

SERIOLA AB



Heat transfer fluid

Premium alkylbenzene heat transfer fluid.

APPLICATIONS

Heat transfer circuits

Temperature range :

-30°C → 300°C

Without air contact

● **SERIOLA AB** is suitable for heating, temperature control in all industries, and in particular for the following manufacturing processes:

- ✓ Steam production
- ✓ Paper Industry
- ✓ Timber Industry
- ✓ Textile Industry
- ✓ Oil & Gas

SPECIFICATIONS

International standards

Thermal stability tests

- ISO 6743-12 L-QC-300 / DIN 51522 – class Q
- **SERIOLA AB** successfully passes the following thermal stability tests (720h, 300°C) :
 - ✓ GB/T 23800-2009
 - ✓ DIN 51528
 - ✓ ASTM D6743

ADVANTAGES

Extended drain intervals

Keep-clean performance

Heat transport efficiency

- **SERIOLA AB** is very resistant to **oxidation and helps to reduce deposits formation**. Indeed at high temperature it presents 15% less degradation when compared to classic mineral fluids. Oil service life is significantly increased, **leading to costs reduction**.
- **SERIOLA AB** maintains equipments clean thanks to its **high solvency power**.
- **SERIOLA AB thermal conductivity at 300°C is 15% higher** than main competitor's flagship fluid. A high thermal conductivity helps to improve heat transport, enabling to reduce film thickness. **Process efficiency is improved**.

TYPICAL CHARACTERISTICS	METHODS	UNITS	SERIOLA AB
Appearance	-	Visual	Limpid
Density at 15°C	ISO 12185	kg/m ³	868
Kinematic Viscosity at 40°C	ISO 3104	mm ² /s	20,02
Pour point	ISO 3016	°C	- 40
Flash point – Open Cup	ISO 2592	°C	200
Flash point – Closed Cup	ISO 2719	°C	180
Fire point	ISO 2592	°C	227
Initial Boiling Point	ASTM D2887	°C	342
Final Boiling Point	ASTM D2887	°C	514
Auto ignition temperature	ASTM E659	°C	390
Conradson carbon residue	ISO 6615	%w	Nil
Minimal operating temperature	-	°C	- 30
Maximum bulk temperature	GB/T 23800	°C	300
Maximum film temperature	GB/T 23800	°C	320

Above characteristics are mean values given as an information.

STORAGE RECOMMENDATIONS

- Store the product at ambient temperature
- Minimize the periods of exposure to temperatures above 35°C
- Shelf life : 5 years from date of manufacture (unopened)

TOTAL LUBRIFIANTS

INDUSTRIE
30-09-2017
SERIOLA AB
1/2



SERIOLA AB – THERMODYNAMIC DATA

T (°C)	Density (kg/m ³)	Thermal Conductivity (W/m.°C)	Specific Heat (kJ/kg.°C)	Vapour pressure (mbar)	Kinematic Viscosity (mm ² /s or cSt)	Dynamic Viscosity (mPa.s)	Enthalpy of Vaporization (kJ/mol)
0	886	0.142	1.877	0	166.50	147.47	
10	880	0.141	1.912	0	85.78	75.46	
20	874	0.140	1.946	0	48.91	42.73	
30	868	0.139	1.981	0	30.26	26.26	
40	862	0.138	2.015	0	20.02	17.25	
50	856	0.137	2.050	0	13.99	11.97	
60	850	0.137	2.084	0	10.22	8.68	
70	844	0.136	2.119	0	7.75	6.54	
80	838	0.135	2.153	0	6.06	5.08	
90	832	0.134	2.188	0	4.87	4.05	
100	826	0.133	2.223	0	4.00	3.30	
110	820	0.132	2.259	0	3.35	2.74	
120	814	0.131	2.296	0	2.85	2.32	
130	808	0.130	2.332	0	2.46	1.99	
140	802	0.129	2.369	0	2.15	1.72	
150	796	0.128	2.405	1	1.90	1.51	
160	790	0.127	2.442	1	1.70	1.34	
170	784	0.126	2.478	2	1.53	1.20	
180	778	0.125	2.515	3	1.39	1.08	
190	772	0.124	2.551	4	1.27	0.98	72.67
200	766	0.123	2.588	7	1.16	0.89	72.53
210	760	0.122	2.629	10	1.08	0.82	72.40
220	754	0.121	2.671	15	1.00	0.75	72.27
230	748	0.120	2.713	21	0.94	0.70	72.15
240	742	0.119	2.754	30	0.88	0.65	72.03
250	736	0.118	2.796	43	0.83	0.61	71.89
260	730	0.117	2.811	59	0.78	0.57	71.76
270	724	0.116	2.826	80	0.74	0.54	71.63
280	718	0.115	2.841	109	0.71	0.51	71.50
290	712	0.114	2.857	145	0.68	0.48	71.38
300	706	0.113	2.872	191	0.65	0.46	71.25
310	700	0.112	2.887	250	0.62	0.44	71.12

Thermal expansion coefficient : $7,3 \cdot 10^{-4} / ^\circ\text{C}$

- **Thermal conductivity** : property of a material to conduct heat. *The higher thermal conductivity, the more efficient the heat transfer fluid will be.* Less heat will be required.
- **Specific heat** : fluid's ability to store the heat. It is defined by the required energy to raise 1°C the temperature of 1 gram of a fluid.
- **Vapor pressure** : pressure exerted by a vapor in thermodynamic equilibrium with its condensed phases (solid or liquid) at a given temperature in a closed system. For a heat transfer fluid, a low vapor pressure is recommended to operate safely.
- **Enthalpy of vaporization** : amount of energy (enthalpy) that must be added to the liquid substance, to transform a quantity of that substance into a gas.