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**OLYMPUS**  
Marketing, Inc.

www.olympus.com.ph

**Poly Klear**  
FIBERGLASS + RESIN

# MATERIAL SAFETY DATA SHEET

## POLYKLEAR R99-S200 RESIN-GP FLEXIBLE

### A. Description

Polyklear R99-200 is a flexible, non-accelerated, orthophthalic unsaturated polyester resin. The development of this resin is mainly for the usage of buttons, artificial casting application, flexible glass joint, body solders, FRP pipe joint, caulking and sealing compounds. The resin exercise a principle property of excellent flexibility, high impact strength and exhibits low shrinkage which can be subjected to the application and thus the degree of flexibility can be achieved by either pure Polyklear R99-200 or added with Polyklear R99-S101 series for semi-flexibility and etc.

With low PE temperature as one of its characteristic, the resin helps to prolong the life of the moulds usage and due to the flexibility nature, the end products have less tendency of cracking and fine edge can be achieved.

### B. Specifications

Liquid R99-200 polyester resin has the following characteristics:

Appearance	Clear, slightly hazy yellow
Viscosity at 30°C	4 – 6 ps
Accelerator (6% Cobalt content)	0.5%
Gel Time at 30°C	10 – 20 mins
Cure Time at 30°C	20 – 40 mins
Peak Exothermic Temperature	50°C – 60°C
Stability in the Dark below 25°C	6 months

\*Gelation characteristics determined using 1% v/w MEKP catalyst (Butanox M-50) and 0.5% v/w accelerator (Co:6%), based on 20g of resin.

### C. Properties

Specific Gravity of Liquid Resin at 25°C D1475)	- 1.13 kg/litre (Test Method ASTM)
Volume Shrinkage on Cure	- 7% (Test Method Specific Gravity)
Volatile Content	- 35.6% (Test Method ASTM D3030)

### D. USAGE

Polyklear R99-200 polyester resin performs best when it is completely cured. To do so, a proper combination of catalyst and accelerator must be used at room temperature for a sufficient period of time. Generally, 1 percent of catalyst (BUTANOX M-50 MEKP) is used.

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Adjustments for shorter or longer geltime can be achieved by ranging the quantities of catalyst and/or accelerator used. As a rule, however, the amount of catalyst used should not be more than 2% or less than 0.5% while that of accelerator should range between 0.4% and 1%. Be sure to measure accurately.

Ensure that the accelerator must be completely mixed into the resin before catalyst is added in order to avoid a direct blending which due to a violent reaction may result in an **EXPLOSION**.

Since the viscosity increased as the storage period of resin lengthens, Styrene Monomer can be added to lower it to a desired level.

**However owing to difficulties in presenting information applicable to all situations, no warranty is expressed or implied and users are recommended to carry out their own tests to determine the applicability of the above information and the suitability of Polyklear resin for their particular requirements.**

#### **E. STORAGE**

Polyklear polyester resin will remain stable if stored in the dark and at temperatures below 25°C. Their stability however deteriorates markedly at higher temperatures, especially when they are directly exposed to sunlight. Hence they should be kept in a cool, dark place.

#### **F. PACKING**

Polyklear polyester resin is packed in steel drums of standard size, containing 225 kilos in net weight.

*The information contained in this product specification sheet has been provided based on laboratory results. The type, quality and characteristics of substrates used, the environment of the end-user, individual systems or processes employed by the end-user and other conditions are elements which are beyond our control and we therefore recommend that the end-user test the product for the specific application; substrate required under the end-users environment and other working conditions. SEA Olympus Mktg, Inc. will not be held liable for damages due to the improper use of our products. All information stated above is subject to change without prior notice. ©20*

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## TECHNICAL DATA SHEET

POLYKLEAR R99-S200 RESIN-GP FLEXIBLE

### DESCRIPTION

POLYKLEAR R99-S200 is a flexible, non-accelerated, orthophthalic unsaturated polyester resin. The development of this resin is mainly for the usage of buttons, artificial casting application, flexible glass joint, body solders, FRP pipe joint, caulking and sealing compounds. The resin exercise a principle property of excellent flexibility, high impact strength and exhibits low shrinkage, which can be subjected to the application and thus the degree of flexibility, can be achieved by either pure POLYKLEAR R99-S200 or added with POLYKLEAR R99-S101 for semi- flexibility and etc.

With low PE temperature as one of its characteristic, the resin helps to prolong the life of the moulds usage and due to the flexibility nature, the end products have less tendency of cracking and fine edge can be achieved.

### SPECIFICATIONS

Liquid POLYKLEAR R99-S200 polyester resin has the following

characteristics:

Appearance	Clear, slightly hazy
yellow	
Viscosity at 30°C	4 – 6ps
Accelerator (6% Cobalt content)	0.5%
Gel Time at 30°C	10 - 20mins
Cure Time at 30°C	20 – 40 mins
Peak Exothermic Temperature	50°C – 60°C
Stability in the Dark below 25°C	3 months

Gelation characteristics determined using 1% v/w MEKP catalyst (Butanox M-50) and 0.5% v/w accelerator (Co:6%), based on 20g of resin.

### Properties

Specific Gravity of Liquid Resin at 25°C	- 1.13 kg/litre (Test Method
ASTM D1475) Volume Shrinkage on Cure	- 7% (Test Method Specific
Gravity)	
Volatile Content	- 35.6% (Test Method ASTM
D3030)	

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## USAGE

POLYKLEAR R99-S200 performs best when it is completely cured. To do so, a proper combination of catalyst and accelerator must be used at room temperature for a sufficient period of time. Generally, 1 percent of catalyst (BUTANOX M-50 MEKP) together with 0.5 percent of accelerator (6% cobalt content) is used.

Adjustments for shorter or longer geltime can be achieved by ranging the quantities of catalyst and/or accelerator used. As a rule, however, the amount of catalyst used should not be more than 2% or less than 0.5% while that of accelerator should range between 0.4% and 1%. Be sure to measure accurately.

Ensure that the accelerator must be completely mixed into the resin before catalyst is added in order to avoid a direct blending which due to a violent reaction may result in an **EXPLOSION**.

## STORAGE

POLYKLEAR polyester resin will remain stable for about three months if stored in the dark and at temperatures below 25°C. Their stability however deteriorates markedly at higher temperatures, especially when they are directly exposed to sunlight. Hence they should be kept in a cool, dark place. It is advisable to finish it within three months.

*The information contained in this product specification sheet has been provided based on laboratory results. The type, quality and characteristics of substrates used, the environment of the end-user, individual systems or processes employed by the end-user and other conditions are elements which are beyond our control and we therefore recommend that the end-user test the product for the specific application; substrate required under the end-users environment and other working conditions. SEA Olympus Mktg, Inc. will not be held liable for damages due to the improper use of our products. All information stated above is subject to change without prior notice. ©20*

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