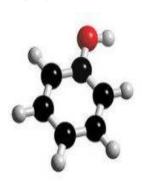
Phenol









Introduction

Phenol, which is also referred to as carbolic acid, Phenylic acid, benzophenol, hydroxybenzo and mono-hydroxy benzene, is used to produce a wide variety of chemical intermediates, including phenolic resins, bisphenol A, caprolactam, alkyl phenols, adipic acid, plasticizers and others.

Phenol can be shipped in water solutions to eliminate molten storage.

Specification1: Phenol for phenolic resin production*Purity=100-(Total GC impurities + Water)

Characteristics	Sales Specifications	
Molten Color, Pt/Co	20max	
Water, wt.%	0.1max	
Solidification Point, ℃	40.7min.	
Water solubility @25℃	Clear	
Purity*,wt.%	99.7min.	

Specification2: High purity phenol for PC grade Bisphenol A production

Characteristics	Sales Specifications	
Molten Color, Pt/Co	10max	
Water, wt.%	0.03max	
Total GC impurity, wt.ppm	50max	
Iron content, wt.ppm	0.1max	

Typical Properties

Empirical formula	C ₆ H₅OH		
Molecular weight	94.11		
Appearance	White crystalline(at room temperature)		
Deliquescent	Yes		
Dielectric constant, @48℃	9.9		S
Light sensitive	Yes, darkens slowly on exposure to light		
Odor	Characteristically sweet		
Odor threshold	0.05~0.5ppm		
Physical state	Liquid or solid		
Reactivity	Stable		
Density	25℃	1.071kg/l	
Density	50℃	1.050kg/l	
	1% aqueous solution	1.0009	
Specific gravity @25/25℃	2% aqueous solution	1.0025	
	5% aqueous solution	1.0044	
	Solid at 25/4℃	1.071	
Specific gravity	Liquid at 41/4℃	1.058	
oposino gravity	Liquid at 50/4℃	1.049	
	Liquid at 60/4℃	1.041	
Autoignition temperature	715℃(1319°F)		
Boiling point, @760mHg	181.8℃(359°F)		
Coefficient of expansion	0.00085 per °C(approximate)		
Explosive limit in air, lower	1.5% v/v		
Flash point	Tag open cup	85°C(185°F)	
	Closed cup	79°C(174°F)	
Freezing point	40.8℃(105°F)		
Heat of combustion	(cal/g)	-7,754	
Tieut et combuction	(Btu/lb)	-13,957	
Heat of Fusion	(cal/g)	29.22	
Heat of Facion	(Btu/lb)	52.6	
Heat of Vaporization at b.p.	(cal/g)	116.6	
Heat of Vaporization at b.p.	(Btu/lb)	210	
Specific heat,(cal/g ℃)	Solid at 4℃	0.306	
	Solid at 22.7℃	0.338	
	Liquid at 70~74℃	0.548	

Critical pressure, atm	60.5		
Solubility	Water 16°C(61°F)	6.7g/100ml	
	66°C(151°F)	all	
	Alcohol	all	
Solubility, water in phenol@20℃	28 wt.%		
Surface tension	at melting point(Dynes/cm)	37.9	
	Threshold limit value, 8hours	5ppm or 19mg/m ³	
Vapor pressure,(mbar)	25℃	0.29	
	50℃	3.5	
	100℃	54	
	160℃	530	
Viscosity,(centistokes)	45℃	3.8	
	60℃	2.47	
	80℃	1.56	
	100℃	1.09	