Shell Chemicals

Technical Datasheet

ShellSol D100S

Product Code	Q7729
Region	Europe
Product Category	Aliphatic Mineral Spirits
CAS Registry Number	64742-47-8
EINECS Number	265-149-8
Description	In the range of Aliphatics ShellSol D100S is a high flash, slow evaporating hydrocarbon solvent. ShellSol D100S has undergone a high degree of carefully controlled refining. The solvent is BfR ("Bundesinstitut für Risikobewertung") compliant, implying its suitability for use in food and related applications. Furthermore the solvent is low in levels of impurities such as sulphur, olefins and aromatics and possesses a high stability and low odour. With a vapour pressure at 20°C below 10Pa, for the European solvents emission directive ShellSol D100S is classified as a non-VOC solvent.

Typical Properties

Property	Unit	Method	Value
Water	% m/m	ASTM D1364	< 0.005
Density @15°C	kg/L	ASTM D4052	0.803
Coefficient of Cubic Expansion @20°C	10^{-4}/°C	Calculated	9
Refractive Index @20°C	-	ASTM D1218	1.443
Colour	Saybolt	ASTM D156	+30
Bromine Index	mg Br/100g	ASTM D1492	< 10
Copper Corrosion (1hr @100°C)	-	ASTM D130	1
Doctor Test	-	ASTM D4952	Negative
Non Volatile Matter	mg/100ml	ASTM D1353	1
Distillation, Initial Boiling Point	°C	ASTM D86	234
Distillation, Dry Point	°C	ASTM D86	259
Relative Evaporation Rate (nBuAc=1)	-	ASTM D3539	< 0.01
Relative Evaporation Rate (Ether=1)	-	DIN 53170	> 3900

Antoine Constant A #	kPa, °C	-	7.41890
Antoine Constant B #	kPa, °C	-	2603.5
Antoine Constant C #	kPa, °C	-	241.460
Antoine Constants: Temperature range	°C	-	0 to +100
Vapor Pressure @ 0°C	kPa	Calculated	< 0.01
Vapor Pressure @ 20°C	kPa	Calculated	< 0.01
Saturated Vapor Concentration @ 20°C	g/m^3	Calculated	0.2
Paraffins	% m/m	GC	55
Naphthenes	% m/m	GC	45
Aromatics	mg/kg	SMS 2728	200
Benzene	mg/kg	GC	< 3
Sulfur	mg/kg	ISO 20846	< 0.5
Flash Point	°C	ASTM D93	103
Lower Explosion Limit in Air	% v/v		0.5
Upper Explosion Limit in Air	% v/v		5.5
Auto Ignition Temperature	°C	ASTM E659	232
Electrical Conductivity @ 20°C	pS/m	ASTM D4308	< 1
Dielectric Constant @ 20°C	-	-	2.1
Aniline Point	°C	ASTM D611	83
Kauri-Butanol Value	-	ASTM D1133	26
Pour Point	°C	ASTM D97	-26
Viscosity @ 25°C	mm^2/s	ASTM D445	2.9
Surface Tension @ 20°C	mN/m	Du Nouy ring	28
Thermal Conductivity @ 20°C	W/m/°C		0.14
Hildebrand Solubility Parameter	$(cal/cm^3)^{1/2}$	-	7.5
Hydrogen Bonding Index	-	-	0
Fractional Polarity	-	-	0
Heat of Vaporization at T_{boil}	kJ/kg	-	250
Heat of Combustion (Net) @t 25°C	kJ/kg	-	45000
Specific Heat @ 20°C	kJ/kg/°C	-	2.1
Molecular Weight	g/mol	Calculated	206

(#) In the Antoine temperature range, the vapor pressure P (kPa) at temperature T (°C) can be calculated by means of the Antoine equation: log P = A - B/(T+C)

Test Methods

Copies of copyrighted test methods can be obtained from the issuing organisations:

American Society for Testing and Materials (ASTM) : www.astm.org
International Organization for Standardization (ISO) : www.iso.org
Deutsches Institut für Normung (DIN) : www.din.de

Shell Method Series (SMS) methods are issued by Shell Global Solutions International B.V., Shell Technology Centre, Amsterdam, The Netherlands. Requests for copies of SMS can be made through your local Shell Chemicals company.

N.B: For routine quality control local test methods may be applied. Such methods have been validated against those mentioned in this datasheet.

Quality

ShellSol D100S does not contain detectable quantities of polycyclic aromatics, heavy metals or chlorinated compounds.
ShellSol D100S can be supplied to meet the requirements of BfR.
Users of ShellSol D100S should make their own assessment of compliance with the relevant regulations.

Hazard Information

For detailed Hazard Information please refer to the Safety Data Sheet on ww.shell.com/chemicals.

Storage Handling

Provided proper storage and handling precautions are taken we would expect ShellSol D100S to be technically stable for at least 12 months. For detailed advice on Storage and Handling please refer to the Safety Data Sheet on www.shell.com/chemicals.

Trademark

ShellSol is a Shell trademark.