

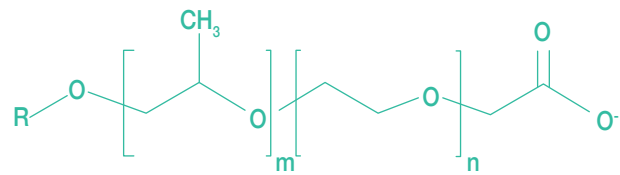


AKYPO® IN-0202



Metal cleaning additive with multifunctional benefits

Due to its outstanding low foaming behavior and hard water stability, AKYPO® IN-0202 is an ideal additive for metalworking fluids.



$m < 4$
 $n < 4$
 $R = (\text{iso})\text{C}_9$

MAIN PROPERTIES

- Short chain alkoxyated ethercarboxylic acid
- Low foaming co-emulsifier
- Pale yellow liquid
- Moderatly water soluble
- HLB = 9.5
- Easy to use – without heating or strong stirring
- Safe handling (non-irritant to eye and skin as neutralized product)
- Free of Phosphorous, Aromatics and Silicone
- Compatible with high alkalinity and acidity

AKYPO® IN-0202 is able to increase the cleaner active content. This is key to reduce the environmental footprint, because of the increasing cleaners efficiency.

Compatibility of AKYPO® IN-0202 against



APPLICATION BENEFITS

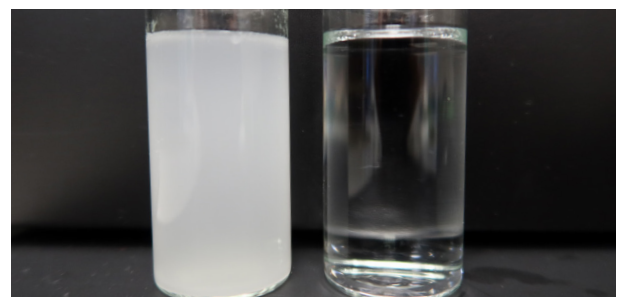
- Excellent compatability, also with defoaming agents in cleaning formulations
- Hydrotropic effect
- Low foaming ability
- Good wetting agent
- Increase electrolyte stability and lime soap dispersing power
- Improve cleaning power

HYDROTROPY

- Possible to adjust the cloud point
- Better solubility
- Stable clear solution
- Lower losses during purification

Market Cleaner formulation [60 °C]

Market Cleaner Formulation with AKYPO® IN-0202 [60°C]

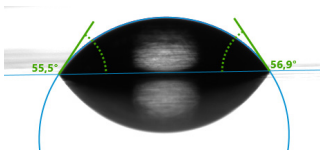




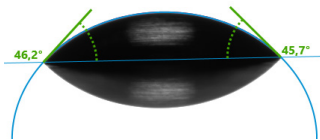
WETTING AGENT

Wetting is closely related to surface tension and describes how well a liquid spreads on a surface. It is quantified by measuring the contact angle of the liquid-vapor interface on the solid surface. Surfactants typically lower the contact angle leading to more effective wetting.

*0,1% product solution, contact angle on steel measured with the DSA from Krüss



Deionized Water*



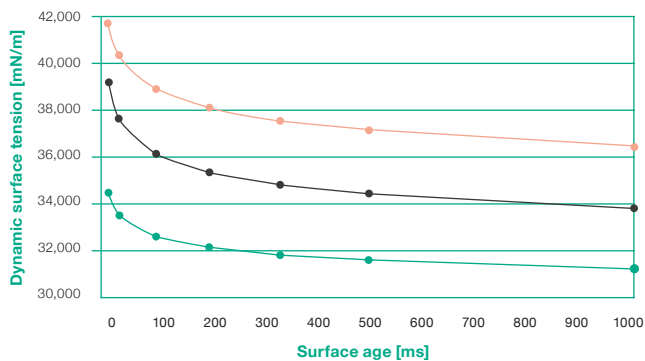
Branched high ethoxylated Non-Ionic



AKYPO® IN-0202*
[pH = 2-4]

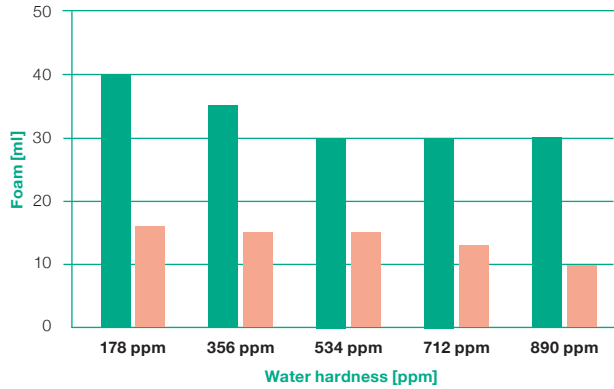
Temperature: 20°C

● + AKYPO® IN-0202 ● + EOPO Non-ionic ● + linear high ethoxylated Non-Ionic



LOW FOAMING

● AKYPO® RO 90 VG ● AKYPO® IN-0202

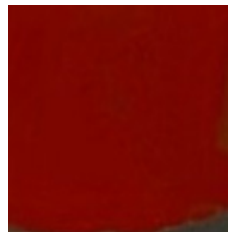


Method (Shaking cylinder): 0.1 % for several water hardness

AKYPO® IN-0202 shows an excellent lower foam profile at 25°C compared to a long C-chain ethoxylated ethercarboxylic acid AKYPO® RO 90 VG.

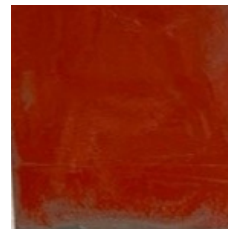
EXCELLENT CLEANING PROPERTIES

Surface before cleaning

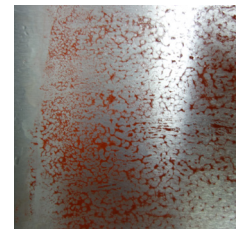


Hydraulics oil + Iron Oxide
Cleaning Time:
5 min at 60 °C

Surface after cleaning



Market Cleaner



Market Cleaner + 0,5%
AKYPO® IN-0202

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For more information, contact us at metalworking@kaochemicals.de
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