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## LUBRICANTS (POE) FOR AUTOMOTIVE A/C SYSTEMS

## WITH ELECTRIC COMPRESSORS

# POE 80 LUBRICANTS

### DESCRIPTION

These oil series are **fully synthetic lubricating fluids, based on synthetic and biodegradable polyesters oils ( POE )** with a particular anti-wear additive package designed specifically for **use in automotive air conditioning systems** loaded with alternative refrigerants not detrimental to the ozone layer.

### PROPERTIES

- **Dielectric strength – IEC 60156 @ 24°C >75kV**
- Complying with specification **IEC 61099**
- **Higher lubricity values** compared to traditional mineral-based lubricants.
- **Excellent anti-wear performance** for steel and aluminum surfaces, allowing to **extend the life and efficiency of the system lubricated.**
- **Chemically and thermally stable products**, compatible with residues of mineral oils or alkylbenzene which may remain in a system after the replacement by CFC or HFC.

- **Miscibility with both mineral and synthetic oils (polyalphaolefin - PAO or polyester - POE).** In case of mixture with a different nature or viscosity lubricant, the characteristics and performance of the product may change.
- **Rust and corrosion protection of metals**, particularly copper alloys.
- **Compatibility with coatings, elastomers and paints.**
- **Formulation with biodegradable, non- dangerous bases for human health**, for the protection of the operators and the environment in case of accidental spillage.
- **The products are NOT compatible with polyalkylene glycol (PAG) based oils.**

### APPLICATIONS

These POE lubricants are specifically used in air conditioning systems of motor vehicles.

- **ISO 80:** specific for use in electric compressors or when a dielectric compressor lubricant is required (complies with specification IEC 61099)

AVAILABLE (MAINLY) IN THE FORMATS:



METAL 250 ML

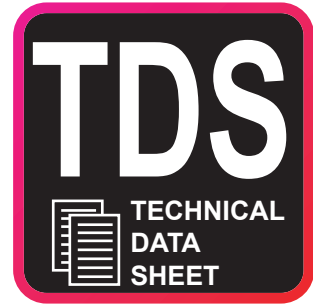
### WARNINGS

**The products are hygroscopic, and absorb the humidity and mist/ condensation in the air:** it is recommended to carefully seal the packaging after use and store them in a dry place at temperatures between -20 ° C and + 40 ° C.

In the case of storage at below -20°C, it is recommended to heat the product above 20°C before use, to eliminate as much as possible any moisture.



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**POE 80  
LUBRICANTS**

**SAFETY INFORMATIONS**

Read and observe the safety warnings on the container label.  
 For information on handling, transport, etc ..., refer to the Material Safety Data Sheet (MSDS) relating to the product in question.

**250 ML**



**METAL**

**52,5x52,5x160 MM ca.**

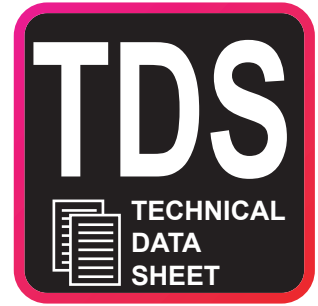
**12x**

CONTENT	ELECTRIC COMPRESSORS in AUTOMOTIVE A/C SYSTEM with	ARTICLE	PACKAGING
250 ML	R-134a - NO SANDEN	11.084	x 12
250 ML	R-1234yf - NO SANDEN	11.084YF	x 12
250 ML	R-134a / R-1234yf - NO SANDEN	11.508	x 12





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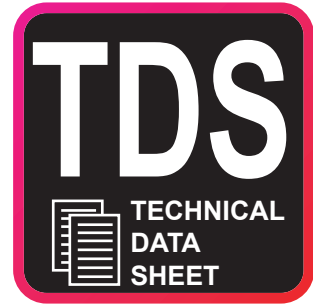
**WITH ELECTRIC COMPRESSORS**

**AVERAGE PHYSICAL AND CHEMICAL FEATURES (Data are not specifications)**

ISO Viscosity Grade ISO 3448		<b>80</b>
Physical State at 20°C		Liquid, clear, pale yellow color
Pour point	°C	< -35
Flash Point COC ASTM D 92	°C	250
Density at 20°C	Kg/mc	~ 960
Water solubility		Hygroscopic
Acid Value (degree of saturation)	Mg KOH/g	< 0.1
Biodegradability test	OECD 301B	> 60% (pass the test if > 60% in 28 days)
Water content	ppm	< 50
Dielectric strength IEC 60156 @ 24°C	kV	> 75 (89.5)
Complying with specification IEC 61099		Complies
Kinematic viscosity at 40°C	cSt	75-85
Kinematic viscosity at 100°C	cSt	9.3-9.9
<b>ASHRAE (97 Std) Thermal Stability Test</b> Test @ 175°C, 336 hrs		
Appearance / Settling		Clear / Settling Free (None)
Water content after test	ppm	< 10
Acidity after test (TAN)	Mg KOH/g	0,75
Viscosity change after test	20°C 40°C	< 3%
Metal content before and after test	Copper Steel Alluminium	No metal mobilization was observed



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**COMPATIBILITY INDICATION BETWEEN REFRIGERANT GAS AND LUBRICANT**

Refrigerant gas		mineral based	PAG based	POE based (POE 80)	PAO based
R23	HFC				
R32					
R134a					
R404A					
R407C					
R410A					
R413A					
R417A					
R419A					
R422A					
R422D					
R427A					
R428A					
R437A					
R438A					
R507					
R508B					
R1234yf	HFO				
R170	HC				
R600					
R1270					
R717	NH3				
R744	CO2				
R22	HCFC				
R123					
R124					
R401A					
R401B					
R402A					
R402B					
R403B					
R408A					
R409A					
R414B					
R416A					
R11	CFC				
R12					
R13					
R13B1					
R113					
R114					
R500					
R502					
R503					

Non-binding indications - It is always advisable to follow the instructions of the manufacturers of the systems or suppliers of refrigerant gases.