



# Delo® 400 SDE SAE 15W-40

## "Universal" Heavy Duty Diesel Engine Oil

Product Data Sheet



### Customer benefits

**Minimizes fleet maintenance costs** — Exceptional soot dispersancy keeps fuel soot in suspension, minimizing filter plugging, cylinder head sludge, abrasive polishing wear and oil thickening. Improves equipment durability and reliability.

**Reduced emissions** — Formulated with latest generation "low-SAPS" (sulfated ash, phosphorus and sulfur) technology containing reduced levels of metals, phosphorus and sulfur, it maximizes the life of sensitive catalyst metals and the cleaning intervals of diesel particulate filters.

**Minimizes fleet operating costs** — Excellent deposit control on valves and piston crownlands reduces oil consumption. Exceptional oxidation stability and soot control provides extended oil drain capability so that equipment is in service longer generating revenue. Contributes to maximum vehicle utilization and minimal downtime.

**Reduces inventory costs** — "Universal" formulation provides excellent overall performance in mixed fleets of different engine designs, (including modern low emission diesel engines) allowing one oil for many services and reducing the chance of product misapplication. Backward compatible with previous API Oil Service Categories and engine models.

### Application

- Mixed fleets of European, North American and/or Japanese diesel engines.
- Commercial road transport, including the latest engines fitted with exhaust cleanup devices of all types.
- Vehicles meeting the most recent exhaust emissions standards, including US EPA 2002, 2007 and 2010, 2017 greenhouse gas (GHG 17) Euro IV, V and VI, and Australian ADR 80/02 and ADR 80/03 (for heavy duty).
- Mixed fleets of both diesel and gasoline engines, and both old and new equipment.
- Stop-and-go vehicles in high soot loading service such as buses and waste collection trucks.
- Most diesel engined light duty vehicles.
- Off-highway vehicles and plants including agricultural equipment.
- Many heavy-duty gas-fueled vehicles.
- Mobile hydraulic systems (where oil type and viscosity are appropriate).

### Product features:

- **Delo® 400 SDE SAE 15W-40** with ISOSYN Advanced Technology is a super-premium quality "low-SAPS" heavy-duty diesel engine oil which exceeds industry and engine manufacturers' performance requirements. It is specifically designed to lubricate a wide range of high speed diesel engines requiring API CK-4, CJ-4, CI-4 PLUS / SM, or ACEA E9 performance lubricants operating under the most severe service conditions.
- It is formulated using the most advanced additive technology to provide outstanding protection for on and off-highway applications, including those with the latest low emission diesel engines fitted with Diesel Particulate Filters (DPF), and those fitted with Selective Catalytic Reduction (SCR) and / or Exhaust Gas Recirculation (EGR) emission control technologies.

**ISOSYN**  
**ADVANCED**  
TECHNOLOGY™



## Typical key properties

DELO® 400 SDE	
SAE Grade	15W-40
Product Code	500635
Base No.,	
ASTM D2896, mg KOH/g	10.2
ASTM D4739, mg KOH/g	8.2
Sulfated Ash,	
ASTM D874, m %	1.0
Sulphur, m%	0.25
Phosphorus, m %	0.08
Viscosity,	
ASTM D445, mm <sup>2</sup> /s @ 40°C	107.5
ASTM D445, mm <sup>2</sup> /s @ 100°C	14.64
Viscosity Index	140

1712

## Performance standards

- API CK-4, CJ-4, CI-4 PLUS, CI-4, CH-4 / SN
- ACEA E9
- Caterpillar ECF-3
- Cummins CES 20086
- Daimler MB-Approval 228.31
- Detroit Fluids Specification (DFS) 93K222
- DEUTZ DQC III-10 LA
- Mack EOS 4.5
- MAN M 3575
- MTU Category 2.1
- Renault RLD-4
- Volvo VDS-4.5
- JASO DH-2



## Delo<sup>®</sup> 400 SDE

### Service Considerations

“Low SAPS” engine oils tend to have lower Base Numbers than “conventional” heavy duty diesel engine oils. Used in conjunction with today’s low, very low or ultra-low sulfur content fuels this is of no consequence. However, In situations where very high sulfur (>0.5%) fuels are in use this may to some extent limit achievable drain intervals. Fuel sulfur levels have declined significantly over the past decade but are still relatively high in some countries.

For applications where fuel Sulphur is higher, other products from the Caltex Range like Delo 400 MGX SAE 15W-40 are recommended.

While the level of phosphorus is low by heavy duty diesel engine oil standards, it is somewhat higher than permitted by certain recent standards for passenger car motor oils, e.g. ILSAC GF-5, and the ACEA “C” standards. Optimum life of catalytic emission control systems will be achieved by using oils of the performance standard recommended by the vehicle manufacturer.

### ENVIRONMENT, HEALTH and SAFETY

Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions and comply with laws and regulations concerning product use and disposal.

To obtain a MSDS for this product, visit:  
[www.CaltexDelo.com](http://www.CaltexDelo.com).

This bulletin was prepared in good faith from the best information available at the time of issue. While the values and characteristics are considered representative, some variation, not affecting performance, can be expected. It is the responsibility of the user to ensure that the products are used in the applications for which they are intended.

Produced by:  
**Chevron Lubricants**  
– Asia Pacific