

# Synthetic Oils for Polymers in Precision Micromechanics

MOEBIUS 9015, 9024 and 9027 are synthetic oils containing unsaponifiable ether and alcohol groups (Alkyl-Aryl-Oxydibutylenglycols). Moebius synthetic oils for polymers are used to reduce friction in metal/plastic bearings and sliding friction in plastic/metal or metal/plastic assemblies. In particular, these oils are used in places where the natural low friction of the polymers is insuffi-

cient. Moebius synthetic oils do not gum up or age. They guarantee excellent adherence, and when used under normal conditions they do not spread or creep. Changes in humidity do not affect the coefficient of friction. MOEBIUS synthetic oils are non-toxic. They are very compatible with copper alloys and exhibit no residue in low temperature usage.

<b>Technical Data</b>	<b>9015</b>	<b>9024</b>	<b>9027</b>
viscosity at 0°C	625 cSt	1450 cSt	7600 cSt
viscosity at 20°C	150 cSt	266 cSt	1040 cSt
viscosity at 50°C	31 cSt	45 cSt	130 cSt
pour point	-40°C	-40°C	-20°C
surface tension at 25°C: dyn/cm	33,8	34,8	35,5
contact angle on ruby	16-18°	22-28°	23-30°
contact angle on steel	10-12°	12-15°	14-18°
density at 20°C	0,895	0,920	0,935
evaporation loss after 5 days at 100°C	0,5%	0,4%	0,4%
temperature range for usage	-28,5 to +70°C	-18 to +90°C	-7 to +80°C
Baader ageing test: change in viscosity after 12 days	2%	2%	0,8%

**MOEBIUS 9015** is a high quality synthetic lubricant with a wide range of application in plastic precision micromechanics.

**MOEBIUS 9024** has a greater viscosity than 9015. It contains a stabilizer for high temperatures as well as a metal desactivator. Accordingly,

MOEBIUS 9024 is used in precision micro-mechanics, particularly where high temperatures are to be expected.

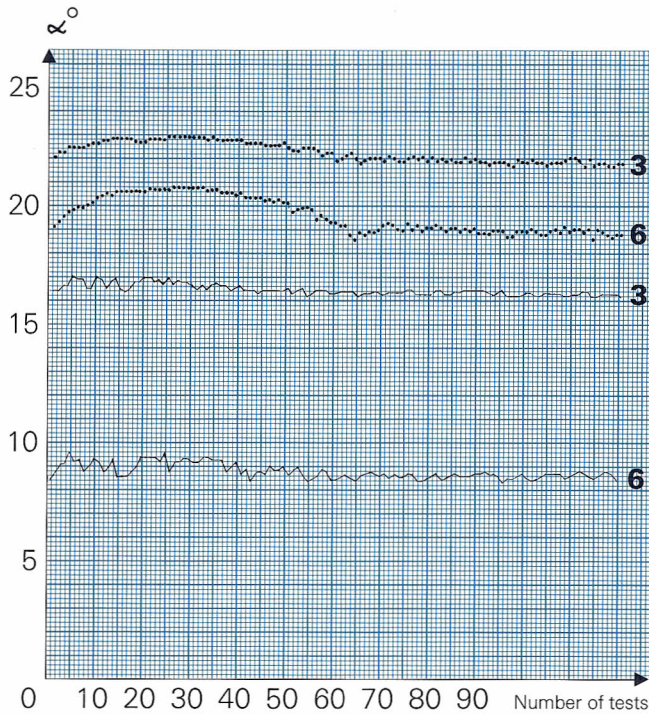
**MOEBIUS 9027** has a high viscosity and is therefore often used for noise reduction and damping effect.



**Range of application**

The MOEBIUS synthetic oils 9015, 9024 and 9027 are designed for the lubrication of polymers in the precision micromechanic industry. They are used where there is a need for top quality and long life span. The main fields of application are:

- watches and time switches
- micromotors and steppmotors
- cameras and optical instruments
- metronomes
- indicators in motor vehicles

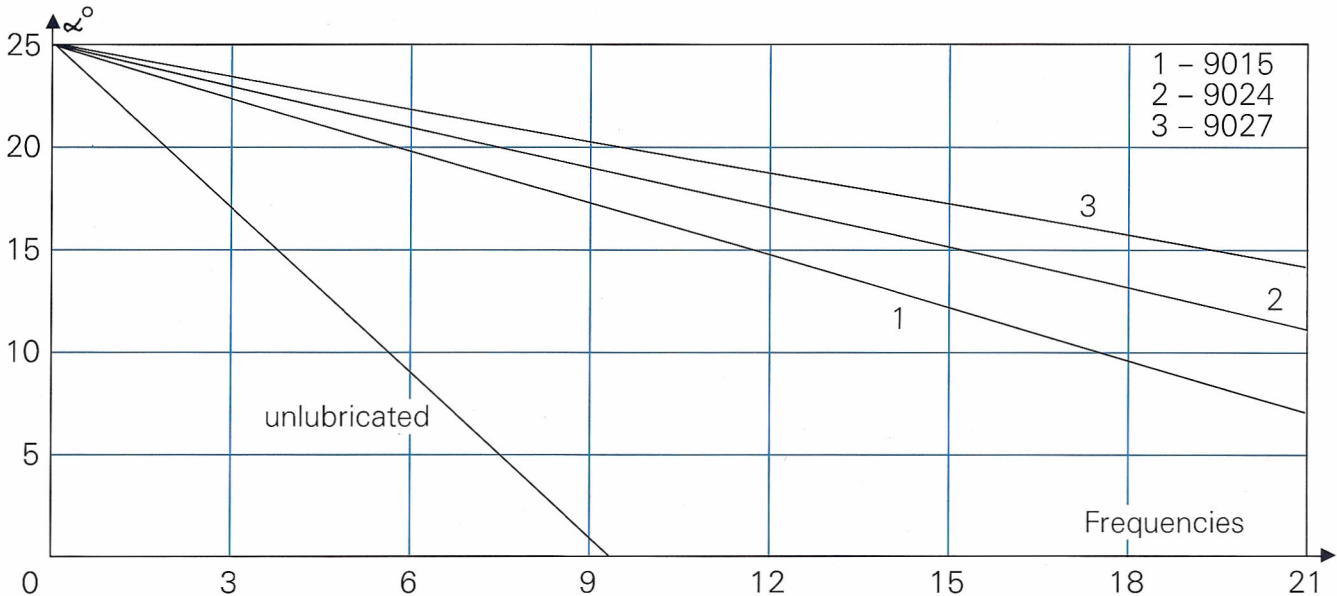


**Friction pendulum diagram of prod. No. 9024: steel/Delrin 500 NC 10**

In order to demonstrate more clearly the effect of the oil, the 3rd and 6th turning point of each test series made with lubricant and without it are shown in this diagram.

- ..... lubricated
- unlubricated

**Comparative damping diagrams for various oils**



**MOEBIUS**

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