hydraulic fluid

Functions and properties[[edit](https://en.wikipedia.org/w/index.php?title=Hydraulic_fluid&action=edit&section=1" \o "Edit section: Functions and properties)]

The primary function of a hydraulic fluid is to convey power. In use, however, there are other important functions of hydraulic fluid such as protection of the hydraulic machine components. The table below lists the major functions of a hydraulic fluid and the properties of a fluid that affect its ability to perform that function:[[2]](https://en.wikipedia.org/wiki/Hydraulic_fluid#cite_note-2)

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| **Function** | **Property** |
| Medium for power transfer and control | * No compressible (high bulk modulus) * Fast air release * Low foaming tendency * Low volatility |
| Medium for heat transfer | * Good thermal capacity and conductivity |
| Sealing Medium | * Adequate [viscosity](https://en.wikipedia.org/wiki/Viscosity) and [viscosity index](https://en.wikipedia.org/wiki/Viscosity_index) * Shear stability |
| Lubricant | * Viscosity for film maintenance * Low temperature fluidity * Thermal and oxidative stability * Hydrolytic stability / water tolerance * Cleanliness and filterability * Demulsibility * Antiwear characteristics * Corrosion control |
| Pump efficiency | * Proper viscosity to minimize internal leakage * High viscosity index |
| Special function | * Fire resistance * Friction modifications * Radiation resistance |
| Environmental impact | * Low toxicity when new or decomposed * [Biodegradability](https://en.wikipedia.org/wiki/Biodegradation) |
| Functioning life | * Material compatibility |

  