



KUMHO P&B CHEMICALS

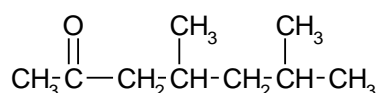
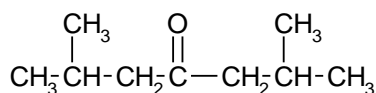
Diisobutyl ketone

DIBK

DATA SHEET

Description

Diisobutyl ketone is a slow evaporating ketonic solvent which is immiscible with water, but miscible with other organic solvents. It is a light coloured liquid with a mild, characteristic odour. Kumho P&B DIBK is a mixture of two isomers; 2,6-dimethyl-4-heptanone and 4,6-dimethyl-2-heptanone in the ratio 2:1.



2,6-dimethyl-4-heptanone(DIBK-1) / 4,6-dimethyl-2-heptanone(DIBK-2)

CAS Registry Number 108-83-8

EINECS Number 203-550-1

Sales specification

Property	Unit	Value	Test method
Color	Pt-Co Scale	20 max	ASTM D 1209
Water content	% wt	0.2 max	ASTM D 1364
Purity(DIBK-1 + DIBK-2)	% wt.	95.0 min	ASTM D 3329
Density at 20 °C	g/ml	0.804 ~ 0.812	ASTM D4052
Distillation range, IBP	°C	163.0 min.	ASTM D 1078
DP	°C	176.0 max.	ASTM D 1078

Physical properties of pure product

Property	Unit	Value	Test method
Flash point (Abel)	°C	47	IP 170
Refractive index		1.414	ASTM D 1218
Vapour pressure at 20 °C	kPa	0.22	
Vapour pressure at 50 °C	kPa	1.1	
Antoine constant A ⁽¹⁾		6.07029	
Antoine constant B		1476.4	
Antoine constant C		195	
Temperature limits for the Antoine equation	°C	+20 to +170	
Freezing point	°C	-42	ASTM D 97
Coefficient of cubic expansion	10 ⁻⁴ /°C	10.0	
Thermal conductivity	W/m/°C	0.12	
Specific heat	kJ/kg/°C	2.14	
Latent heat of evaporation	kJ/kg	275	
Heat of combustion	kJ/kg	40110	
Electrical conductivity	pS/m	3×10 ⁶	ASTM D 4308
Surface tension	mN/m	24.8	
Dynamic viscosity	mPa.s	1.05	ASTM D 445
Molecular weight		142.24	
Miscibility with water			
DIBK in water	% wt.	0.05	
Water in DIBK	% wt.	0.45	
Azeotrope with water			
Boiling point	°C	97.3	
MIBK content	% wt.	49.0	

All properties at 20 °C unless otherwise stated.

⁽¹⁾ The vapour pressure, between the specified temperature limits, can be calculated using the Antoine equation:

$$\log_{10} P = \frac{A - B}{T + C}, \text{ where } P \text{ is the vapour pressure in kPa and } T \text{ is the temperature in } ^\circ\text{C}.$$

For more information please refer to MSDS, available from your local sales representatives.

Solvent properties

Property	Value	Test method
Hildebrand solubility parameter	7.8	
Hydrogen bonding index	9.8	
Fractional polarity	0.123	
Relative evaporation rate (nBuAc=1)	0.2	ASTM D 3539
Relative evaporation rate (ether=1)	48	DIN 53170

Safety data

Property	Unit	Value	Test method
Flash point (Abel)	°C	47	IP 170
Lower explosive limit in air	% v/v	0.8	
Upper explosive limit in air	% v/v	6.2	
Auto-ignition temperature	°C	345	ASTM D2155
Saturated vapor concentration at 20 °C	g/m ³	9	calculated
Transport: ADR/RID class/item/label		3/31C/3	
IMO UN number/label		1157/3	
class/packing group		3.3/3	
EC user label: Symbol		Xi	
Risk phrases		10,37	
Safety phrases		24	

Test methods

- **ASTM methods** are published by the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pa 19103, USA, and are available in Europe from ASTM European Office, 27/29 Knowl Piece, Wilbury Way, Hitchin, Herts, SG4 OSX, UK.
- **DIN standards** are published by Beuth Verlag GmbH, 1 Berlin, Burggrafenstrasse 4-7, Germany.
- **IP methods** are published by the Institute of Petroleum, 61 New Cavendish Street, London, W 1 M 8AR, UK.

Specifications

Diisobutyl ketone can be supplied to meet the requirements of DIN 53247. It can also be supplied to comply with the various requirements of the US FDA, pharmacopeias and military specifications. Please contact your local sales representatives if you need more details.

Composition

Diisobutyl ketone is manufactured to the highest standards. It does not contain detectable quantities of heavy metals, chlorinated compounds or polycyclic aromatic hydrocarbons.

Applications

Diisobutyl ketone is an exceptionally good solvent for a wide variety of natural and synthetic resins, it is particularly useful when a slow evaporating solvent with good solubility characteristics is required. DIBK finds application in acrylics, epoxies, polyurethanes, vinyls, nitrocellulose and cellulose acetate lacquers, in electrodeposition, latex paints and organosols. It is also used in leather lacquers, and as a cleaning fluid booster, lubricating oil dewaxing agent and in the pharmaceutical and mining industries.

Storage and handling

Advice on storage and handling may be obtained from Kumho P&B Chemicals. Diisobutyl ketone is available from Kumho P&B chemicals, inc. in bulk and drums; details available on request.

Hazard information

Diisobutyl ketone is flammable. It is irritating to the respiratory system. For further advice please refer to Material Safety Data Sheet.

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