

<b>Product</b>	<b>Sinopec AP-S Industrial Gear Oil (Fully Synthetic)</b>
<b>Summary</b>	<b>Product description</b> Sinopec AP-S Industrial Gear Oil (Fully Synthetic) is formulated with high-quality polyalphaolefin (PAO) base oils and a multifunctional additive system. In addition to offering the performance of a traditional heavy-duty industrial gear oil, this product protects against micropitting and scuffing of gear teeth, ensures long oil life and is particularly suited to the severe lubrication requirements of gearboxes found in wind turbines used in power generation. Available in a range of ISO viscosity grades.

## Applications

Sinopec AP-S Industrial Gear Oil (Fully Synthetic) is suitable for use in:

- Gearboxes in wind turbines, in onshore and offshore applications, which run under severe conditions of high torque, heavy or shock-loading, wide ambient temperature range, corrosive (sea water) environment, constant stopping and starting, and poor accessibility for relubrication.
- Industrial gears found in other heavy-duty applications, such as equipment used in the steel, pulp and paper, mining, power and cement industries.

## Features and benefits

- Excellent antiwear performance protects against micropitting and scuffing of gear teeth, reducing the risk of premature failure of the gear surfaces, and provides extended bearing life under extreme operating conditions.
- High viscosity index and low pour point provide excellent low- and high-temperature performance in applications where there are extreme ambient temperatures, ensuring smooth start up and operation of gears.
- Excellent oxidation stability prevents oil breakdown at high temperatures, prolonging oil service life, allowing increased time between drain intervals, and reducing maintenance costs.
- Good anticorrosion properties, together with good water separability, protect against rust and copper corrosion, extending component life.
- Excellent lubricity and low traction coefficient provide significant reduction in power consumption in many gear drives, and reduced bulk oil/system temperatures.

# Product Data Sheet

## Typical data

<b>Sinopec AP-S Industrial Gear Oil (Fully Synthetic)</b>					
ISO viscosity grade	150	220	320	460	680
Kinematic viscosity, ASTM D 445					
cSt @ 40°C	142.00	206.10	304.30	435.60	660.50
cSt @ 100°C	18.76	24.78	34.00	45.50	61.20
Viscosity index, ASTM D 2270	149	150	156	161	160
FZG scuffing test, fail load stage A/8.3/90, DIN 51354	12+	12+	12+	12+	12+
FZG micropitting test, 90°C, fail stage/GFT class, FVA 54	10/high	10/high	10/high	10/high	10/high
Timken OK load, lb, ASTM D 2782	65	65	65	65	65
Four ball EP, ASTM D 2783					
weld load, kg	315	315	315	315	315
load wear index, kgf	57	57	57	58	58
Rust prevention, synthetic sea water, ASTM D 665B	pass	pass	pass	pass	pass
Copper corrosion, 3 hours @ 100°C, ASTM D 130	1b	1b	1b	1b	1b
Foaming characteristics, sequences 1, 2 and 3, ASTM D 892	0/0 0/0 0/0	0/0 0/0 0/0	0/0 0/0 0/0	0/0 0/0 0/0	0/0 0/0 0/0
Demulsibility (82°C), ASTM D 2711 water-in-oil test, % emulsion layer, ml separated water content, ml	1.0 0.4 84.0	1.0 0.4 83.0	1.0 0.4 83.5	1.4 0.5 84.2	1.2 0.6 82.5
Pour point, °C, ASTM D 97	-46	-43	-40	-35	-30
Flash point (COC), °C, ASTM D 92	252	267	264	254	265
Density @ 20°C, kg/l, ASTM D 4052	0.8568	0.8673	0.8723	0.8512	0.8584

These data are given as an indication of typical values and not as exact specifications.

## Industry and OEM specifications

<b>Sinopec AP-S Industrial Gear Oil (Fully Synthetic) meets the performance requirements of the following industry specifications:</b>	
AIST (US Steel)	224
ANSI/AGMA	9005-E02 (S)
DIN	51517 CLP-HC (Part 3)
ISO	12925-1 L-CKT
SEB	181226

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<b>Sinopec AP-S Industrial Gear Oil (Fully Synthetic) meets the performance requirements of the following OEM specifications:</b>	
David Brown	S1.53.101E
Flender	BA 7300

## Accuracy of information

Data provided in this PDS is typical and subject to change as a result of continuing product research and development. The information given was correct at the time of printing. The typical values given are subject to variations in the testing procedures and the manufacturing process may also result in slight variations. Sinopec guarantees that its lubricants meet any industry and OEM specifications referred to on this data sheet.

Sinopec cannot be held responsible for any deterioration in the product due to incorrect storage or handling. Information on best practice is available from your local distributor.

## Product and environmental safety

This product should not cause any health problems when used in the applications suggested and when the guidance provided in the Material Safety Data Sheet (MSDS) is followed. Please consult the MSDS for more detailed advice on handling; MSDSs are available from your local distributor. Do not use the product in applications other than those suggested.

As with all products, please take care to avoid environmental contamination when disposing of this product. Used oil should be sent for reclamation/recycling or, if not possible, must be disposed of according to relevant government/authority regulations.

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