 (: (DEHP) (DINP)) PVC [1] 20223 [2] 260 [2]
 (DOTP DEHT) C₆H₄(CO₂C₈H₁₇)₂
 DOTP (TPA) 2- (2-EH) [3] TPA 2-EH 1: 2160 °C 235 °C
 DOTP DOTP

DOTP
 4: (TPA) (AN) 2- (2-EH) (AL) DOTP (1)
 DOTP (NIRS)
 2060 NIR-ExHPLC (IC)



1. DOTP

(NIRS)(2)2



2. ATEX2060 NIR-Ex

1.DOTP

(NIRS)

2- (AL) 20.4–67.9 % wt

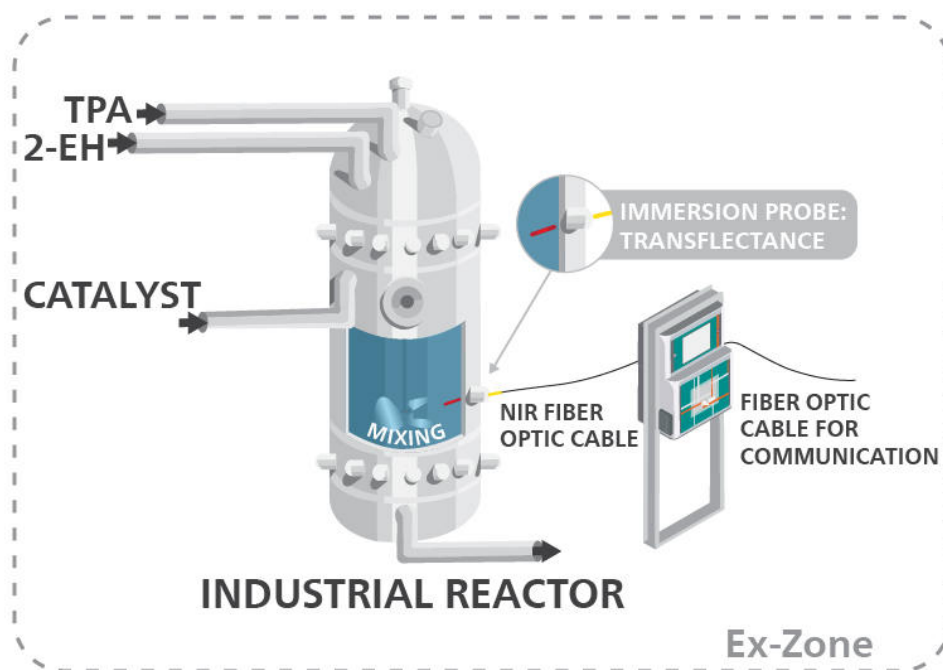
(TPA) (AN) 0.025–31.3 % wt

(DOTP) 0–78.4 % wt

(Moisture) 0.1–0.5 % wt

AL/AN 1:2

(TR) 0–100%



3. DOTPNIR

(NIRS)NIRS

ATEXClass 1 Div 1/2()

TPA(TR)TPA/2-EH(AL/AN1)DOTP

DOTP(NIRS) 2060 NIR-Ex(2)HPLC

(NIR)

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1. *Plasticizers. CHEMICAL ECONOMICS HANDBOOK*. S&P Global.
<https://www.spglobal.com/commodityinsights/en/ci/products/plasticizers-chemical-economics-handbook.html> (accessed 2023-09-28).

2. Market Report Plasticizers: Industry Analysis | 2022-2032. *Ceresana Market Research*.
3. Harmon, P.; Otter, R. A Review of Common Non-Ortho-Phthalate Plasticizers for Use in Food Contact Materials. *Food and Chemical Toxicology* **2022**, 164, 112984.
<https://doi.org/10.1016/j.fct.2022.112984>.

ASTM

ASTM E1655: Standard Practices for Infrared Multivariate Quantitative Analysis

ASTM D6122: Standard Practice for Validation of Multivariate Process Infrared Spectrophotometers

AN-PAN-1041 Inline monitoring of free isocyanate (%NCO) content in polyurethane

AB-414 Polymer analyses using near-infrared spectroscopy

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2060 The NIR-Ex Analyzer

2060 The NIR-Ex Analyzer Metrohm Process Analytics 10 (5) /5

IECEX ATEX EU /: **2060 The NIR Analyzer**
2060 The NIR-R Analyzer 2060 The NIR-REx Analyzer