



Isopropyl Alcohol-GMP*

Product Code	S1155
Region	Europe
Product Category	Alcohols
CAS Registry Number	67-63-0
Synonym(s)	2-propanol, IPA-GMP*
Description	Isopropyl alcohol-GMP* (IPA-GMP*) is a special grade of Isopropyl Alcohol which is produced according to the IPEC (International Pharmaceutical Excipient Council) guidelines on Good Manufacturing Practices (GMP) for excipients.

Typical Properties

Property	Unit	Method	Value
Purity, min.	%m/m	GC	99.9
Water	%m/m	ASTM D1364	0.03
Acidity (as Acetic Acid)	%m/m	ASTM D1613	0.001
Density at 20°C	kg/l	ASTM D4052	0.785
Specific Gravity at 20°C/20°C	-	ASTM D4052	0.786
Specific Gravity at 25°C/25°C	-	ASTM D4052	0.783
Coefficient of Cubic Expansion at 20°C	10 ⁻⁴ /°C	Calculated	11
Refractive Index at 20°C	-	ASTM D1218	1.377
Colour	Pt-Co	ASTM D1209	< 5
Boiling Point	°C	-	82
Relative Evaporation Rate (nBuAc=1)	-	ASTM D3539	1.5
Relative Evaporation Rate (Ether=1)	-	DIN 53170	11
Antoine Constant A #	kPa. °C	-	6.86618
Antoine Constant B #	kPa. °C	-	1360.13
Antoine Constant C #	kPa. °C	-	197.592
Temperature Limits for Antoine Equation #	°C	-	-10 to +90

Vapour Pressure at 20°C	kPa	Calculated	4.1
Vapour Pressure at 50°C	kPa	Calculated	24
Saturated Vapor Concentration at 20°C	g/m ³	Calculated	102
Volatile Organic Compound (VOC)	g/l	EU / EPA	785
Flash Point (Abel)	°C	IP 170	12
Auto Ignition Temperature	°C	ASTM E659	425
Lower Explosion Limit	%v/v	-	2.0
Upper Explosion Limit	%v/v	-	12
Electrical Conductivity at 20°C	pS/m	ASTM D4308	6*10 ⁶
Dielectric Constant at 20°C	-	-	18.6
Freezing Point	°C	-	-88
Surface Tension at 20°C	mN/m	-	23
Viscosity at 20°C	mPa.s	-	2.4
Hildebrand Solubility Parameter	(cal/cm ³) ^{1/2}	-	11.5
Hydrogen Bonding Index	-	-	-16.7
Fractional Polarity	-	-	0.178
Heat of Vaporization at T _{boil}	kJ/kg	-	664
Heat of Combustion (Net) at 25°C	kJ/kg	-	31000
Specific Heat at 20°C	kJ/kg/°C	-	2.56
Thermal Conductivity at 20°C	W/m/°C	-	0.14
Miscibility at 20°C: Solvent in water	%m/m	-	complete
Miscibility at 20°C: Water in solvent	%m/m	-	complete
Azeotrope with Water: Boiling Point	°C	-	80.3
Azeotrope with Water: Solvent Content	%m/m	-	87.4
Molecular Weight	g/mol	-	60

(#) 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

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

Quality

Isopropyl Alcohol-GMP* can be supplied to meet the various requirements of the European Pharmacopoeia. It meets requirements of the excipient level of Good Manufacturing Practice (GMP) as described in the IPEC Guidelines on Good Manufacturing Practices for Pharmaceutical Excipients. Isopropyl Alcohol-GMP* also meets the requirements of ASTM D770 and DIN 53245. It does not contain detectable quantities of heavy metals, chlorinated compounds or polycyclic aromatic hydrocarbons.

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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 Isopropyl Alcohol-GMP* 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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