TECHNICAL DATA SHEET

SPI Supplies
206 Garfield Avenue,
West Chester, PA 19380, USA

Cargille™ Type 300 Immersion Oil for Automated Hematology

Optical and physical properties

The physical properties of immersion oil are critical to the proper operation of Automated Hematology Systems. Cargille TYPE 300 Immersion Oil is PCB-FREE, and manufactured to meet exacting performance requirements which are specifically and clearly displayed on each and every product label, including:

1. OPTIMUM REFRACTIVE INDEX
   Light passes through a vacuum at a constant speed. When light is transmitted through liquid, such as immersion oil, its speed is altered. The amount of alteration depends on the optical properties of the liquid. The measurement of this effect is known as the Refractive Index. The morphological analyzer in Automated Hematology Systems is programmed to scan blood cells at specific wavelengths. When immersion oil is not manufactured to precise specifications, its use can affect cell recognition.

   CARGILLE IMMERSION OIL TYPE 300 and all Cargille Immersion Oils are manufactured to qualify control standards that are more demanding than those required by instrument manufacturers, the FDA, and the international standards organizations DIN and ISO.

2. CONTROLLED COLOR ADSORPTION
   Part of an Automated Hematology System's recognition program includes color analysis. This analysis is performed by scanning a blood cell with a narrow beam of white light. Immersion oil can adsorb various spectra of light. Cargille Immersion Oils are developed specifically to insure that their adsorptive properties will not interfere with cell recognition.

3. APPROPRIATE VISCOSITY
   The flow characteristics of immersion oil are also important to the operation of an Automated Hematology System. As the system scans the slide, the objective assures proper focusing of the microscope. Sharp focusing is only achieved if the oil maintains an

even meniscus under the moving objective.

Cargille TYPE 300 and all Cargille Immersion Oils are manufactured to exacting and consistent viscosity tolerances, assuring users of Automated Hematology Systems optimum instrument operation from batch to batch and bottle to bottle, for the life of the instrument.

Type of Oil:	**Type 300**
SPI #:	**04091-AB**
Refractive Index @ 37° C:	
F Line (4861 Å)	1.5238
e Line (5461 Å)	1.5180
D Line (5893 Å)	1.5150
C Line (6563 Å)	1.5115
Dispersion:	
n_F-n_C:	0.0123
Abbe V_D:	41.8
Abbe V_e:	41.5
Temperature Coefficient: (15-35°C)	
dn_D/dt	-0.00033 / +°C
Stability: (change in $n_D^{25°C}$ after 24 hrs. @ temp.)	
60°C:	0
100°C:	0
Fluorescence (1):	
Short Wave:	low
(Ultra-Violet)	
Long Wave:	low
Color: (Gardner)	1
Viscosity:(centistokes)	
CST ± 10% @ 23°C:	300
Density: @ 23°C	
g/cc:	0.923
(US) lb/gal:	7.70
Cloud Point:	<-13°C
Flash Point: (Cleveland Open Cup)	325°F
Neutralization No.:	
(mg KOH/g)	0.01 max.

(1) Relative to Cedarwood Oil