



## Epoxies

# LIQUID GLASS CRYSTAL

### Technical Data Sheet

Reviewed: 30.10.2019



#### DESCRIPTION

**LIQUID GLASS CRYSTAL** is a tough, ultra transparent two-component epoxy resin, which offers great resistance to temperature, humidity and solvents. It is ideal for impregnation, molding and clear casting dissimilar materials and ornaments without shrinking. It is ideal for making special decorative – artistic applications with sculptured objects, by filling voids and pores and forming a final glass-like surface. Use **LIQUID GLASS CRYSTAL** to create fantastic artistic constructions for decoration and use.

#### ADVANTAGES

- Fast curing
- Ultra transparent
- High viscosity for easy penetration and less foaming
- Excellent adhesion and bonding strength
- Excellent mechanical properties
- Excellent water and moisture resistance
- Good resistance to sun UV rays
- High temperature resistance
- High resistance to most chemicals
- Can be colored with the transparent **SWAN COLORMIX LIQUID GLASS** colorants

#### APPLICATIONS

- Thousands of applications can be made with any idea and most materials. Tabletops, bowls, serving platters, stools, 3-D displays with leaves and flowers dried or pressed, shells, insects, pebble stones, mineral stones, souvenirs, jewelry, photographs, coins, seeds, peas, beans, pasta, spices, decorative wood constructions and much more.
- Transparent floor coatings with decorative elements such as pebbles, coins, and many other items.
- **LIQUID GLASS CRYSTAL** is ideal for protection and decoration of many surfaces such as wood, metal, stone, ceramics, porcelain, cardboard, etc.

- Use your imagination, internet and You Tube for ideas and application methods.

#### INSTRUCTIONS FOR USE

**You must pay close attention to the quantity and the way of mixing the 2 components. Danger of high temperatures due to exothermic reaction.**

1. All surfaces must be dry and clean from dust and grease.
2. Make sure that the materials used for stirring and the dosing and stirring containers are free of moisture. In difficult cases the use of a dehumidifier will help.
3. Using a spatula, mix well amounts of **LIQUID GLASS CRYSTAL A** and hardener **B** at a ratio of **100:50** respectively.
4. It is advisable to use dosing containers or a precision scale.
5. Stir 2 components with a spatula. Never use an electric drill.
6. Mix small quantities each time since the mixture will start hardening rapidly. The larger the quantity mixed and the higher the temperature, the faster the rate of acceleration of the curing due to the exothermic reaction. At temperatures higher than 25°C and with quantities mixed larger than 500gr one should spread the mix within 5 - 10 minutes or 10-15 minutes for lower temperatures, always monitoring the temperature of the mix.
7. If you apply the material in layers make sure that each layer is applied after basic curing of the previous layer. Alternatively you can apply multiple layers after curing of the previous layer to avoid line creation and reduced transparency.
8. If you are using a mould, spray evenly with **MINOS SILICONE SPRAY** before pouring the mixture to avoid sticking. For moulding purposes one can use melamine surfaces sprayed with silicone, or polyethylene / polypropylene materials (self-adhesive tapes, nylon sheets etc)
9. Apply the material into the mould making sure that there is no leak.
10. During curing one should avoid dust, high temperatures and very importantly high humidity.
11. If you are using **LIQUID GLASS CRYSTAL** as a varnish spread material with a spatula.
12. Any bubbles can be removed using a needle or hot air gun- hair dryer.
13. Initial curing takes 2,5 - 4,5 hours, and final curing is achieved in 4 - 7 days depending on layer thickness and room temperature.
14. Following full curing one can machine – sand the cured object using different grades of sand paper from coarse to fine which will lead to a glass like finish for the sanded areas.

#### CAUTION

- Humidity affects the chemical process resulting in bubbles. Special care should be paid to applications with wood where it is difficult to measure humidity.
- While **LIQUID GLASS CRYSTAL** has good UV resistance, it is not suitable for permanent exposure to sunlight, although the material presents the best UV resistance from most similar products.
- Lightweight objects must be fastened (secured to their intended position) to avoid floating or moving until final curing.
- Mixing of large quantities and high temperatures rapidly accelerate curing due to exothermic reaction which can lead to bubble formation and discoloration.

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- In case of severe overheating with possible smoke release, spray the surface with water to lower the temperature.
- Close lids firmly after use and do not change lids between containers.
- All tests should be carried out before final application in order to ensure the compatibility of the materials to be bonded.
- Suitable for use by professionals or experienced users.
- Please contact our technical support for any technical assistance.

### COLOURING LIQUID GLASS CRYSTAL

You can colour LIQUID GLASS CRYSTAL with the transparent colorants SWAN COLORMIX LIQUID GLASS which allow you to 'see through' the cast piece. The dyes are very concentrated. 2-3 drops might be enough for 50gr of final product.

**Instruction for use:** Add just a few drops of colorant in component A (resin). Stir well to blend using a tongue depressor. Special attention must be given to the bottom and sides of the container. Add part B (hardener) and mix well.

**Caution:** Too much colorant will inhibit the cure of the resin. Colorants may be used to color an entire casting or can be used in the final layer to create a background. Keep in mind that colored resin in your mixing container will look much darker than when poured into a thinner area.

### COVERAGE

1kg/m<sup>2</sup>/mm layer thickness

### CLEANING

Tools and adhesive residues should be cleaned right after use with nitro solvent. After the material has hardened it can be removed using **Mercola STRIPP &-CLEAN** paint stripper.

### TECHNICAL CHARACTERISTICS

#### Component A

**Base:** Epoxy resin

**Form:** Low viscosity liquid

**Odor:** Characteristic

**Color:** Transparent

**Specific Gravity:** 1080 kg/m<sup>3</sup> 25°C (ASTMD 4052)

**Solubility in water:** Ca. 0.009 kg/m<sup>3</sup> 20 °C

**Ignition point:** >150°C

#### Component B

**Base:** Polyamine

**Form:** Liquid

**Odor:** Characteristic

**Color:** Transparent

**Specific Gravity:** 1020 kg/m<sup>3</sup> 25°C

**Solubility in water:** Practically insoluble

**Ignition point:** >90°C

### MIXED PRODUCT

**Mixing ratio:** A:B = 100:50

**Open time:** 10 - 20 minutes 20°C (for 100 gr mixed product. Higher temperatures and larger quantities drastically reduce open time)

**Initial curing:** 2,5 - 4,5 hours 20°C (for 100 gr)

**Final curing:** 4 - 7 days

**Application temperature:** 15°C - 35°C

### STORAGE

Products should be stored in a dry and cool place at a temperature of 5°C -35°C, away from sources of ignition. Protect from humidity and direct sunlight.

### SHELF LIFE

24 months from the production date in the above mentioned storage conditions. The product should remain in the original unopened packaging bearing the manufacturer's batch number.

### PACKAGING

Metal containers (A+B) 320gr, 1kg, 3kg, 25kg

| PACKAGING       | CODE | BARCODE       |
|-----------------|------|---------------|
| ΣET 320gr (A+B) | 1888 | 5204094018889 |
| ΣET 1kg (A+B)   | 1889 | 5204094018896 |
| ΣET 3kg (A+B)   | 1890 | 5204094018902 |
| ΣET 25kg (A+B)  | 1891 | 5204094018919 |

### HEALTH AND SAFETY INFORMATION

#### COMPONENT A



Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects Eye Irrit. 2: H319 - Causes serious eye irritation Muta. 2: H341 - Suspected of causing genetic defects Skin Irrit. 2: H315 - Causes skin irritation Skin Sens. 1: H317 - May cause an allergic skin reaction P101: If medical advice is needed, have product container or label at hand P102: Keep out of reach of children P264: Wash thoroughly after handling P280: Wear protective gloves/protective clothing/eye protection/face protection P302+P352: IF ON SKIN: Wash with plenty of water P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P308+P313: IF exposed or concerned: Get medical advice/attention P501: Dispose of contents/container according to the separated collection system used in your municipality EUH205: Contains epoxy constituents. May produce an allergic reaction Substances that contribute to the classification: reaction product: bisphenol-A-(epichlorhydrin) (MW < 700); [(p-tolyloxy)methyl]oxirane

#### COMPONENT B



Acute Tox. 4: H302+H332 - Harmful if swallowed or if inhaled Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting

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effects Skin Corr. 1B: H314 - Causes severe skin burns and eye damage Skin Sens. 1: H317 - May cause an allergic skin reaction  
P101: If medical advice is needed, have product container or label at hand P102: Keep out of reach of children P264: Wash thoroughly after handling P280: Wear protective gloves/protective clothing/eye protection/face protection P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P501: Dispose of contents/container according to the separated collection system used in your municipality.  
Substances that contribute to the classification: 3-aminomethyl-3,5,5-trimethylcyclohexylamine; Benzyl alcohol; Trimethylhexane-1,6-diamine

The directives contained in this technical data sheet are the result of our long experience from real life applications and the research testing of our research and development laboratory and have been submitted in good faith. Because of the diversity of the materials and substrates and the great number of possible applications, which are beyond our control, we cannot accept any responsibility for the results obtained. In every case it is recommended to carry out preliminary experiments. We are liable only for our products for being free from faults and of consistent quality. Users are responsible for complying with local legislation and for obtaining any required approvals or authorizations. The present edition of this technical datasheet automatically cancels any previous ones concerning the same product.



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