

Description:

AP 301 consists of a precisely formulated mixture of synthetic organic hindered esters of the type used in supersonic aircraft engine lubrication, together with inhibitors and passivators, all of which have been carefully selected with special attention to their vapor pressure characteristics. This new fluid possesses fire and autoignition characteristics superior to those of conventional hydrocarbon oils or esters and presents none of the surface contamination problems associated with silicone products. It has a high boiling point, low viscosity, can be poured at extremely low temperatures, and as shown in Table 1, has good fire resistance properties which are superior to an equivalent silicone fluid and are comparable with phosphate esters.

The hindered esters used in the manufacture of AP 301 inherently have; better oxidation stability than conventional esters and, as combined with new low vapor pressure and thermally stable inhibitors, give a markedly improved oxidation stability when compared with conventional esters previously used as vacuum fluids.

AP 301 is particularly suitable for systems where electric discharge, filament-emitters or contactor switching systems are involved. Being a non-silicone and non-corrosive material, it will not deposit insulating silicious films or form highly corrosive acids which can damage delicate components. In addition to use as a diffusion pump fluid, the excellent lubricating properties of these inhibited esters make AP 301 an excellent rotary vacuum pump oil.

Specifications:

	<u>AP301</u>
Ultimate Pressure obtainable, torr	10 ⁻⁷
Average boiling point, °C at 1 torr	225
Specific gravity at 20 °C Specific Gravity at 30 °C	0.979
Density g/mL at 10°C Density g/mL at 20°C Density g/mL at 30 °C Density g/mL at 40 °C	-
Flash Point, Pensky-Martins, oF closed (ASTM D93 and IP 36/63, open fire	530 581
Viscosity, dynamic at 40 °C	
Pour Point, ASTM, oF (D97/66)	-40
Coefficient of expansion per °C (a)	
Coefficient of expansion per °C (b)	
Average Molecular Weight	470
Refractive Index at 20 °C (c)	1.453
Thermal Conductivity w/m/ °C	
Specific heat at 25 °, cal/g	

(a) over 20 °C to 30 °C (ASTM D 1903/61T)

(b) over 10 °C to 40 °C

(c) ASTM D 1807-62T Sodium Line

Precautions

PRECAUTIONS: Apiezon Products - Health and Safety

Apiezon products have been widely and safely used in vacuum distillation apparatus in both industry and laboratories for a number of years. As a result they should not present a health hazard assuming normal standards of industrial hygiene and safety are followed in their handling.

All Apiezon products are based on petroleum products of a low order of acute toxicity. However, certain individuals develop a rash after repeated contact. Therefore, it is recommended that gloves be worn to handle Apiezon. If Apiezon material is inadvertently in contact with the skin, wipe the area carefully, then cleanse thoroughly using a mild soap. Should any Apiezon products be heated for application, vent the fumes and avoid breathing the warm vapors.

In terms of explosion and fire, Apiezon products are considered non-hazardous.