

## Polypropylene Glycols

Diol Type

# NEWPOL PP Products

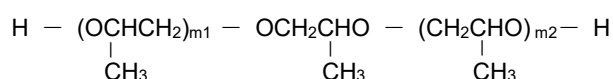
Triol Type

# NEWPOL GP Products

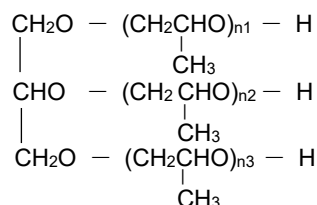
### Preface

NEWPOL PP and NEWPOL GP products are polypropylene glycols derived from propylene oxide, and their structural formulas are shown below.

#### Structural Formula of NEWPOL PP Products



#### Structural Formula of NEWPOL GP Products



Notice: Each of the structural formulas shows only secondary hydroxyl groups for convenience of explanation. In fact, these products contain not only secondary hydroxyl groups but also small amounts of primary hydroxyl groups.

These two types of products are classified and described according to the number-average molecular weight because they have molecular weight distributions. Each of the product numbers that are written next to NEWPOL PP or NEWPOL GP as product names indicates its approx. number-average molecular weight. NEWPOL PP and NEWPOL GP products are mainly used as raw materials for pharmaceuticals, surfactants, synthetic lubricating oils, and as mold release agents for rubber.

We offer a wide range of NEWPOL PP and NEWPOL GP products as follows:

Polypropylene Glycol	Diol Type	Triol Type
Product Name	NEWPOL PP-200	NEWPOL GP-400
	NEWPOL PP-400	NEWPOL GP-600
	NEWPOL PP-600	NEWPOL GP-1000
	NEWPOL PP-1000	NEWPOL GP-4000
	NEWPOL PP-2000	-
	NEWPOL PP-3000	-
	NEWPOL PP-4000	-

**Important:** Before handling these products, refer to the Material Safety Data Sheet for recommended protective equipment, and detailed precautionary and hazards information.

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Typical Property

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### 1. Typical Properties

Table 1 shows the typical properties of NEWPOL PP and NEWPOL GP products. The values are representative. Data described in this brochure is representative figures.

Table 1. Typical Properties

Product Name	Appearance (20°C±5°C)	pH *	Number-Average Molecular Weight **	Specific Gravity (20 / 20°C)	Viscosity at 25°C mPa·s	Flash Point *** °C
NEWPOL PP-200	Transparent uniform liquid	6.2	200	1.015	60	135
NEWPOL PP-400		6.0	400	1.013	69	180
NEWPOL PP-600	Colorless to pale yellow colored transparent liquid	6.5	600	1.020	85	225
NEWPOL PP-1000	Transparent uniform liquid	6.4	1,000	1.009	150	230
NEWPOL PP-2000		6.5	2,000	1.006	310	240
NEWPOL PP-3000		6.3	3,200	1.005	590	226
NEWPOL PP-4000		6.3	4,150	1.004	950	228
NEWPOL GP-400		6.5	420	1.055	370	218
NEWPOL GP-600		6.3	600	1.042	280	226
NEWPOL GP-1000		6.3	1,050	1.025	260	228
NEWPOL GP-4000		Transparent liquid	6.4	4,000	1.011	660

\* Dissolved 10 g testing sample in 60 mL of isopropanol / water mixed solution (the volume ratio: 10/6) and measured.

\*\* Calculated using each hydroxyl value

\*\*\* Open type

## 2. Solubility in Solvents

Tables 2-a and 2-b show solubility of NEWPOL PP and NEWPOL GP products in various solvents.

Table 2-a. Solubility \* in Solvents

Product Name	Water	Toluene	Methanol	Ethanol	Acetone	Methyl Ethyl Ketone
NEWPOL PP-200	A	A	A	A	A	A
NEWPOL PP-400	A	A	A	A	A	A
NEWPOL PP-600	A	A	A	A	A	A
NEWPOL PP-1000	C	A	A	A	A	A
NEWPOL PP-2000	C	A	A	A	A	A
NEWPOL PP-3000	C	A	A	A	A	A
NEWPOL PP-4000	C	A	A	A	A	A
NEWPOL GP-400	B	A	A	A	A	A
NEWPOL GP-600	B	A	A	A	A	A
NEWPOL GP-1000	C	A	A	A	A	A
NEWPOL GP-4000	C	A	A	A	A	A

\* A: Completely dissolved      B: Slightly dissolved      C: Undissolved

Table 2-b. Solubility \* in Solvents

Product Name	Glycerin	Ethylene Glycol	Propylene Glycol	Diethylene Glycol	Triethanol-amine	Liquid Paraffin	Olive Oil
NEWPOL PP-200	A	A	A	A	A	B	C
NEWPOL PP-400	A	A	A	A	A	C	B
NEWPOL PP-600	C	A	A	A	A	C	A
NEWPOL PP-1000	C	C	A	C	C	C	A
NEWPOL PP-2000	C	C	B	C	C	C	A
NEWPOL PP-3000	C	C	C	C	C	C	A
NEWPOL PP-4000	C	C	C	C	C	C	A
NEWPOL GP-400	C	A	A	A	A	B	C
NEWPOL GP-600	C	A	A	A	A	C	C
NEWPOL GP-1000	C	C	A	A	B	C	C
NEWPOL GP-4000	C	C	C	C	C	C	A

\* A: Completely dissolved      B: Slightly dissolved      C: Undissolved

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