



n-Pentane

Product Code Q1116

Region Europe

Product Category Pentanes

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
Water	% m/m	ASTM D1364	< 0.005
Density @15°C	kg/L	ASTM D4052	0.632
Coefficient of Cubic Expansion @20°C	10 ⁻⁴ /°C	Calculated	16
Refractive Index @20°C	-	ASTM D1218	1.358
Colour	Saybolt	ASTM D156	+30
Bromine Index	mg Br/100g	ASTM D1492	50
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 D1078	35
Distillation, Dry Point	°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	-	280.050
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/m ³	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	ISO 20846	< 0.5
Flash Point, (Abel)	°C	IP170	< -50
Lower Explosion Limit in Air	% v/v		1.7
Upper Explosion Limit in Air	% v/v		7.8
Auto Ignition Temperature	°C	ASTM E659	404
Electrical Conductivity @ 20°C	pS/m	ASTM D4308	< 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
Viscosity @ 25°C	mm ² /s	ASTM D445	0.35
Surface Tension @20°C	mN/m	Du Nouy ring	16
Thermal Conductivity @ 20°C	W/m/°C		0.12
Hildebrand Solubility Parameter	(cal/cm ³) ^{1/2}	-	7.0
Hydrogen Bonding Index	-	-	0
Fractional Polarity	-	-	0
Heat of Vaporization at T _{boil}	kJ/kg	-	357
Heat of Combustion (Net) @t 25°C	kJ/kg	-	46500
Specific Heat @ 20°C	kJ/kg/°C	-	2.4
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
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

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 Safety Data Sheet on www.shell.com/chemicals.

Storage 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 Safety Data Sheet on www.shell.com/chemicals.

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