



**ZEON**

*Nipol*<sup>®</sup> **LATEX**  
Latex Product Catalog

**ZEON CORPORATION**

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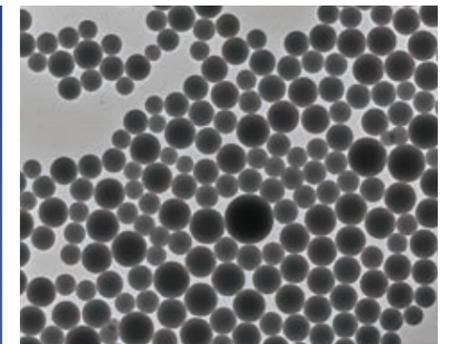


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## What is synthetic latex?

Synthetic latex is a white color liquid like milk, and in which fine particles of polymer (rubber or resin) are dispersed.



## Advantages



- 1. Mixable**  
Easily mixing with other materials



- 2. Formable**  
Able to form into a thin film



- 3. Foamable**  
Foaming like a fresh cream with mechanical shear force



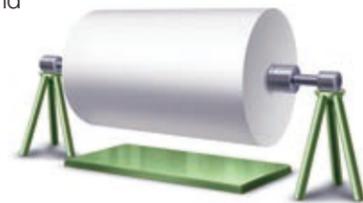
## Applications

Synthetic latex is used for a wide assortment of applications, putting to use its various characteristics.



### Rubber gloves

Single-use, household and industrial rubber gloves.



### Latex



### Aqueous binders (paper/fiber)

For binding component of non-woven fabrics or paper.

### Organic pigments

As a pigment for glossy paper.

### Foam rubber

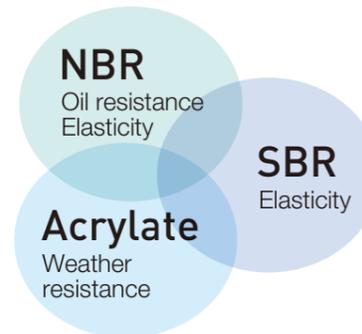
Foam rubber can be produced by mechanical foaming process.

### ABS impact resistant material

As a raw material of ABS resin.

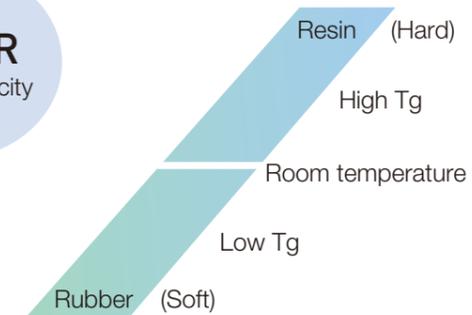
## Factors to consider when choosing synthetic latex

### 1. Composition



### 2. Hardness

Hardness is one of important factor and that is selected by glass transition temperature (Tg).



### 3. Other factors

Gel contents, surface tension, and pH can be selected to match usage needs.

### Examples



Rubber gloves

|  | Nipol LX550  |                 | Nipol LX551   |
|--|--|-----------------|---|
|  | Medium nitrile<br>Flexible type for oil-resistant gloves<br>Elastic coating film with excellent strength | Characteristics | Medium-high nitrile for oil-resistant gloves<br>High strength |
|  | -23  |                 | Tg (°C)   |

## Acrylonitrile butadiene copolymer (NBR) latex

| Product name | Latex property  |      |                   |                        |                    | Polymer property |                  | Latex type       |              |                      | Applications  |                                     |                               |                                    |             |
|--------------|-----------------|------|-------------------|------------------------|--------------------|------------------|------------------|------------------|--------------|----------------------|---------------|-------------------------------------|-------------------------------|------------------------------------|-------------|
|              | Total solid (%) | pH   | Viscosity (mPa·s) | Surface tension (mN/m) | Particle size (nm) | Tg (°C)          | Gel contents (%) | Nitrile contents | Modification | Thermal crosslinking | Rubber gloves | Aqueous binders (non-woven fabrics) | Aqueous binders (impregnated) | Aqueous binders (internally added) | Foam rubber |
| LX513        | 45.0            | 10.0 | 41                | 34.9                   | 131                | -35              | 58.3             | Medium-high      |              |                      |               | ○                                   | ○                             | ○                                  |             |
| LX531B       | 66.0            | 11.3 | 235               | 33.3                   | 612                | -15              | 61.1             | Medium-high      |              |                      |               |                                     | ○                             |                                    | ○           |
| LX550        | 45.0            | 8.5  | 220               | 33.9                   | 108                | -23              | –                | Medium           | ○            |                      | ○             |                                     |                               |                                    |             |
| LX550L       | 45.0            | 8.2  | 39                | 31.1                   | 128                | -25              | –                | Medium           | ○            |                      | ○             |                                     |                               |                                    |             |
| LX550LA      | 45.0            | 8.4  | 68                | –                      | –                  | –                | –                | Medium           | ○            |                      | ○             |                                     |                               |                                    |             |
| LX551        | 45.0            | 8.5  | 91                | 30.9                   | 135                | -15              | –                | Medium-high      | ○            |                      | ○             |                                     |                               |                                    |             |
| LX560        | 45.0            | 8.3  | 58                | 33.1                   | 124                | -23              | –                | Medium           | ○            |                      | ○             |                                     |                               |                                    |             |
| 1551         | 51.0            | 10.0 | 43                | 36.4                   | 179                | -19              | 80.9             | High             |              |                      |               |                                     | ○                             |                                    |             |
| 1562         | 41.0            | 10.0 | 56                | 47.4                   | 92                 | -26              | 26.7             | Medium-high      |              |                      |               |                                     | ○                             | ○                                  |             |
| 1571C2       | 45.0            | 8.5  | 27                | 37.2                   | 155                | -16              | 75.2             | High             | ○            |                      |               | ○                                   | ○                             | ○                                  |             |
| 1571CL       | 38.0            | 7.8  | 9                 | 28.2                   | 135                | -16              | 64.0             | High             | ○            |                      |               | ○                                   | ○                             | ○                                  |             |
| 1571D2       | 40.0            | 8.3  | 10                | 28.0                   | 132                | -15              | 69.3             | High             | ○            |                      |               | ○                                   | ○                             | ○                                  |             |
| 1571G2       | 45.0            | 8.5  | 32                | 35.3                   | 117                | -19              | 76.8             | Medium-high      | ○            | ○                    |               | ○                                   | ○                             | ○                                  |             |
| 1571H        | 40.0            | 8.3  | 10                | 28.3                   | 129                | -14              | 70.7             | High             | ○            |                      |               | ○                                   | ○                             | ○                                  |             |
| 1577K        | 38.0            | 10.0 | 20                | 34.8                   | 88                 | 19               | 81.3             | Medium-high      |              |                      |               |                                     | ○                             |                                    |             |

Note: 1) Values of "Total solid" and "pH" are designed values, whereas other properties are shown with measured values.  
 2) The particle size is the median number measured with a particle size analyzer.  
 3) Thermal crosslinking type is meant self-crosslinking by high temperature.

## Hydrogenated Acrylonitrile-Butadiene Polymer (HNBR) Latex

| Grade          | Bound ACN (%) | Iodine value (mg/100mg) | Total Solid (%) |
|----------------|---------------|-------------------------|-----------------|
| Zetpol® 2230LX | 33.2          | 36.00                   | 40.5            |

Note: 1) Design value

## Styrene-butadiene copolymer (SBR) latex

| Product name | Latex property  |      |                   |                        |                    | Polymer property |                  | Latex type          |                      | Applications     |                 |            |                               |
|--------------|-----------------|------|-------------------|------------------------|--------------------|------------------|------------------|---------------------|----------------------|------------------|-----------------|------------|-------------------------------|
|              | Total solid (%) | pH   | Viscosity (mPa·s) | Surface tension (mN/m) | Particle size (nm) | Tg (°C)          | Gel contents (%) | Modification (○/VP) | Thermal crosslinking | Paper processing | Aqueous binders | Tire cords | ABS impact resistant material |
| LX110        | 40.5            | 11.1 | 50                | 61.4                   | 96                 | -52              | 87.4             |                     |                      | ○                |                 | ○          |                               |
| LX111A2      | 54.0            | 11.5 | 54                | 39.5                   | 318                | -82              | 72.2             |                     |                      |                  |                 |            | ○                             |
| LX111NF      | 55.0            | 11.5 | 23                | 38.7                   | 312                | -81              | 84.4             |                     |                      |                  |                 |            | ○                             |
| LX209        | 45.5            | 10.5 | 18                | 33.3                   | 165                | -30              | 84.6             |                     |                      |                  |                 |            |                               |
| LX415M       | 43.0            | 8.0  | 44                | 54.0                   | 141                | 26               | 83.1             | ○                   | ○                    |                  | ○               |            |                               |
| LX418C       | 46.0            | 7.8  | 64                | 36.5                   | 192                | -                | 87.8             | ○                   | ○                    |                  |                 |            |                               |
| LX421        | 41.0            | 7.8  | 16                | 41.1                   | 102                | -18              | 88.7             | ○                   | ○                    | ○                | ○               |            |                               |
| LX432M       | 41.0            | 8.0  | 34                | 53.2                   | 153                | -58              | 93.0             | ○                   | ○                    | ○                |                 |            |                               |
| 2518FSH      | 40.5            | 11.0 | 36                | 51.9                   | 89                 | -50              | 49.2             | VP                  |                      |                  |                 | ○          |                               |
| 2507H        | 52.0            | 10.0 | 20                | 34.8                   | 96                 | 56               | 81.3             |                     |                      |                  |                 |            |                               |

VP: Styrene butadiene vinyl pyridine copolymer

Note: 1) Values of "Total solid" and "pH" are designed values, whereas other properties are shown with measured values.  
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 3) Thermal crosslinking type is meant self-crosslinking by high temperature.

## Acrylate latex

| Product name | Latex property  |     |                   |                        |                    | Polymer property |                  | Latex type   |                      | Applications                        |                  |
|--------------|-----------------|-----|-------------------|------------------------|--------------------|------------------|------------------|--------------|----------------------|-------------------------------------|------------------|
|              | Total solid (%) | pH  | Viscosity (mPa·s) | Surface tension (mN/m) | Particle size (nm) | Tg (°C)          | Gel contents (%) | Modification | Thermal crosslinking | Aqueous binders (non-woven fabrics) | Paper processing |
| LX811H       | 50.0            | 6.3 | 134               | 35.4                   | 177                | -9               | 66.3             | ○            | ○                    | ○                                   |                  |
| LX814        | 46.0            | 6.0 | 33                | 34.9                   | 223                | 18               | 62.1             | ○            | ○                    | ○                                   | ○                |
| LX816A       | 42.0            | 2.0 | 21                | 39.3                   | 152                | -15              | 70.8             |              | ○                    |                                     | ○                |
| LX851C       | 45.0            | 6.5 | 18                | 27.4                   | 315                | 5                | 72.0             | ○            | ○                    | ○                                   |                  |
| LX851E       | 45.0            | 6.0 | 46                | 30.1                   | 216                | 7                | 72.6             | ○            | ○                    | ○                                   |                  |
| LX851F2      | 45.0            | 7.0 | 64                | 30.9                   | 316                | 6                | 94.4             | ○            | ○                    | ○                                   |                  |
| LX852        | 45.0            | 6.0 | 76                | 30.6                   | 229                | -15              | 85.3             | ○            | ○                    | ○                                   | ○                |
| LX854E       | 45.0            | 6.5 | 21                | 27.4                   | 366                | -18              | 83.6             | ○            | ○                    | ○                                   |                  |
| LX855EX1     | 45.0            | 6.5 | 16                | 28.9                   | 210                | 28               | 29.0             | ○            | ○                    | ○                                   |                  |
| LX857X2      | 45.0            | 6.5 | 20                | 28.0                   | 217                | 39               | 34.1             | ○            | ○                    | ○                                   | ○                |
| LX874        | 45.0            | 6.3 | 23                | 26.2                   | 388                | -36              | 90.1             | ○            | ○                    | ○                                   | ○                |
| LX874B       | 50.0            | 8.5 | 53                | -                      | 290                | -                | 68.9             | ○            |                      |                                     | ○                |

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 2) The particle size is the median number measured with a particle size analyzer.  
 3) Thermal crosslinking type is meant self-crosslinking by high temperature.

## Instructions for handling and storing latex

### Handling

- 1. Wear protection (goggles, gloves, safety shoes, and other protective clothing).**

Contact with the skin or eyes may cause inflammation, irritation, and damage to the cornea.
- 2. Provide ventilation systems, hand washers and eye washers.**
  - (1) Latex is water soluble and not volatile at room temperature; however, if you experience nausea from latex odor, go to a room with fresh air.
  - (2) If latex comes into contact with the skin or eyes, wash the affected area thoroughly.
  - (3) If latex or latex compounds are ingested through the mouth, rinse your mouth thoroughly and consult a doctor.
- 3. Do not drain or otherwise discard latex in waterbody.**

Do not drain latex in a natural water body, as it diffuses and will cloud the water, even in a small amount. In the event of outflow, promptly contact the relevant authorities. In case of leakage near a water intake for a drinking water system, immediately notify the authorities and request that they shut down the water intake.
- 4. Exercise caution when handling latex in unusual operations or conditions.**

Instructions provided in this catalog are intended only for general use of latex. For special-purpose uses, the safety measures required for handling latex fall solely within the responsibility of the user.

### Storing

- 1. Store latex in a tightly sealed container.**

Exposure to air may result in the formation of film or emulsion, or bacteria could cause the latex to decompose.
- 2. Store latex within the temperature range of 5°C–40°C.**

Exposure to direct sunlight may cause the formation of film or alter the viscosity of the latex due to high temperature. If frozen, latex is unusable.
- 3. Stir and filter the latex stored for long periods before use.**

Latex must be stirred or mixed before use as the composition can become uneven due to sedimentation or floatation. It must be filtered if coagulation or emulsion has occurred or if a film has formed during storage.



- ◆ These products are developed and manufactured for general industrial applications. In the case of applications such as food medical, and other special applications, you are urged to use them based on your own check of safety and harmless.
- ◆ The data on this brochure are for your reference and not guaranteed value. The information is subject to change when necessary.
- ◆ Not all products listed in this catalog are available in all countries. If you use them in the countries other than Japan, please check the laws and regulations of those countries by yourself.

Detailed instructions for handling latex can be found in the safety data sheet (SDS) issued by Zeon Corporation.