

Idemitsu Kosan Co.,Ltd.

Lubricant Product Information



Daphne Super Multi Oil Series

High Performance Multi-purpose Oil

Description

Daphne Super Multi Oil Series is range of superior multi-purpose oil formulated with highly refined paraffinic base oil incorporating various additives such as oxidation inhibitor, rust prevention additive, anti-foaming and oiliness agents to provide excellent performance.

Application

Recommended for use as a multi-purpose oil in machine tools lubricating. It is most efficient as a lubricating oil for bearing, gears, hydraulic systems and especially for slideways. Daphne Super Multi Oil 2 & 5 is also recommended to be used as a spindle lubrication in most CNC fabrication machines.

Characteristics

- 1. **Excellent Oxidation Stability** A combination of oxidation inhibitor and highly refined paraffinic base oil assures excellent oxidation stability under severe operating condition and assures longer oil life.
- 2. **Excellent Anti-Stick-Slip Properties -** Addition of special oiliness agent gives this oil excellent anti-stick-slip properties which makes it most suitable for slideway lubrication.
- 3. **Excellent Demulsibility -** Extremely quick separation with water prevents it from emulsifying with water makes it most suitable for preventing hydraulic and slideways from troubles caused by mixing water soluble cutting fluid and machine lubricants.
- 4. Excellent Anti-Corrosion & Anti-Rust Properties Effective rust preventive agent and corrosion inhibitor prevent corrosion caused by water and acid produced through deterioration process.

Packing

20L pail, 200L drum



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Viscosity Standard

| Grade | ISO Viscosity Grade | Equivalent Chart | | | | | |
|-------|------------------------|---|------------------------------|--|--|--|--|
| | | Japan Industrial Standards | Generic Equivalent Viscosity | | | | |
| 2 | 2 | K 2239 Bearing Oil ISO VG 2 | | | | | |
| 5 | 5 | K 2239 Bearing Oil ISO VG 5 | | | | | |
| 10 | 10 | K 2239 Bearing Oil ISO VG 10 | 60 Spindle Oil | | | | |
| 22 | 22 | K 2239 Bearing Oil ISO VG 22 | 150 Spindle Oil | | | | |
| 32 | 32 | K 2213 Turbine Oil 2 types ISO VG 32 | 90 Turbine Oil | | | | |
| 46 | 46 | K 2213 Turbine Oil 2 types ISO VG 46 | 120 Turbine Oil | | | | |
| 68 | 68 | K 2213 Turbine Oil 2 types ISO VG 68 | 180 Turbine Oil | | | | |
| 100 | 100 | K 2219 Industrial Gear Oil 1 types VG 100 | 30 Motor Oil | | | | |
| 150 | 150 | K 2219 Industrial Gear Oil 1 types VG 150 | 40 Motor Oil | | | | |
| 220 | 220 | K 2219 Industrial Gear Oil 1 types VG 220 | 90 Cylinder Oil | | | | |



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Typical Specifications

Daphne Super Multi Oil Series

| Available Grades | ASTM METHOD | 2 | <u>5</u> | <u>10</u> | <u>22</u> | <u>32</u> |
|---------------------------------|----------------|--------|----------|-----------|-----------|-----------|
| Colour | D-1500 | L0.5 | L0.5 | L1.0 | L2.0 | L2.0 |
| Density 15 °C g/cm ³ | D-4052 | 0.7910 | 0.870 | 0.869 | 0.8703 | 0.8625 |
| Flash Point (COC) °C | D-92 | 84 | 144 | 168 | 204 | 222 |
| Viscosity, cSt @ 40 °C | D-445 | 2.0 | 5.0 | 10.0 | 22.11 | 32.48 |
| @ 100 °C | | 1.0 | 1.6 | 2.6 | 4.47 | 5.729 |
| Viscosity Index | D-2270 | - | - | - | 114 | 118 |
| TAN (mgKOH/g) | D-664 | 0.07 | 0.07 | 0.07 | 0.20 | 0.26 |
| Copper Corrosion (100°C x 3h) | D-130 | 1(1a) | 1(1a) | 1(1a) | 1(1a) | 1b |

| Available Grades | ASTM METHOD | <u>46</u> | <u>68</u> | <u>100</u> | <u>150</u> | <u>220</u> |
|---------------------------------|----------------|-----------|-----------|------------|------------|------------|
| Colour | D-1500 | L2.5 | L2.5 | L2.5 | L4.0 | L4.0 |
| Density 15 °C g/cm ³ | D-4052 | 0.8794 | 0.8739 | 0.8887 | 0.8933 | 0.8977 |
| Flash Point (COC) °C | D-92 | 242 | 242 | 234 | 270 | 278 |
| Viscosity, cSt @ 40 °C | D-445 | 46.57 | 70.77 | 99.59 | 149.2 | 217.9 |
| @ 100 °C | | 7.12 | 9.232 | 11.55 | 14.95 | 19.35 |
| Viscosity Index | D-2270 | 112 | 106 | 103 | 100 | 100 |
| TAN (mgKOH/g) | D-664 | 0.23 | 0.14 | 0.14 | 0.15 | 0.16 |
| Copper Corrosion (100°C x 3h) | D-130 | 1(1b) | 1b | 1(1b) | 1(1b) | 1(1b) |



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ISO Standard / MAS Standard Chart

| Description | Type of usage | Description number | ISO Standard | MAS Standard | Recommend Product |
|---------------|--|--------------------|-----------------|-----------------|----------------------------|
| | Medium Load – Enclosed type | CB 32 | 0 | 0 | Daphne Super Multi Oil 32 |
| | (Spur Gear & Bevel Gear) | CB 68 | 0 | 0 | Daphne Super Multi Oil 68 |
| | <r&o type=""></r&o> | CB 150 | 0 | 0 | Daphne Super Multi Oil 150 |
| Gear Oil | High Load – Enclosed type | CC 150 | 0 | 0 | Daphne Super Multi Oil 150 |
| | (Worm Gear) | CC320 | 0 | 0 | - |
| | <with extreme="" pressure="" type=""></with> | CC 460 | 0 | 0 | - |
| | Bearing | FC 2 | 0 | 0 | Daphne Super Multi Oil 2 |
| | (R&O type) | FC 5 | 0 | - | Daphne Super Multi Oil 5 |
| Bearing Oil | | FC 10 | 0 | 0 | Daphne Super Multi Oil 10 |
| | | FC 22 | 0 | 0 | Daphne Super Multi Oil 22 |
| | Slideway | G 32 | 0 | - | Daphne Super Multi Oil 32 |
| | (Anti-Slip properties) | G 68 | 0 | 0 | Daphne Super Multi Oil 68 |
| Slideway Oil | | G 150 | 0 | - | Daphne Super Multi Oil 150 |
| | | G 220 | 0 | 0 | Daphne Super Multi Oil 220 |
| | General Purpose Hydraulic | HL 32 | 0 | 0 | Daphne Super Multi Oil 32 |
| | system | HL 46 | 0 | - | Daphne Super Multi Oil 46 |
| | (Ř&O type) | HL 68 | 0 | 0 | Daphne Super Multi Oil 68 |
| | Hydraulic system & Slideway | HG 32 | 0 | 0 | Daphne Super Multi Oil 32 |
| Hydraulic Oil | | HG 68 | 0 | 0 | Daphne Super Multi Oil 68 |
| | Hydraulic system with abrasive | HM 32 | 0 | 0 | Daphne Super Multi Oil 32 |
| | resistance properties | HM 46 | 0 | - | Daphne Super Multi Oil 46 |
| | | HM 68 | 0 | 0 | Daphne Super Multi Oil 68 |