

# QUALITY LUBRICATES.



## **Anderol® SYNcom FG HiPerf 46**

A newly developed High Performance Food Grade Screw Compressor oil with extreme long oil life. Anderol® quality exceeds market requirements. [anderol.com](http://anderol.com)

**X** Anderol®

**QUALITY WORKS.**

**LANXESS**  
Energizing Chemistry

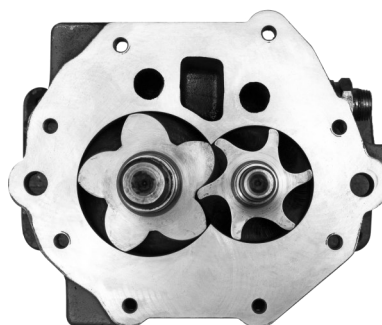
**ANDEROL®**

## **SYNCOM FG HIPERF 46**

Compressed air is an important energy transfer medium in a number of applications. In recent years, compressed air generation has been optimized and as a result, greater demands are now placed on air compressor oils. Operators expect longer machinery service intervals and therefore also longer-life compressor lubricants. As well as extending oil change intervals, oil temperatures have increased along with the reduction in oil volumes. Short life and rapid oil breakdowns can lead to production stops.

Food-grade lubricants face many challenges and often compromises have to be made. With restrictions on the use of various base oil performance-lifting additives, it is widely-recognized that quality and performance can suffer when compared with traditional lubricants.

There is a demand from machine manufacturers to extend the service life for food grade applications also, and to replace the oil only once per year together with annual maintenance. As it meets all these requirements including DIN 51506 VDL / ISO 6713-3-L-DAJ, there is high demand for the new Anderol® SYNcom FG HiPerf 46, ISO VG 46 Screw compressor lubricant.



### **Anderol® SYNcom FG HiPerf 46 Advantages**

- |  |  |
|--|--|
| ■ Low ash and carbon formation                         | ■ Improved valve performance   |
|  | ■ Reduced deposits in discharge lines  |
|  | ■ Reduced potential for fires and explosions in discharge systems  |
|  | ■ Improved compressor performance  |
| ■ Low deposit formation                                | ■ Clean machinery lubrication  |
|  | ■ Able to dissolve oxidation products into solution  |
| ■ Outstanding oxidation and thermal stability          | ■ Longer oil life  |
|  | ■ Reduced maintenance costs  |
|  | ■ Reduced waste oil disposal   |
| ■ Excellent demulsibility                              | ■ Oil - water separation within 10 min. This prevents thinning of the oil and premature wear.  |
| ■ Excellent Viscosity -Temperature behavior            | ■ Start-up viscosity at low temperatures is significantly less. This ensures that an optimal lubricating film (higher viscosity) is always formed. |
| ■ Wide operating temperature range                     | ■ Pour point -58°C   |
|  | ■ Flash point 268°C  |
| ■ Low evaporation loss                                 | ■ <0.01% @100°C, 22hrs according ASTM D 972  |
| ■ Excellent foam behavior                              | ■ Low amount of foam   |
|  | ■ Air release <1 min   |
| ■ Excellent lubricity                                  | ■ Provide an excellent film layer due to polar compounds   |
|  | ■ Cooler compressors   |
| ■ Very good film strength (Four ball wear ASTM D 4172) | ■ Less than 0,5mm wear   |

## TEST RESULTS

### THERMAL OXIDATION STABILITY

The compressor oil gets hot and it is exposed to high volumes of air. The heat and air combination increases the rate of lubricant degradation through oxidation. The Oxidation stability of the oil is very important in relationship to oil service life and the formation of deposits. That is why the results of oxidation testing are essential. It is also necessary to test if the oil tends to oxidize in lacquer, sludge, carbon deposits and residue.

Longer oil life and lower maintenance costs are the benefits of a lubricant with outstanding thermal oxidation stability. Thermal Oxidation Stability is tested with TGA and P DSC.

#### Thermal Gravimetric Analysis

Thermal gravimetric analysis (TGA) is an analytical technique used to determine a material's thermal stability and its fraction of volatile components by monitoring the weight change that occurs as a specimen is heated. The new product Anderol<sup>®</sup> SYNcom FG HiPerf 46 not only has a higher onset temperature but shows less tendency to form deposit formations.

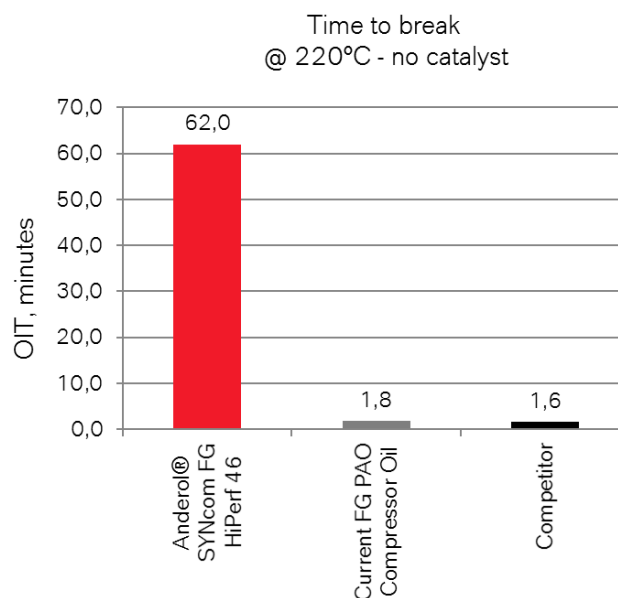
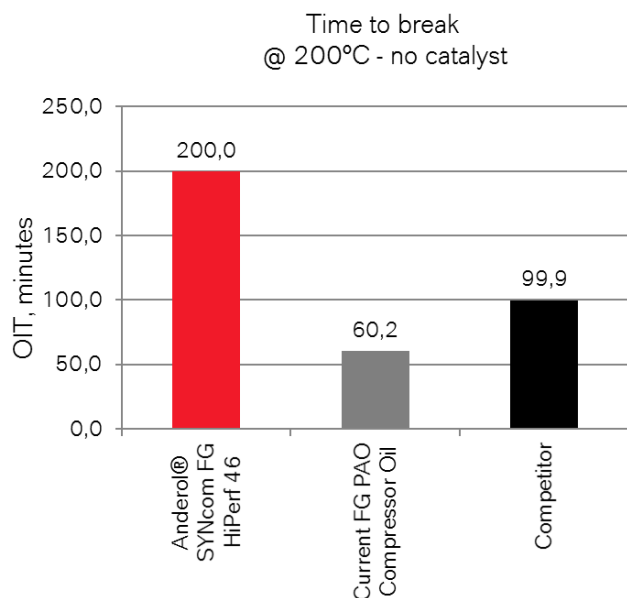
| Sample                                   | Onset Temperature (°C) | Residue at 500 °C (%) |
|--|------------------------|-----------------------|
| Anderol <sup>®</sup> SYNcom FG HiPerf 46 | 292.86                 | 1.67                  |
| Current PAO FG comp oil                  | 285.89                 | 2.98                  |
| Competitor                               | 285.17                 | 3.72                  |

#### Pressure Differential Scanning Calorimetry

The thermal oxidation stability P DSC test shows equally impressive results. High pressure differential scanning calorimetry is a thermal analytical method that allows for a fast and reliable determination of the thermal oxidation stability of the lubricant. The PDSC curve is used to determine the beginning of oxidative degradation. The time from the first exposure to air or oxygen, until the onset of the oxidation is called the oxidation induction time. The longer it takes until oxidation occurs the better the quality of the product.

The conditions are: 3-6 mg, 200°C/220°C heat rate 100°C / min, 500 psi air.

Using an optimal balance regarding the right base oil chemistry and additives we have reached an excellent thermal oxidation stability resulting in a long oil life.





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Anderol BV  
Groot Egtenrayseweg 23  
5928 PA Venlo  
The Netherlands

[www.anderol.com](http://www.anderol.com)  
[info@anderol.com](mailto:info@anderol.com)  
+31 (0)77 396 0340

North America  
+1 833 LANXESS  
[customer.care@lanxess.com](mailto:customer.care@lanxess.com)

South & Central America  
+55 19 3522 5083  
[atendimento.ciente@lanxess.com](mailto:atendimento.ciente@lanxess.com)

Asia Pacific  
+86 21 6109 6666  
[Orders.apac@lanxess.com](mailto:Orders.apac@lanxess.com)

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Unless specified to the contrary, the values given have been established or standardized test specimens. The figures should be regarded as guide values and not as binding minimum values. Kindly note that the results refer exclusively to the specimens tested. Under certain conditions, the test results established can be affected to a considerable extent by the processing conditions and manufacturing process.

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