

# SYNATIVE ES 2458

## Composition

Dicarboxylic acid polyglycol ester

## Technical Data

Item	Value	Method / Remarks
<b>Appearance:</b>	dark yellow, viscous liquid; clear to slightly opaque,	
<b>Water Content:</b>	max. 0,5 %	DGF C-III 13a
<b>Cloud Point:</b>	80 - 85 °C	DIN EN 1890
<b>Acid Value:</b>	max. 0,5	DGF C-V 2; DIN 53402
<b>Iodine Value:</b>	38 - 45	DGF C-V 11b
<b>Hydroxyl Value:</b>	82 - 92	DGF C-V 17a; DIN 53240
<b>Saponification Value:</b>	77 - 83	DGF C-V 3; DIN 53401
<b>Density:</b> 70 °C	0,995 - 1,005 g/cm <sup>3</sup>	DIN 51757
<b>pH-Value:</b> 1%	9,0 - 10,5	DGF H-III 1

## Quality Control Data

(These data are used for quality release and are certified for each batch.)

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<b>Water Content:</b>	max. 0,5 %	DGF C-III 13a
<b>Cloud Point:</b>	80 - 85 °C	DIN EN 1890
<b>Density:</b> 70 °C	0,995 - 1,005 g/cm <sup>3</sup>	DIN 51757
<b>pH-Value:</b> 1%	9,0 - 10,5	DGF H-III 1

## Additional Specifications

(Guaranteed specification values which are not determined on a regular basis.)

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<b>Acid Value:</b>	max. 0,5	DGF C-V 2; DIN 53402
<b>Iodine Value:</b>	38 - 45	DGF C-V 11b
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<b>Saponification Value:</b>	77 - 83	DGF C-V 3; DIN 53401

## Properties & Use

The water-soluble **SYNATIVE ES 2458** is an excellent lubricant for the metal forming process. **SYNATIVE ES 2458** may be directly used in formulation of water miscible metalworking fluids\*) and as an additive for water-mixed metalworking fluids.

**SYNATIVE ES 2458** may be applied to the metalworking process as pure product or diluted with water.

\*)An addition of low concentrations (1 - 2 %) of **SYNATIVE ES 2458** to neat oil formulations improves the washing properties of the neat oil.

Frame formulations are available upon request

### **Additional Technical Data**

<b>Dynamic Viscosity according to Höppler (DIN 51015)</b>		
50 °C	350 - 460	mPa.s
20 °C	2200 - 2500	mPa.s
<b>Density (DIN 51757) at 20 °C</b>	ca. 1,049	g/cm <sup>3</sup>

With the Reichert-friction tester following values are obtained (100 m at 1,5 kg load):

1 % in dest. H<sub>2</sub>O max. 13 mm<sup>2</sup>  
3 % in dest. H<sub>2</sub>O max. 10 mm<sup>2</sup>  
pure dest. H<sub>2</sub>O 34 mm<sup>2</sup>

## Water-solubility

The product is soluble in water from 0 ° - 40 ° german hardness forming clear to opaque solutions. The viscosity of the solution increases with product concentration. Above 20 % **SYNATIVE ES 2458** gel-formation is possible.

## Oil-solubility

**SYNATIVE ES 2458** is also miscible with approx. 20 % of mineral oil.

## Revision-No.

1.1-01.2004 Effective January 26, 2004

The product can be stored for at least 2 years at ambient storage conditions and temperature without any deterioration.

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