



# MATERIAL SAFETY DATA SHEET

POLYKLEAR R99-S101 RESIN-GP RIGID FAST-CURED

# I. PRODUCT IDENTIFICATION

**Product Name** POLYKLEAR R99-S101 RESIN-GP RIGID FAST-CURED

**Physical Properties** Liquid

# II. INGREDIENTS

## PRINCIPAL COMPONENTS

**Unsaturated Polyester** 62% Styrene Monomer 38%

# III. PHYSICAL DATA

Boiling Point (760mm HG) 145°C Specific Gravity 1.13 % Volatiles by Volume 35.0% Solubility in H<sub>2</sub>0 Insoluble

Fire and Explosion Hazard

Flash Point

Flammable limits of volatiles

Styrene 1.1% to 6.1%

# IV. HEALTH HAZARD DATA

Health Hazard	Effects of short- term exposure	Effects of long- term exposure	First detectable signs of over-exposure
If Inhaled	Irritation to eyes & respiratory tract		Nausea, vomiting, weakness, drowsiness
If Swallowed	Harmful – medium danger		dermatitis, headache anorexia, decreased blood
Skin Contact	Irrita	nt to skin	pressure.

# Personal Protection:

Inhalation

at levels above 50ppm up to 2%, use approved industrial canister gas masks. Above 2% use air or oxygen supplied fullface mask.

Safety goggles if subject to splashing.

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Skin

Rubber or insoluble plastic.



Ingestion contact -

Induce vomiting at least three times with milk and raw eggs. Skin Wash contact areas with soap and water. Remove contaminate

clothing.

Eye contact

Flush eyes with water for 15 minutes. Seek medical attention if irritation persists.

Inhalation

Move to fresh air. Lie down and keep warm. Oxygen will relieve coughing. If unconscious, revive and seek medical attention.

# V. STORAGE

Store in a cool place, preferably below 25°C. Take all precautions for the storage and handling of flammable liquids. Avoid copper or copper alloys. Rubber hose NOT recommended. DO NOT store near excessive heat, oxidizing agents, alkylation catalysts, halogens, hydrogen halides.

# VI. SPILLAGE PROCEDURES

Clean up

Contain spill for recovery or absorb onto inert absorbent material for disposal.

Protective measure

Eliminate all ignition source.

# VII. FIRE FIGHTING PROCEDURES

Extinguishing media

Dry chemical, water fog, foam, CO2, cool storage drums with water spray.

**Decomposition products** 

Acrid fumes.

## VIII. DISPOSAL

Incineration in compliance with local regulations.

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# IX. TRANSPORTATION INFORMATION

## **IMDG**

Identification number Proper shipping name Packing group Marine Pollutant

- UN 1866
  - Unsaturated Polyester Resin Class / Division-3
- III
- No























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TECHNICAL DATA SHEET

POLYKLEAR R99-S101 RESIN-GP RIGID FAST-CURED

## I. IDENTIFICATION AND DESCRIPTION

POLYKLEAR R99-S101 RESIN-GP RIGID FAST-CURED is a non-accelerated, non-waxed, clear low color and high viscosity unsaturated polyester resin of orthophthalic grade.

# II. APPLICATIONS

This resin is used for making a variety of figurine casting, stone-craft, wood lamination, skylight, culture marble, etc. Glass fiber reinforced laminates made with POLYKLEAR R99-S101 also offers some advantages as stated below:

- a) Good Mechanical Properties
- b) Early Development of Barcol Hardness
- c) Fast Glass Fiber Wet Out
- d) Reducible with Styrene Monomer

## III. SPECIFICATIONS

# Liquid POLYKLEAR R99-S101 polyester has the following characteristics:

Appearance Viscosity at 30°C (Brookfield LVT, spindle 3, 60rpm) Gel Time at 30°C Storage life at 20°C Non-Volatile content (%) Clear light colored liquid

>=30cps

4 - 8 mins

3 months

74.6

# IV. USAGE

POLYKLEAR general purpose polyester laminating 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) 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.

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<sup>\*</sup>Above gelation characteristics determined using 1% v/w of MEKP catalyst (Butanox M-50) on 20g of resin.





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.

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.

# V. STORAGE

POLYKLEAR polyester resin will remain stable for about three months if stored in the dark and at temperatures below 25oC. 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.













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