

GLASTIC CORPORATION
MATERIAL SAFETY DATA SHEET
GLASTIC MOLDING COMPOUND
STYRENE/VINYL TOLUENE BASED

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

COMPANY NAME:
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TRADE NAME:
 Glastic Molding Compound
 Styrene/Vinyl Toluene Based

IDENTIFICATION NUMBER:
 5.30 Revision 5

CHEMICAL NAME:
 Alumina Trihydrate and Calcium Carbonate Filled,
 Fiberglass Reinforced, Unsaturated Polyester Resin
 Molding Compound

SYNONYMS;
 Unsaturated Polyester Resin Molding
 Compound

2. INGREDIENTS

<u>Component</u>	<u>CAS #</u>	<u>Percent</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>Units</u>
Alumina Trihydrate	21645-51-2	42-48	10 (T)	15 (T) 5 (R)	mg/M ³ mg/M ³
Calcium Carbonate	1317-65-3	12-20	10 (T)	15 (T) 5 (R)	mg/M ³ mg/M ³
Unsaturated Polyester Resins	27472-89-1 32677-47-7 64386-66-9 68555-43-1	10-11	Not Est.	Not Est.	Not Est.
Fiberglass	65997-17-3	8-20	5 (I)	Not Est.	mg/M ³
Styrene	100-42-5	0-11	20 40 (STEL)	50 100 (STEL)	ppm ppm
Vinyl Toluene (VT)	25013-15-4	0-5	50 100 (STEL)	100	ppm ppm
Proprietary Low Molecular Weight Polymerized Olefins	Not Est.	3 Max.	Not Est.	Not Est.	Not Est.
Zinc Stearate	557-05-1	2 Max.	Not Est.	10 (T) 5 (R)	mg/M ³ mg/M ³
Diallyl Phthalate	131-17-9	2 Max	Not Est.	Not Est.	Not Est.

2. INGREDIENTS - Continued

Depending on the color, the product may contain small amounts of metal-based and/or organic pigments. See Section 11. All exposure limits are full shift, time-weighted averages unless otherwise noted. ACGIH TLVs are based on 2000 values. OSHA PELs are based on the more stringent 1989 values, which were subsequently vacated by the courts. T = Total Particulate Matter; R = Respirable Fraction of Particulate Matter; I = Inhalable Particulate Matter; STEL = Short Term Exposure Limit (15 Minutes).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Product is various colored doughs with an aromatic hydrocarbon odor. Vapors may cause eye, skin, and respiratory tract irritation. Vapors may be flammable. Remove all sources of ignition. The product contains styrene which has been identified as a potential carcinogen. Wear appropriate personal protective equipment. Keep individuals not involved in the clean-up out of the area. Pick up released product with appropriate implements and return to original container if reusable. If not reusable, place in appropriate containers for disposal. All materials generated during cleanup operations may be contaminated and should be treated as hazardous unless specific testing, including TCLP, shows the collected material to be non-hazardous. Prevent from entering storm or sanitary sewers, ground water, or soil. Releases may be reportable to local, state, and/or federal authorities.

POTENTIAL HEALTH EFFECTS:

Eye: Styrene and VT vapors as well as dusts and particulates that may be generated during processing and handling of the cured molding compound may cause irritation of the eyes.

Skin Contact: Styrene and VT vapors as well as dusts and particulates that may be generated during processing and handling of the cured molding compound may cause irritation of the skin.

Skin Absorption: Not known to be absorbed through the intact skin.

Inhalation: Styrene and VT vapors as well as dusts and particulates that may be generated during processing and handling of the cured molding compound may cause irritation of the mucous membranes and respiratory tract. High concentrations of styrene and/or VT may cause headache, dizziness, nausea, and central nervous system depression.

Ingestion: Not expected to be an important route of entry into the body. Ingestion of large quantities of molding compound may cause gastric discomfort or distress. The symptoms cited above under inhalation may also occur.

Chronic and Carcinogenicity: Prolonged contact with both the cured and uncured product may cause dermatitis. Styrene has been identified as a potential carcinogen. See Section 11. Exposure to high concentrations of styrene and/or VT may cause kidney and liver damage. Pre-existing skin, lung, kidney, and liver conditions may be aggravated by exposure to the components of the product.

4. FIRST AID MEASURES

Inhalation: Remove exposed person to fresh air. If breathing is difficult, oxygen may be administered. If breathing has stopped, artificial respiration should be started immediately. Seek medical attention.

Eyes: Flush with tepid water for at least 20 minutes, holding the eyelids wide open. Seek medical attention if irritation develops.

Skin: Wash thoroughly with mild soap and water. Seek medical attention if irritation develops.

4. FIRST AID MEASURES - Continued

Ingestion: Not expected to be an important route of entry into the body. If large amounts of product is ingested, seek medical attention.

Note to Physician: Ingestion of the uncured product may lead to spontaneous vomiting with the potential for aspiration of styrene and/or VT into the lungs which could cause a potentially severe pulmonary edema that should be treated symptomatically. Aspiration will also lead to rapid absorption of the solvents with CNS depressant effects typical of hydrocarbon exposures. There is no specific antidote. Treatment should be supportive and based on the judgment of the physician in response to the reactions of the patient.

5. FIRE FIGHTING MEASURES

Flash Point: 110-115° F. **LEL:** ND for Prod. **UEL:** ND for Prod. **Auto Ign. Temp.:** NA

Use water spray, carbon dioxide, dry chemical, or foam. Caution should be exercised when using water or foam since frothing may occur, especially if directed into containers of hot or burning material. Material in or near fires should be cooled with a water spray or fog if compatible with fire fighting techniques for the other materials involved in the fire. A self-contained breathing apparatus, operating in the positive-pressure mode, and full fire fighting gear should be worn for combating fires.

6. ACCIDENTAL RELEASE MEASURES

Remove all sources of ignition and keep unnecessary individuals out of the area. Pick up released product with non-sparking implements and return to original container if reusable. If not reusable, place in appropriate containers for disposal. See Section 13. Appropriate personal protective equipment cited in Section 8 should be worn during all clean-up operations. Prevent from entering storm or sanitary sewers, ground water, or soil. Releases may be reportable to local, state, and/or federal authorities. See Section 15. All materials collected during clean-up operations may be contaminated and should be treated as hazardous unless specific testing, including TCLP, shows the collected materials to be non-hazardous.

7. HANDLING AND STORAGE

Store in labeled, closed containers away from heat, open flames, and other potential sources of ignition. Do not store with or near incompatible materials cited in Section 10. Do not let containers of material accumulate in the workplace. Keep all containers tightly closed to prevent the release of styrene and/or VT vapors. Promptly clean up spills or releases of uncured material. Wash hands and face thoroughly before eating, drinking or smoking.

8. EXPOSURE CONTROL - PERSONAL PROTECTION

Engineering Controls: Local exhaust ventilation should be provided if exposures may exceed the limits cited in Section 2 or if the materials released during the curing process have not been thoroughly evaluated by a professional industrial hygienist. Local exhaust ventilation systems should be designed by a professional engineer.

Respiratory Protection: Respiratory protection should be worn if exposures may exceed the limits cited in Section 2. The need for respiratory protection should be determined by a professional industrial hygienist. All use and selection of respiratory protection should be in accordance with the provisions of OSHA's Respiratory Protection Standard, 29 CFR 1910.134.

Eye Protection: Safety glasses with sideshields are recommended for all operations.

Protective Gloves: "Silver Shield", Viton, or polyvinyl alcohol (PVA) gloves are recommended for handling the uncured product. PVA gloves should not be worn where water is present. PVA protective clothing materials are rapidly degraded by water.

8. EXPOSURE CONTROL - PERSONAL PROTECTION

General: A polymeric coated apron or other body covering is recommended where regular work clothing may become contaminated with the product. All soiled or dirty clothing and personal protective equipment should be thoroughly cleaned before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND PHYSICAL STATE: Various Colored Doughs	OCTANOL/WATER PARTITION COEFFICIENT: ND
VAPOR DENSITY (AIR =1): Styrene = 3.6 VT = 4.1	MELT POINT: ND
VAPOR PRESSURE: At 70° F. Styrene = 5.1 & VT = 1.2 mm Hg.	EVAPORATION RATE (BUTYL ACETATE = 1): ND
ODOR: Aromatic Hydrocarbon	SPECIFIC GRAVITY/BULK DENSITY: 1.7 - 2.2 g/cc
% VOLATILE BY VOLUME: 16% Max.	BOILING POINT: ND
% SOLUBILITY (H ₂ O): <1	pH: NA
OTHER: NA	

10. STABILITY AND REACTIVITY

Stability & Polymerization: Exposure to elevated temperatures may cause a non-violent polymerization.

Incompatibility (Conditions to Avoid): Do not store with or near strong acids or bases or strong oxidizing or reducing agents. Colors of the product that contain zinc sulfide will react with strong mineral acids to liberate hydrogen sulfide which is highly toxic. Contact Glastic with the part number to determine if zinc sulfide pigments are present.

Hazardous Decomposition Products: Thermal decomposition may produce dense smoke, oxides of carbon, nitrogen, and sulfur, and low molecular weight organic and inorganic species whose composition and toxicity have not been determined.

Special Sensitivity: None that are known.

11. TOXICOLOGICAL INFORMATION

Detailed toxicological studies have not been conducted on the product. The formulation contains small quantities of organic peroxide polymerization agents. These materials can be irritating to the eyes, skin, mucous membranes, and respiratory tract. There is some evidence that organic peroxides can cause sensitization in certain sensitive individuals. The formulation also contains small quantities of hydroquinone polymerization inhibitors. As with peroxides, these materials are irritants and may be sensitizers. Hydroquinones may also cause permanent eye damage.

Sensitization to peroxides and hydroquinones may take the form of either a skin rash or an asthma-like reaction. Once an individual has become sensitized to a material, they should be precluded from all future contact. Any future contact, however minimal, will result in a recurrence of the symptoms.

Styrene has been shown to produce mutagenic effects in a variety of in-vitro bacterial and mammalian cell systems. Exposure of laboratory animals to extremely high concentration of styrene during pregnancy has been shown to cause an increase in fetal mortality. The implications of these studies to human health are not known.

11. TOXICOLOGICAL INFORMATION - Continued

The black, brown, and gray colors of the product contain carbon black which has been identified as a potential carcinogen. The IARC cites several animal studies where inhalation or intratracheal installation of carbon black, using rats as the test species, showed an increased incidence of benign and malignant tumors of the lung.

12. ECOLOGICAL INFORMATION

Detailed studies have not been conducted to determine the environmental toxicity of the product. In the environment, the styrene and VT components may leach from the product and cause harm to aquatic and terrestrial flora and fauna. Thus, the product should be prevented from entering the environment.

13. DISPOSAL CONSIDERATIONS

Waste material should be evaluated in accordance with EPA Solid and Hazardous Waste Protocols to determine its hazard characteristics. The material may be classified as an Ignitable Hazardous Waste (D001) depending on its prior use and history.

Empty containers or packaging may contain product residues. Care should be taken to assure that containers are not used for any purpose other than to store new or waste product. It is the users responsibility to dispose of waste or scrap product in accordance with all local, state, and/or federal regulations.

14. TRANSPORTATION INFORMATION

Plastic Molding Compound, Class 9, PG III.

Restrictions: Passenger Aircraft = 100 kg; Cargo Only Aircraft = 200 kg.

15. REGULATORY INFORMATION

OSHA Hazard Communication Categories: Irritant, Lung Hazard, Skin Hazard, Kidney Hazard, Liver Hazard, Sensitizer, Carcinogen

SARA Hazard Categories: Acute Hazard, Chronic Hazard

WHMIS Classification: D2A

The Reportable Quantity (RQ) for releases of styrene to the environment is 1,000 pounds. This is equivalent to a minimum of approximately 9,100 pounds of product, assuming the maximum styrene content of 11%.

Zinc compounds and styrene are reportable under Section 313 of the Superfund Amendments and Reauthorization Act of 1986. Contact Glastic with the part number for the exact percentages.

Styrene has been listed as an Extraordinarily Hazardous substance by the State of Massachusetts and as a Special Health Hazard substance by the State of New Jersey.

All components of the product are included in the Toxic Substances Control Act (TSCA) inventory.

16. OTHER INFORMATION

Not Est. = Not Established; NA = Not Applicable; ND = Not Determined

Prepared By: Clayton Group Services, Inc.

16. OTHER INFORMATION - Continued

Preparation /Revision Date: Issue: 8/86; Latest Revision: 12/03; Supersedes 12/00 revision

Reason for Revision: Review all information

IMPORTANT NOTICE FROM GLASTIC CORPORATION

All of the information, suggestions, and recommendations pertaining to the properties and uses of the Glastic product described herein are based on tests and data believed to be accurate, however, the final determination regarding the suitability of any material described herein for the use contemplated, the manner of use, and whether the use infringes on any patents is the sole responsibility of the user. THERE IS NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR USE. Under no circumstances shall we be liable for incidental or consequential loss or damage.

**ALUMINA TRIHYDRATE & CALCIUM CARBONATE FILLED, FIBERGLASS
REINFORCED, UNSATURATED POLYESTER RESIN MOLDING COMPOUND
STYRENE/VINYL TOLUENE BASE**

WARNING! Styrene and vinyl toluene vapors may irritate the eyes, skin, mucous membranes and respiratory tract and cause dermatitis. May cause headache, nausea and central nervous system depression. Long term, high level exposures to styrene or vinyl toluene may cause liver and kidney damage. Styrene is mutagenic in in-vitro systems and may cause chromosomal damage in animals. Store in closed containers away from and keep from contact with sources of heat and ignition, strong oxidizing and reducing agents and acids. Provide adequate ventilation for all operations.

CONTAINS: Unsaturated polyester resin, metal hydroxides, carbonate, and stearates, fiberglass, low molecular weight polymerized olefins, alkyl phthalates, styrene, and vinyl toluene. May contain organic and inorganic pigments depending on the color. Contact Glastic Corporation for the pigments in a specific product, specifying the part number. Consult Material Safety Data Sheet for additional information.

FIRST AID: For overexposure to dusts or vapors, remove to fresh air. If breathing is difficult or has stopped, administer oxygen or artificial respiration as indicated. Seek medical attention. If liquid or solid matter enters the eyes, flush with warm water for at least 15 minutes. If materials gets on the skin, wash thoroughly with mild soap and water. If eye or skin irritation develops or persists, seek medical attention.

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