

Phenol

CAS 108-95-2 · C₆H₅OH · 99.9% min

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1. Product identity

Product name	Phenol
Synonyms	carbolic acid, hydroxybenzene, phenol crystals, molten phenol, C6H5OH
C.A.S. number	108-95-2
Molecular formula	C6H5OH (C6H6O)
Molecular weight	94.11 g/mol
Grade supplied against	99.9% min
Appearance	Colourless to light-pink or white deliquescent crystals, needles or crystalline mass with a characteristic sweet, acrid, medicinal odour. Darkens to pink or red on exposure to air and light (normal oxidation, not necessarily off-specification). Supplied and handled as a colourless liquid above about 41 C. Liquefies with approximately 8 % water (NIOSH).
Product group	Solvents & Organic Chemicals
HSN code	2907 11 10
Country of origin	As stated on the producer's documents for the lot supplied; confirmed at offer stage
Packing	ISO tank · 225 kg drum
Storage	Keep locked up and restrict access to trained personnel only. Keep the container tightly closed in a well-ventilated area and protect from light (phenol discolours to pink and red on exposure to light and air). Use steel containers (INEOS). Recommended storage temperatures per INEOS: 50-60 C for liquid/molten phenol, 15-25 C for solid phenol. Store separated from food and feedstuffs, and away from solvents, aluminium, aldehydes, halogens, peroxides, acids, bases and oxidising agents. Bund the area and ensure no access to drains or surface water. Provide a safety shower and eyewash AND a stock of PEG 300 or PEG 400 at the storage and handling points. For molten storage, control the heat-tracing temperature - overheating accelerates discolouration and vapour release, and the vapour is toxic by inhalation.

2. Analytical specification

S. No.	Test parameter	Specification	Method
1	Description	Colourless to light-pink or white deliquescent crystals, needles or crystalline mass with a characteristic sweet, acrid, medicinal odour. Darkens to pink or red on exposure to air and light (normal oxidation, not necessarily off-specification). Supplied and handled as a colourless liquid above about 41 C. Liquefies with approximately 8 % water (NIOSH).	Visual
2	Identification	Conforms to the substance supplied	Instrumental or chemical test, per method agreed

S. No.	Test parameter	Specification	Method
3	Assay / grade	99.9% min	Titrimetry or instrumental, per method agreed
4	Physical state	Solid at ambient temperature (melting point 40.9 C), but commonly stored, shipped and handled MOLTEN as a liquid above about 41 C. The physical state on any given day depends on ambient temperature, which matters in India.	Visual
5	Solubility in water	84 g/L at 20 C and 87 g/L at 25 C (INEOS); 82,800 mg/L at 25 C (PubChem); about 9 % at 25 C (NIOSH). Fully miscible with water above about 68 C (INEOS). Freely soluble in ethanol, ether, glycerol and most organic solvents. Partial water solubility is what allows small amounts of water to carry phenol INTO the skin - see skin first aid.	Per the test method agreed
6	pH	4 to 5 in a 10 g/L (1 % w/v) aqueous solution at 20 C (INEOS producer SDS). Weakly acidic (pKa about 10); phenol is not a strong acid, and its severe skin and eye damage is caused by protein denaturation and coagulation, not by acidity. Do not present it as an acid burn.	Potentiometry on an aqueous suspension
7	Relative density	1.06-1.07 g/cm ³ at 20 C (PubChem/Merck 1.071 g/cm ³ ; NIOSH specific gravity 1.06; INEOS 1.07 g/cm ³ at 20 C). Denser than water - phenol sinks, which matters for spill response.	Pyknometry or gas displacement
8	Melting / freezing point	40.9 C (INEOS producer SDS; PubChem/CRC 40.91 C; NIOSH 109 F; ILO ICSC 0070 gives 41 C)	Thermal analysis
9	Boiling point	181.8 C (PubChem/CRC; 181.75 C at 101.3 kPa per Kirk-Othmer; INEOS 181 C; NIOSH 359 F; ICSC 0070 gives 182 C)	Distillation range
10	Flash point	79 C closed cup (ILO ICSC 0070; NIOSH 175 F = 79.4 C). The INEOS producer SDS gives 81 C closed cup, and Merck via PubChem gives 85 C open cup. Publish 79-81 C closed cup and name the method. Combustible, but the toxic and corrosive hazards dominate the risk picture, not flammability.	Closed cup
11	Additional parameters	To the specification agreed before order	As agreed

3. Transport classification

Three entries apply depending on the form shipped, all confirmed by the INEOS producer SDS: UN 1671 for phenol as a solid; UN 2312 for phenol molten; UN 2821 for phenol solutions. · Class 6.1 (Toxic) for all three entries - UN 1671, UN 2312 and UN 2821 · Packing group II. The INEOS producer SDS declares Packing Group II for the solid (UN 1671), the molten (UN 2312) and the solution (UN 2821) entries. Caveat: for UN 2821 PHENOL SOLUTION the packing group depends on the concentration and resulting toxicity of the particular solution, and the UN Model Regulations dangerous goods list accommodates more than one packing group under that entry. The packing group for any solution you actually ship must be re-derived from the UN dangerous goods list against that solution's concentration - this has not been confirmed here for dilute solutions, so do not publish PG II as universal for UN 2821.

Proper shipping name: PHENOL, SOLID (UN 1671, Class 6.1, PG II); PHENOL, MOLTEN (UN 2312, Class 6.1, PG II); PHENOL SOLUTION (UN 2821, Class 6.1, PG II subject to the concentration caveat above). Choose the entry that matches the form actually offered for transport. Shipping molten phenol under UN 1671 - or solid phenol under UN 2312 - is a declaration error, and because phenol's melting point sits at 40.9

C, material loaded as a solid can arrive as a liquid; the entry is determined by the condition in which it is offered for carriage.

What this document is. This is a product specification sheet. It states the grade this material is supplied against, its packing and its identity. **It is not a certificate of analysis, it carries no test results, and it certifies no batch.** Tested values for the consignment actually loaded appear on the batch certificate of analysis issued against that batch, which travels with the despatch documents. Identity and physical data are drawn from PubChem, the ECHA CLP inventory and ILO safety cards; the producer's documents for the grade quoted govern. Velora Chemicals Private Limited is a bulk supplier and trader, not a manufacturer.