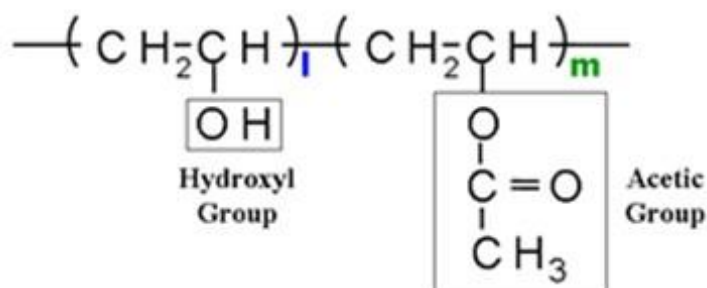


## GOHSENOL™ series

### NIPPON GOHSEI's PVOH (Polyvinyl alcohol)

GOHSENOL™ is polyvinyl alcohol of The Nippon Synthetic Chemical Industry Co., Ltd. With its excellent water-solubility, bonding strength, film forming properties and chemical stabilities, GOHSENOL™ has achieved a great reputation in both global and domestic markets as an industrial material or finishing agent for adhesives, paper, emulsion, suspension, fabric, and films.

#### Basic Structure of PVOH



#### Degree of Polymerization and Saponification

Degree of Polymerization :  $l+m$

Degree of Saponification :  $\left[ \frac{l}{l+m} \right] \times 100$  (mol%)

#### Properties

- ✓ Water solubility
- ✓ Solvent resistance
- ✓ Surface activity
- ✓ Bonding strength
- ✓ Membrane forming properties
- ✓ Chemical reactivity
- ✓ Safety

#### Applications

- ✓ Adhesive and Binder
- ✓ Paper processing
- ✓ Suspending additive
- ✓ Emulsifier
- ✓ Textile processing
- ✓ Molding

Solution by Chemistry

 NIPPON GOHSEI

THE KAITEKI COMPANY  
Mitsubishi Chemical Holdings Group

**Product grades**

Grade		Saponification degree (mol%)	Viscosity <sup>*1</sup> (mPa·s)
N type (Fully saponified PVOH)	N-300	98.0 - 99.0	25.0 - 30.0
	NL-05	Min. 98.5	4.0 - 6.0
A type (Almost fully saponified PVOH)	A-300	97.0 - 98.5	25.0 - 30.0
	AL-06R	91.0 - 94.0	6.2 - 7.0
G type (Partically saponified PVOH)	GH-23	86.5 - 89.0	48.0 - 56.0
	GH-22	86.5 - 89.0	45.0 - 52.0
	GH-20	86.5 - 89.0	40.0 - 46.0
	GH-20R	86.5 - 89.0	40.0 - 46.0
	GH-17R	86.5 - 89.0	27.0 - 33.0
	GM-14R	86.5 - 89.0	20.5 - 24.5
	GM-14L	86.5 - 89.0	16.0 - 20.0
	GL-05	86.5 - 89.0	4.8 - 5.8
	GL-03	86.5 - 89.0	3.0 - 3.7
K type (Partically saponified PVOH)	KH-20	78.5 - 81.5	44.0 - 52.0
	KH-17	78.5 - 81.5	32.0 - 38.0
	KL-05	78.5 - 82.0	4.0 - 5.0
	KL-03	78.5 - 82.0	2.8 - 3.4
	KP-08R	71.0 - 73.5	6.0 - 8.0
	NK-05R	71.0 - 75.0	4.5 - 5.5

\*1 4% aqueous solution at 20°C

## Dissolution

### N and A type GOHSENOL™

1. Put GOHSENOL™ into room temperature water under agitation.
2. Heat the solution immediately and keep a minimum temperature of 90°C for 30 to 60 minutes under continued agitation until complete dissolution.

### G type GOHSENOL™

1. Slowly put GOHSENOL™ into room temperature water under agitation.
2. Heat the solution immediately and keep a temperature of 80°C to 90°C for 30 to 60 minutes under continued agitation until complete dissolution.
  - ❖ Do not allow any rapid temperature rise, as this often causes drastic foaming.

### K type GOHSENOL™

1. Like G type GOHSENOL™, slowly put GOHSENOL™ into room temperature water.
2. Heat the solution to 70°C to 75°C under agitation. Then slowly cool the solution under continued agitation to achieve complete dissolution.
  - ❖ Pay full attention to the temperature as dissolving time will significantly increase at 80°C or higher. The solution may become cloudy at 70°C to 75°C. The turbidity, however, will disappear by cooling. Be sure to avoid any rapid temperature increase, as this often causes drastic foaming.

### Precaution for dissolution

- ❖ Adding a large quantity of GOHSENOL™ at a time may create residue and result in imperfect dissolution. Always use normal temperature water and gradually put GOHSENOL™ under agitation. Heat the solution after the particles disperses evenly.

### GOHSENOL™ contact

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