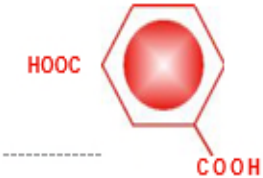


**ISOPHTHALIC ACID**  
**TECHNICAL DATA SHEET**

Rev. 1 – June 2017

GENERAL

PROPERTY	VALUE	UNITS
Synonyms	m-benzenedicarboxylic acid 1,3-benzenedicarboxylic acid m-ftalic acid PIPA/PIA/IPA	
CAS/EINECS	121-91-5 / 204-506-4	
REACH	01-2119488938-12-0005	
Formula	1,3 C <sub>6</sub> H <sub>4</sub> (CO <sub>2</sub> H) <sub>2</sub>	
		
Chemical family	Aromatic carboxylic acids	
Molecular weight	166.13	g/mol
Boiling point	Sublimes	°C
Sublimation point	260	°C
Melting point (in a sealed tube)	348	°C
Triple point	Not available	°C
Flash point	Not available	°C
Density @ 20°C	1540	kg/m <sup>3</sup>
Enthalpy of formation (crystal)	-166.41	kcal/mol
Enthalpy of formation (gas)	Not available	kJ/mol
Absolute entropy	0.105641	kcal/mol/K
Combustion heat	- 765.4	kcal/mol

PHYSICAL-CHEMICAL

## ISOPHTHALIC ACID TECHNICAL DATA SHEET

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PHYSICAL - CHEMICAL

ELE-MAG

PROPERTY	VALUE	UNITS
Sublimation heat	25.5	kcal/mol
Specific heat capacity		
@ 30 °C	1.196	J / g °C
@ 80 °C	1.352	J / g °C
@ 130 °C	1.484	J / g °C
@ 190 °C	1.63	J / g °C
Solubility in water		
@ 25 °C	0.012	g/100g solv
@ 100 °C	0.32	g/100g solv
@ 200 °C	25	g/100 g solv
Dissociation constant @ 25°C (first)	$2.4 \times 10^{-4}$	-
Dissociation constant @ 25°C (second)	$2.5 \times 10^{-5}$	-
n-Octane/water partition coefficient @ 25° C	-2.34	-
pH (saturated water solution)	3.36	-
Acidity	Weak acid	-
Vapor pressure		
@ 20 °C	$2.63 \times 10^{-8}$	mm Hg
@ 100 °C	$6.75 \times 10^{-2}$	mm Hg
@ 230 °C	1.73	mm Hg
@ 290 °C	29.9	mm Hg
Critical temperature	733.85	°C
Critical pressure	38.98	atm
Critical volume	424	cm <sup>3</sup> /mol
Critical compressibility factor	0.2	-
Acentric factor	1.06133	-
Molar magnetic susceptibility	$81.24 \times 10^6$	cgs
Dielectric constant	1.4	-
Electric Resistivity (layer)	$55.4 \times 10^9$	ohm m

## ISOPHTHALIC ACID TECHNICAL DATA SHEET

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	PROPERTY	VALUE	UNITS
<b>DUST</b>	Bulk density	800-1100	kg/m <sup>3</sup>
	Average PSD	55-80	microns
	< 45 microns	25-40	%
	>250 microns	0	%
	Angle of repose	45-55	°
	Compressibility	25-30	%
	Angle of spatula (media)	45-60	°
	Cohesion	30-80	-
	Flowability index	40-50	-
	Angle of fall	35-40	°
Dispersibility	5-20	-	
Floodability	40-65	-	
<b>EXPLOSIVITY</b>	Minimum ignition energy (cloud)	12	mJ
	Lower explosion limit	60	g/m <sup>3</sup>
	Ignition temperature (cloud)	540	°C
	Ignition temperature (layer)	-	°C
	Pressure rise velocity	689	bar/s
	Kst	187	bar m/s
	Explosibility class (St)	1 (weak explosibility)	
	P max explosion overpressure	7.3	bar
	Limiting oxygen concentration in N <sub>2</sub>	12	% (v/v)
Limiting oxygen concentration in CO <sub>2</sub>	14	% (v/v)	
<b>QUALITY &amp; OPTICAL</b>	Purity	99.9 min	%
	Water	< 0.1	%
	3-CBA	< 1	ppm
	AMT	< 150	ppm
	Ash	< 15	ppm

## ISOPHTHALIC ACID TECHNICAL DATA SHEET

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**QUALITY & OPTICAL**

PROPERTY	VALUE	UNITS
Fe	< 2	ppm
Mn	< 2	ppm
Co	< 2	ppm
Ni	< 1	ppm
Na	< 2	ppm
K	< 2	ppm
Acid number	673-677	-
APHA color	5 max	Unid. Hazen
$\Delta Y$	< 5	-
O.D. @ 340 nm	1.5	-
VL	98.5	-
Va	-1	-
Vb	1.3	-

\*this product may have been produced by Indorama Ventures Quimica, Spain