



EQUILEX CHEMICALS BV

Jan van Galenstraat 54

3115 JG SCHIEDAM

The Netherlands

Tel : + 31 1 03 40 30 90

www.equilex.com

info@equilex.com

Technical Data Sheet

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Isopentane

Grade AN

Isopentane (CAS No. 78-78-4) contains a minimum of 95% isopentane. It is used for its high volatility, high purity and low odour.

Property	Unit	Method	Value
Water	% m/m	ASTM D1364	< 0.005
Density @15°C	kg/L	ASTM D4052	0.625
Coefficient of Cubic Expansion @20°C	10 ⁻⁴ /°C	Calculated	16
Refractive Index @20°C	-	ASTM D1218	1.354
Colour	Saybolt	ASTM D156	+30
Bromine Index	mg Br/100g	ASTM D1492	20
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	28
Distillation, Dry Point	°C	ASTM D1078	32
Relative Evaporation Rate (nBuAc=1)	-	ASTM D3539	15
Relative Evaporation Rate (Ether=1)	-	DIN 53170	< 1.0
Antoine Constant A #	kPa, °C	-	7.17660
Antoine Constant B #	kPa, °C	-	1791.83
Antoine Constant C#	kPa, °C	-	318.690
Antoine Constants: Temperature range	°C	-	-5 to + 25
Vapor Pressure @ 0°C	kPa	Calculated	36
Vapor Pressure @ 20°C	kPa	Calculated	77
Saturated Vapor Concentration @ 20°C	g/m ³	Calculated	2275
Paraffins	% m/m	GC	>99

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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		1.3
Upper Explosion Limit in Air	% v/v		7.6
Auto Ignition Temperature	°C	ASTM E659	468
Electrical Conductivity @ 20°C	pS/m	ASTM D4308	< 1
Dielectric Constant @ 20°C	-	-	1.8
Aniline Point	°C	ASTM D611	77
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	15
Thermal Conductivity @ 20°C	W/m/°C		0.11
Hildebrand Solubility Parameter	(cal/cm ³) ^{1/2}	-	6.8
Hydrogen Bonding Index	-	-	0
Fractional Polarity	-	-	0
Heat of Vaporization at T _{boil}	kJ/kg	-	342
Heat of Combustion (Net) @t 25°C	kJ/kg	-	46000
Specific Heat @ 20°C	kJ/kg/°C	-	2.3
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)			

Isopentane does not contain detectable quantities of polycyclic aromatics, heavy metals or chlorinated compounds. Provided proper storage and handling precautions are taken we would expect Isopentane to be technically stable for at least 12 months.

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