PRODUCT INFORMATION

Standard liquids

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Key words
Thermo Scientific HAAKE viscometers and rheometers, check instrument functionality, Newtonian fluid, mineral oils, silicon oils

The functionality and/or calibration of any measuring instrument should be checked regularly. Checking a rheometer or viscometer is usually and most easily done by measuring a standard liquid with a certified viscosity value.

A standard liquid is a Newtonian fluid for which the viscosity value is certified for one or several temperature values.

A wide range of standard liquids with different viscosity values and uncertainties as well as different reference temperatures and chemical structures (mineral oils, synthetic oils) are available.

Standard liquids from Thermo Fisher Scientific are delivered with a certified viscosity at 20 °C and an uncertainty of ±2 % (±4 % for E7). Standard liquids with viscosity values between 5 mPas and 40000 mPas are available in 100 ml or 500 ml containers. Standard liquids with other viscosity values or other reference temperatures as well as the delivery in other containers (e.g. 1.0 l) are available on request.

Standard liquids with a lower uncertainty of the viscosity (±0.4%) and/or certified viscosity values at other temperatures between 20 °C and 100 °C are available from the German Calibration Service (DKD – Deutscher Kalibrierdienst) amongst others.

Because of their lower viscosity - temperature dependence silicon oils are often used for checking simple viscometers which do not provide any means of temperature control.

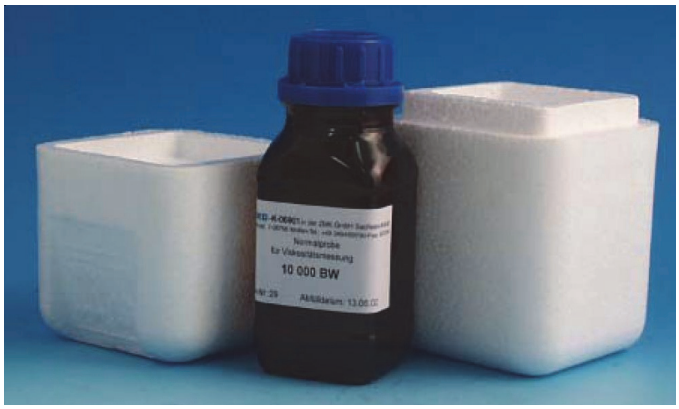


Fig. 1: DKD standard liquid in 100 ml container.

For this application the slight shear thinning behaviour of silicone oils (decreasing of the viscosity with increasing shear rate) should be neglected.

For checking a specific viscometer or rheometer configuration it is important to use a standard liquid that matches the parameters (temperature, viscosity, etc.) of the routine measurements normally run on that instrument.

When comparing the measured viscosity value with the standard liquid's certified value it is important to take the instruments uncertainty into account also.

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Ordering information

Thermo Scientific standard liquids, 100 ml, viscosity value at 20 °C, list price 150 € (2020)		
Product		**Cat. No.**
E7	~ 5 mPas (20 °C)	082-5042
E200	~ 120 mPas (20 °C)	082-5043
E2000	~ 1900 mPas (20 °C)	082-5044
E6000	~ 6000 mPas (20 °C)	082-5046
E15000	~ 15000 mPas (20 °C)	082-5336
E40000	~ 40000 mPas (20 °C)	082-5335

DKD Standard liquid, 100 ml, viscosity value at 20, 23, 25, 30, 40 und 100 °C, list price 460 € (2020)		
Product		**Cat. No.**
100BW	~ 100 mPas (20 °C)	082-5303
2000AW	~ 2000 mPas (20 °C)	082-5304
10000BW	~ 10000 mPas (20 °C)	082-5305

Thermo Scientific Silikone oils, 500 ml, viscosity value at 25 °C, list price 150 € (2020)		
Product		**Cat. No.**
S100	~ 100 mPas (25 °C)	082-5373
S1000	~ 1000 mPas (25 °C)	082-5374
S5000	~ 5000 mPas (25 °C)	082-5375
S10000	~ 10000 mPas (25 °C)	082-5376
S30000	~ 30000 mPas (25 °C)	082-5377

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