

## 1. Chemical Product and Company Identification

<b>Trade Name</b>	:	ProtoFab™
<b>Manufacturer</b>	:	Vistar (Xiamen) Industries CO., Ltd 899, Maqing Road, Haicang District, Xiamen, China 361026 Tel: 86-592-3862946
<b>Chemical Family</b>	:	Epoxy resin, acrylate, photoinitiator
<b>CAS Number</b>	:	Trade secret
<b>Emergency Tel</b>	:	86-592-3862946

## 2. Composition, Information on Ingredients

Composition	CAS #	% by weight
Epoxy Resin		10-70
Acrylate		10-30
Photoinitiator		1-10

## 3. Physical Data

<b>(1)Color</b>	:	Transparent
<b>(2)Physical State and Appearance</b>	:	Liquid
<b>(3)Water Solubility</b>	:	Slightly Soluble
<b>(4)Viscosity</b>	:	226 cps (25.3°C)
<b>(5)Vapor Pressure</b>	:	Not determined
<b>(6)Liquid density</b>	:	1.09 g/cm <sup>3</sup> (25°C)

## 4. Fire Fighting Measures

<b>Extinguishing Media</b>	:	Dry powder fire extinguishing agent, alcohol-resistant foam extinguishing agent, carbon dioxide, dry sand and water spray.
----------------------------	---	--

- Special Fire-fighting Procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus(SCBA) and full turnout gear.
- Unusual Fire/Explosion Hazards** : In case of fire toxic fumes might be formed. In case of fire and/or explosion, do not breathe fumes. Containers may rupture from pressure build-up.
- Protection of Fire-fighters** : While putting out the fire in the windward place, firemen should wear protective devices (goggles, protective clothing, gas mask etc.)
- Autoignition Temperature** : Not determined.
- Lower Explosion Limit** : Not determined.

## 5. Health Hazards

- Target Organs** : Skin, eyes and respiratory tract
- Effects and Symptoms**
- Skin Contact** : Avoid prolonged or repeated contact with skin. MAY CAUSE SKIN IRRITATION. May cause skin sensitization. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
- Eye Contact** : May cause eye irritation. Inflammation of the eye is characterized by redness, watering, and itching.
- Inhalation** : May cause irritation of respiratory tract, coughing, shortness of breath. Vapors and aerosol can produce mucous membrane, nose and throat irritation.
- Ingestion** : May cause mild gastric irritation, abdominal spasms, nausea and faintness.

### First Aid Measures

- Skin Contact** : After contact with skin, wash immediately with plenty of water. Wash gently and thoroughly the contaminated skin with running

- water and non-abrasive soap.
- Eye Contact** : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention
- Inhalation** : Remove victim from area of exposure if possible. Allow the victim to rest in a well-ventilated area. Seek immediate medical attention.
- Ingestion** : Do not induce vomiting unless directed by a physician. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband. If vomiting occurs, keep head lower than hips to help prevent aspiration.

## 6. Reactivity Data

- Stability** : High temperature triggers reaction.
- Possibilities of Dangerous and Adverse Reaction** : Drastic reaction with strong oxidant and alkali.  
Reaction occurs with drastic heat emission after mass hardening. Harmful gas may be produced during drastic hardening and lead to the carbonization and decomposition of reactant.
- Incompatibility, Conditions and Materials to Avoid** : Keep away from direct sunlight, strong incandescent light and heat  
May react or be incompatible with oxidant and alkali.
- Dangerous Decomposition Products** : Hazardous gas (carbon monoxide and hydrocarbon) may be produced under different combustion conditions.

## 7. Spill and Disposal Considerations

- Small Spill and Leak** : Wear appropriate protective clothing to prevent skin contact. Wear appropriate respirator when ventilation is inadequate. Avoid breathing vapors of this product. Avoid contact with skin and eyes.

Avoid all possible sources of ignition (spark or flame). Keep unnecessary people away from spill area. Clean up spills immediately. Absorb with liquid-binding material (sand, diatomite, universal binders, or spill kit). Place in suitable clean, dry containers for disposal by approved methods.

**Large Spill and Leak**

- : Do not clean-up or dispose except under supervision of a specialist. Eliminate all ignition sources. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Keep unnecessary people away from spill area. Follow company spill response procedures. Wear protective eyeglasses or chemical safety goggles and face protection. Contact lenses are not protection devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses. Wear MSHA/NIOSH approved self-contained breathing apparatus or equivalent and full protective gear. Wear appropriate protective clothing to prevent skin contact. Place spilled material in an appropriate container for disposal. Dispose of according to all federal, state and local applicable regulations.

**Waste Disposal**

- : This material and its container must be disposed of in a safe way. Waste must be disposed of in accordance with federal state and local environmental control regulations. Do not allow product to reach sewage system /surface or ground water.

**8. Personal Protection**

- Respiratory system** : Wear appropriate respirator when ventilation is inadequate.
- Ventilation** : Good general ventilation should be sufficient to control airborne levels.
- Skin Contact** : Gloves, chemical resistant (nitrile). lab coat.

- Eyes** : Safety glasses with side shields.
- Other Special Considerations** : Wear nitrile or other chemical resistant gloves to avoid skin contact when handling partially cured fabricated objects in the "green" state of cure (after initial laser cure). Expose freshly cut surfaces to light in order to complete the surface cure. When sanding fully cured surfaces, suitable respiratory protection for dust should be used. The object may be handled without gloves after the object has been properly treated to prevent skin contact with liquid photopolymer. Uncured liquid photopolymer can also be removed from the object in the partially cured green state by thoroughly washing the object with Tripropylene glycol monomethyl ether followed by post exposure to UV light and/or an oven bake at temperatures above 130°C.

## 9. Handling and Storage Precautions

- Precautions to be Taken in Handling and Storage** : Keep away from heat. Keep away from sources of ignition. Empty containers retain product residue and can be hazardous. Do not breathe gas/fumes/vapor/ spray. Keep away from incompatibles such as oxidizing agents. After handling, always wash hands thoroughly with soap and water. Wear appropriate protective clothing to prevent skin contact. Avoid contact with eyes, skin and clothing.
- Handling** : Avoid breathing vapors or spray mists. Use only with adequate ventilation. Avoid contact with spilled materials and avoid runoff with soil and surface waterways. Keep container closed. Store in a cool place.

<b>MATERIAL SAFETY DATA SHEET</b>	<b>Clara A Photoreactive Resin</b>
-----------------------------------	------------------------------------

## 10. Toxicological Information

<b>Routes of Entry</b>	Skin, eyes and respiratory tract.
<b>Chronic Effects on Humans</b>	Not available.  <b>Remarks: Any information in this section is for component(s) contained in this product.</b>
<b>Acute Effects on Humans</b>	May cause skin, eye and respiratory irritation. Avoid prolonged or repeated contact with skin. May cause skin sensitization.  <b>Remarks: Any information in this section is for component(s) contained in this product.</b>  Eating, drinking and smoking should be prohibited in area where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.

**Other Information** :

**HISTORY**

**Date of Issue** : **25 / 9 / 2019**

**Version** : **1**

**Notice to Reader**

To the best of our knowledge, the information contained herein is accurate. However, neither Vistar nor any of its Affiliates assumes any liability whatsoever for the accuracy or completeness of the information contained herein. While this information has been prepared in good faith by technical experts within the Vistar team, the final determination of suitability of any material is the sole responsibility of the end user, after proper consultation with the end users' engineering, technical, health, and safety professionals. All materials may present unknown hazards and should be used with caution considering the specific material, other materials that it may or may not be combined with, and any engineering controls and/or process implementation(s) designed for the use of the

material in any specific system process. Although certain hazards are described herein, these can not be guaranteed as the only hazards that exist.

This data sheet may be modified according to the latest assessment and testing.