

## StaSo Transformer Fluid IKO

### Description / Use:

**StaSo Transformer Fluid IKO** is a high-quality inhibitor concentrate for improving the oxidation behavior of uninhibited transformer and insulating oils for transformers of all power stages.

**StaSo Transformer Fluid IKO** is added in uninhibited insulating oils in a concentration of 3%. Optimized insulating oils meet the requirements for the inhibitor content of inhibited oils according to IEC 60296-03 of 0.3%.

Important: It is essential that the addition of **StaSo Transformer Fluid IKO** to the transformer oil is carried out by qualified personnel via a degassing plant.

### Characteristics / Identification / Qualification:

**StaSo Transformer Fluid IKO** optimizes the oxidation stability of the transformer oil.

### Typical Data:

	Unit	Test method	Guaranteed data		Typical data
			Min	Max	
Appearance		IEC			
		IEC 60296			
Density, 20°C	kg/m <sup>3</sup>	ISO 12185			880
Corrosive sulphur		DIN 51353			non corrosive
Corrosive sulphur		ASTM D 1275 B			non corrosive
Corrosive sulphur		IEC 62535			non corrosive
DBPC – Content	wt%	IEC 60666	9,8	10,2	10,0
Dielectric dissipation factor		IEC 60247		0,005	0,001
Flash point, PM	°C	ISO 2719	135		145

Provided data are typical of current production, variations in given characteristics may occur, final determination of suitability of the product for the application contemplated by the user is solely their responsibility, for further information contact +49(0)4661-93495-0, [info@nf-oel.de](mailto:info@nf-oel.de) or [www.starkeundsohn.de](http://www.starkeundsohn.de)

## StaSo Transformer Fluid IKO

### Calculation help of amount to be added

Transformer oil mass, kg	$M_{TR}$
Current inhibitor content, %	$C_{CIC}$
Wanted inhibitor content, %	$C_{WIC}$
IKO mass needed, kg	$M_{IKO}$
IKO inhibitor content, %	$C_{IKO}$ (=10%)
Total amount blend, kg	$M_{TOT}$

#### **Mass balance total:**

$$M_{TOT} = M_{TR} + M_{IKO}$$

#### **Mass balance, only additive (DBPC):**

$$M_{Tot} \times C_{WIC} = M_{TR} \times C_{CIC} + M_{IKO} \times C_{IKO}$$

$$(M_{TR} + M_{IKO}) \times C_{WIC} = M_{TR} \times C_{CIC} + M_{IKO} \times C_{IKO}$$

$$M_{TR} \times (C_{WIC} - C_{CIC}) = M_{IKO} \times (C_{IKO} - C_{WIC})$$

$$\frac{M_{TR} \times (C_{WIC} - C_{CIC})}{(C_{IKO} - C_{WIC})} = \underline{M_{IKO}}$$

#### Example

Transformer oil mass, kg	50.000 kg	$= M_{TR}$	
Current inhibitor content, %	0,2 %	$= C_{CIC}$	
Wanted inhibitor content, %	0,4 %	$= C_{WIC}$	$M_{IKO} = \underline{50.000 \text{ kg} \times (0,4 - 0,2)} = 1041,67 \text{ kg}$
IKO mass needed, kg	???	$= M_{IKO}$	$(10 - 0,4)$
IKO inhibitor content, %	10 %	$= C_{IKO}$	
Total amount blend, kg	50.000 + ?kg	$= M_{TOT}$	