

Hydroxyl number in polyols



Fast and straightforward determination
by near-infrared spectroscopy

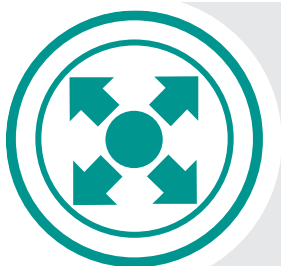
Near-infrared spectroscopy for routine analysis of polyols

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Metrohm offers a turnkey solution for routine analysis of polyols by near-infrared spectroscopy (NIRS). Based on a dedicated spectral database and a pre-calibration model, this solution enables manufacturers in the chemical industry to reduce the cost of their daily routine analysis while improving the quality of their product.

Polyols are widely used in chemical manufacturing. A key quality parameter of polyols is the **hydroxyl number**. This parameter is still often determined in the laboratory by time consuming wet chemical analysis involving complex sample preparation.

NIRS on the other hand requires neither chemicals nor hardly any sample preparation, it can even be used by non-chemists, and provides results in less than a minute. Furthermore, multiple chemical and physical parameters can be determined simultaneously with a single measurement. **The combined benefits of this technology make NIRS the ideal solution for a large number of daily QA/QC measurements or process analysis.**



Easy-to-use

- Turnkey solution
- Measure at the push of a button
- No expertise required



Fast

- No sample preparation
- Analysis results within one minute
- More than 15 minutes time saving compared to reference methods



Cost minimizing

- No solvents, no reagents
- No waste disposal



Clean

- Non-destructive, chemical-free method
- Minimum of impact on health and environment

Turnkey solution for polyol analysis

The Metrohm solution for polyols comes with a ready-to-use pre-calibration model for the determination of the hydroxyl number. Due to this pre-calibration, the Metrohm solution can be used as a starter model without any method development.



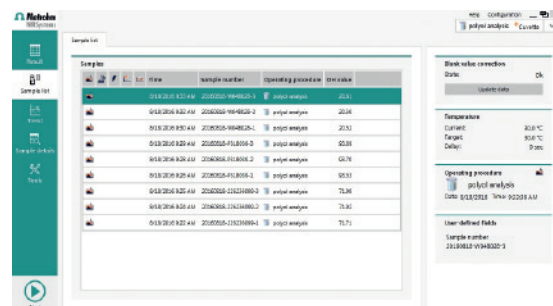
Reliable results from day one

The robust pre-calibration model allows precise and accurate determination of the hydroxyl value with excellent reproducibility. The performance of the pre-calibration can be improved even further, if a smaller calibration range is selected or if it is augmented with customer specific samples.

Range of OH value in mg KOH/g	SECV in mg KOH/g	R ²
6–1180	10.73	0.996

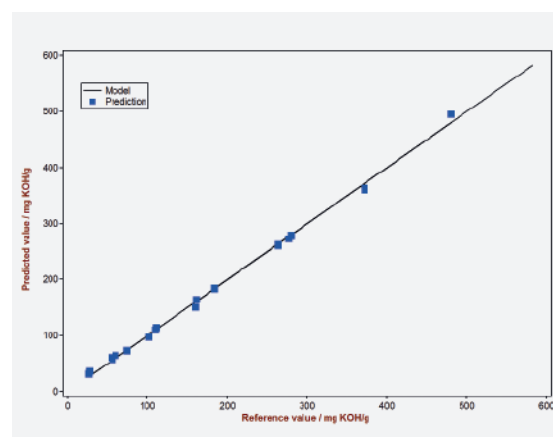
Straightforward and intuitive operation

Metrohm instruments for Vis-NIR are controlled by Vision Air software. Vision Air provides two environments tailored to users' needs: **Vision Air routine** enables secure daily operation by routine users, while **Vision Air Manager** allows experienced and authorized users to control data and perform instrument configurations. For daily routine analysis, measurements can be performed with two simple clicks.



Customized service and support

Metrohm supports users by updating the default pre-calibration on demand with customer specific samples. This improves the performance of the method and/or extends it to new applications. Such updates are easily performed in the Vision Air Manager network mode. When using Vision Air Network, all instruments within a global customer network can be synchronized at the push of button. Customer specific calibrations can be easily developed for the determination of additional quality parameters of polyols e.g., **acid number**, **water content**, **iodine value** and **isocyanate content** or special components like **diethylene glycol**.



Ordering information

6.607.2301 NIRS pre-calibration for liquid polyols

Requires hardware

2.921.1410 NIRS XDS RapidLiquid Analyzer

Comprised of:

1.921.0010 NIRS XDS Monochromator
1.921.0410 NIRS XDS RapidLiquid Module
6.7400.000 NIRS XDS accessory kit
8.921.8005EN Manual for NIRS XDS RapidLiquid Analyzer

Requires software

6.6072.201 Vision Air 2.0

Optional software

6.6072.204 Vision Air 2.0 Server
6.6072.206 Vision Air 2.0 Network

Requires certified standards

6.7450.040 NIRS transmission wavelength calibration standard

Optional certified standards

6.7450.050 NIRS transmission standard, set of 6 (for the regulated environment)
6.7450.060 NIRS transmission wavelength verification standard

Sampling accessories

6.7402.000 NIRS disposable glass vials, 8 mm (250 pcs.)
6.7403.000 NIRS XDS spacer for disposable glass vials, 8 mm

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