



REACH Identification by Infrared Spectroscopy

Substance (registration name)	Olefines, polymer, oxidized, hydrolyzed, distn. residues, from C20 alcohols manuf.
Test Material	Nafol 22+
Batch / Lot no.	03820/MA
Company Study no.	
Date of Analysis	22.02.2011
Test Method	Infrared Spectrometric

RESULTS

COMMENTS/ADDITIONAL INFORMATION:

Analyst Name (print): Dr. Stefan Keller

Date Signed: 16.09.2011

Analyst Name (sign): *S. Keller*

Infrared Spectroscopic - Olefines, polymer, oxidized, hydrolyzed, distn. residues,
from C20 alcohols manuf. (Nafol 22+, Lot 03820/MA)

16.09.2011

Conditions

Instrument Type
Instrument Serial Number

Bruker TENSOR 27
202217364

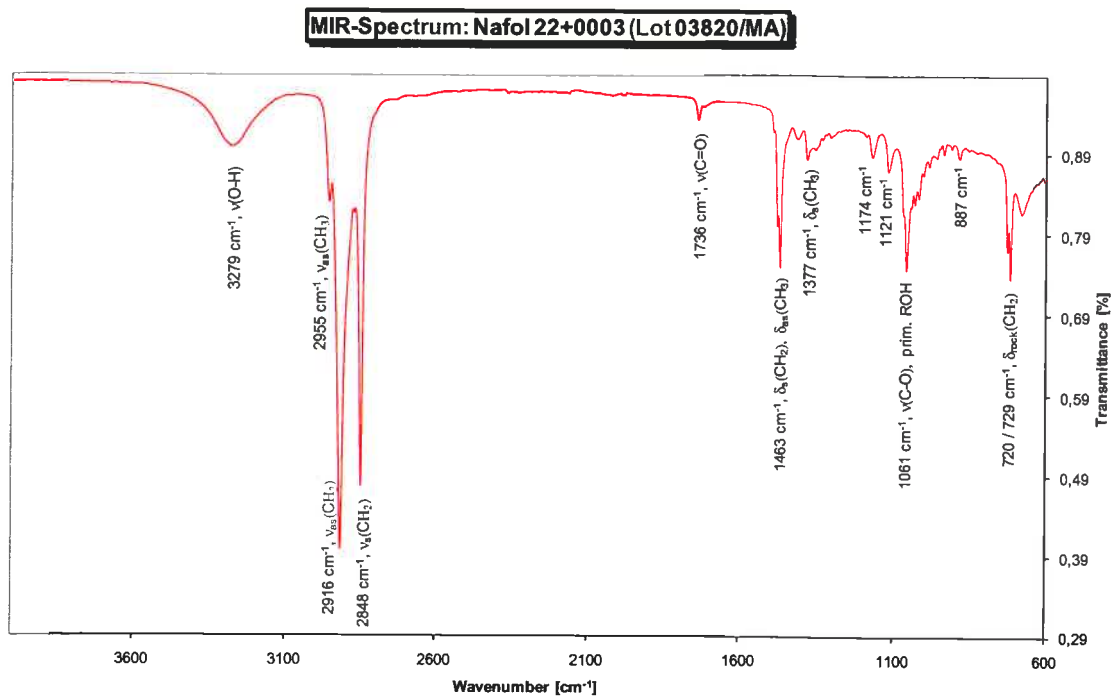
Experimental set-up:

• Accessory	ATR
• Window	Diamond
• X Units	Wavenumber, cm^{-1}
• Resolution	4 cm^{-1}
• Wavelength range [cm^{-1}]	600 - 4000
• High Folding Limit	15800.4522
• Low Folding Limit	0
• Laser Wavenumber	15800.45224
• Absolute Peak Pos in Laser*2	59815
• Number of Sample Scans	32
• Aperture Setting	6 mm
• Beamsplitter Setting	KBr
• Detector Setting	RT-DLaTGS
• Source Setting	MIR
• Scanner Verlocity	10 KHz
• Apodization Function	Blackman-Harris 3-Term
• Phase Resolution	32
• Phase Correction Mode	Mertz
• Zero Filling Factor	2
• Aquisition Mode	Double Sided, Forward-Backward

Identification of Nafol 22+ by infrared spectroscopy

Procedure:

Nafol 22+ was spread on the ATR window (diamond) and the infrared spectrum recorded without any additional preparation.



The following table shows the tentative assignment of the infrared active vibrations of Nafol 22+:

Wavenumber [cm^{-1}]	Assignment : Nafol 22+
3279	$\nu(\text{O-H})$
2955	$\nu_{\text{as}}(\text{CH}_3)$
2916	$\nu_{\text{as}}(\text{CH}_2)$
2848	$\nu_{\text{s}}(\text{CH}_2)$
1736	$\nu(\text{C=O})$
1463	$\delta_{\text{s}}(\text{CH}_2)$, $\delta_{\text{as}}(\text{CH}_3)$
1377	$\delta_{\text{s}}(\text{CH}_3)$
1174	
1121	
1061	$\nu(\text{C-O})$, prim. ROH
887	
729 / 720	$\delta_{\text{rock}}(\text{CH}_2)$

Infrared Spectroscopic - Olefines, polymer, oxidized, hydrolyzed, distr. residues,
from C20 alcohols manuf. (Nafol 22+, Lot 03820/MA)

MIR-Spectrum: Nafol 22+0003 (Lot 03820/MA)

