Shell Chemicals

Data Sheet

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Product Name

n-Pentane

Product Code **Q1116** **Europe**

Product Category **Paraffins**

CAS Registry Number 109-66-0

EINECS Number 203-692-4

Description n-Pentane contains a minimum of 95% n-Pentane. It is used for its high volatility, high purity and low odour.

Typical Properties

Property	Unit	Method	Value
Density @15°C	kg/l	ASTM D4052	0.631
Cubic Expansion Coefficient @20°C	(10^-4)/°C	Calculated	16
Refractive Index @20°C	-	ASTM D1218	1.358
Color	Saybolt	ASTM D156	+30
Bromine Index	mg Br/100g	ASTM D2710	50
Copper Corrosion (3hr @100°C)	-	ASTM D130	1
Doctor Test	-	ASTM D4952	Negative
Non Volatile Matter	mg/100ml	ASTM D1353	< 1
Distillation, IBP	°C	ASTM D1078	35
Distillation, DP	°C	ASTM D1078	37
Relative Evaporation Rate (nBuAc=1)	-	ASTM D3539	12
Relative Evaporation Rate (Ether=1)	-	DIN 53170	< 1.0
Antoine Constant A #	kPa, °C	-	6.56180
Antoine Constant B #	kPa, °C	-	1438.75
Antoine Constant C #	kPa, °C	-	280.05
Antoine Constants: Temperature range	°C	-	-5 to +25
Vapor Pressure @0°C	kPa	Calculated	27
Vapor Pressure @20°C	kPa	Calculated	58
Saturated Vapor Concentration @20°C	g/m³	Calculated	1728
Paraffins	% m/m	GC	> 99
Naphthenes	% m/m	GC	< 1
Aromatics	mg/kg	SMS 2728	< 5
Benzene	mg/kg	GC	< 3
Toluene	mg/kg	GC	< 3

n-Hexane	% m/m	GC	< 0.1
Sulfur	mg/kg	SMS 1897	< 0.5
Flash Point	°C	IP 170	< -50
Auto Ignition Temperature	°C	ASTM E659	404
Explosion Limit: Lower	%v/v	-	1.4
Explosion Limit: Upper	%v/v	-	7.8
Electrical Conductivity @20°C	pS/m	-	< 1
Dielectric Constant @20°C	-	-	1.8
Aniline Point	°C	ASTM D611	71
Kauri-Butanol Value	-	ASTM D1133	29
Pour Point	°C	ASTM D97	< -50
Surface Tension @20°C	mN/m	Du Nouy ring	16
Viscosity @25°C	mm^2/s	ASTM D445	0.35
Hildebrand Solubility Parameter	$(cal/cm^3)^{\wedge}½$	-	7.0
Hydrogen Bonding Index	-	-	0
Fractional Polarity	-	-	0
Heat of Vaporization @Tboil	kJ/kg	-	357
Heat of Combustion (Net) @25°C	kJ/kg	-	46500
Specific Heat @20°C	kJ/kg/°C	-	2.4
Thermal Conductivity @20°C	W/m/°C	-	0.12
Molecular Weight	g/mol	Calculated	72

(#) 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
Energy Institute (IP) : www.energyinst.org.uk
Deutsches Institut für Normung (DIN) : www.din.de

Shell Method Series (SMS) methods are issued by Shell Golabl Solutions International B.V., Shell Research and Technology Centre, Amsterdam, The Netherlands. Copies of SMS can be obtained through your local Shell Chemicals company.

For routine quality control analyses, local test methods may be applied that are different from those mentioned in this datasheet. Such methods have been validated and can be obtained through your local Shell Chemicals company.

Quality

n-Pentane does not contain detectable quantities of polycyclic aromatics, heavy metals or chlorinated compounds.

Hazard Information

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

Storage and Handling

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

Warranty

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