

What gloves work with Phenol?

Phenol/Physical Form:

Phenol is a solid at room temperature. However, pure liquid phenol (or molten phenol) exists from around 40.5 °C and above. Solid phenol is Colorless to light-pink, crystalline solid with a sweet, acrid odor. Phenol solution, [aqueous] is a white crystalline mass dissolved in an aqueous solution. Solution may be colorless to slightly pink in color with a distinctive phenol odor; sharp burning taste. Phenol, liquid is a colorless liquid when pure, otherwise pink or red.

Risks:

Phenol is a Mutagen. It is very toxic; Ingestion of 1 gm is lethal to humans. Lethal amounts may be absorbed through skin. Due to this hazardous nature, phenol is not allowed to test in every lab above the 10% concentration. The labs must be qualified to test this chemical above 10%.

Gloves Recommendations:

Room temperature:

100% Solid phenol at room temperature:

All gloves will work including disposables, but keep in mind due to the hazardous nature always be mindful about disposables (check for pinholes in the gloves).

10% phenol: at room temperature

At this concentration and room temperature we recommend the following gloves:

Solvex® 37-900, 37-695 or 37-186, AlphaTec® 58-335,58-435,58-330,58-530,58-535, Barrier® 02-100 or any of the neoprene gloves (Disposal gloves can also be used, but we recommend these for splash protection).*

85% phenol at room temperature:

At this concentration and room temperature we recommend the following gloves:

Barrier® 02-100, Neoprene® 29-865, Scorpio® 08-352 and 08-354, Bicolour 87-900, Chemi-Pro® 87-224 and Neotop® 29-500.*

At elevated temperatures:

Liquefied Phenol at 45C

At this temperature Butyl gloves *Chemtek™ 38-514 and Viton/Butyl gloves Chemtek™ 38-628* can be used for full protection.

30% liquefied phenol at 70C

At this temperature, liquefied phenol is very hazardous and we can use thick *Viton/Butyl gloves Chemtek™ 38-628*. This also doesn't provide full protection for longer times, this needs to be changed as soon as you see any hint of degradation.

Scorpio® 08-354, Solvex® 37-675, PVA® 15-554 and Barrier® 02-100 can be used for splash protection and need to be changed as soon as there is contact of chemical.

50% liquefied phenol at 70C

At this temperature, liquefied phenol is very hazardous and we can use thick *Viton/Butyl gloves Chemtek™ 38-628*. This also doesn't provide full protection for longer times, this needs to be changed as soon as you see any hint of degradation.

Chemtek™ 38-514 can be used for splash protection and needs to be changed as soon as there is contact of chemical.

Liquefied phenol at 70C

At this temperature, liquefied phenol is very hazardous and we can use thick *Viton/Butyl gloves Chemtek™ 38-628*. This also doesn't provide full protection for longer times, this needs to be changed as soon as you see any hint of degradation.

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The following gloves have been tested at third party labs as per both ASTM F732 and EN 374 standard:

	Barrier®		PVA®		Chemtek™		Chemtek™		Solvex®		Scorpio®		Duzmor®		Microflex®	
	02-100		15-554		38-514		38-628		37-675		08-354		87-600		93-260	
Permeation Breakthrough time (min)	ASTM	EN	ASTM	EN	ASTM	EN	ASTM	EN	ASTM	EN	ASTM	EN	ASTM	EN	ASTM	EN
100% phenol at 70C	<6	<6			15	25	101	170								
50% phenol at 70C	<6	<6			22	38	77	173			15	21				
30% phenol at 70C	8	19			24	37	77	295	<6	<6	14	23	<6	<6	<6	<6
100% phenol at 45C	44	55	44	51	>480	>480	>480	>480	12	13	45	72	<6	7	<6	<6

Information provided may comprise of experimental data, or estimations based on extrapolations from experimental data. This information is intended to enable the Health and Safety professional at your organization to be able to make more informed decisions about which Ansell products will offer the greatest protection in the intended circumstances, and assist with carrying out a risk assessment for your organization.

We wish to highlight that the permeation times do not equate to safe wear time. Safe wear time may vary depending on whether the PPE is donned correctly, the temperature of the surroundings, the toxicity of the chemical, and a number of other factors. It is the responsibility of your organization's Health and Safety professional to undertake a risk assessment before choosing the appropriate PPE for the task at hand. If you would like to discuss any aspect in more detail, please contact us.

Estimations of the barrier properties of gloves and PPE are based on extrapolations from laboratory test results and information regarding the composition of the chemicals. Synergistic effects of mixing chemicals have not been accounted for. Estimations are subject to change if new testing is carried out providing better grounds for extrapolations. For these reasons, any information provided must be advisory only and Ansell fully disclaims any liability including warranties related to any statement contained herein.