

SECTION I - PRODUCT INFORMATION

PRODUCT NAME & NUMBER: METAMOLD Vinyl Ester Gelcoat (High Temperature)
MANUFACTURER'S NAME: Gruber Systems, Inc.
ADDRESS: 25636 Avenue Stanford, Valencia, CA 91355 USA
EMERGENCY TELEPHONE #: 1-800-255-3924 (CHEM-TEL)
TELEPHONE # FOR INFORMATION: 1-661-257-4060
MSDS REVISION DATE: July 23, 1999

Hazard Rating

Minimal..... 0
Slight..... 1
Moderate..... 2
Serious..... 3
Severe..... 4

Health	2
Flammability	3
Reactivity	2

SECTION II - HAZARDOUS INGREDIENTS/IDENTIFY INFORMATION

INGREDIENT	CAS #	Wt. %	OSHA PEL	ACGIH-TLV
UNSATURATED POLYESTER RESIN SOLIDS	31472-46-5	30-50	NO DATA	NO DATA
STYRENE MONOMER ^[1]	00100-42-5	30-50	50 ppm	50 ppm
SILICON DIOXIDE	07631-86-9	< 3	20 mppcf	5 mg/m ³
NICKEL ^[1]	07440-02-0	15-30	1 mg/m ³ ^[2]	1 mg/m ³ ^[2]
NICKEL CARBIDE ^[1]	12710-36-0	< 1	1 mg/m ³	1 mg/m ³
CARBON BLACK	01333-86-4	< 2	3.5 mg/m ³	3.5 mg/m ³

^[1] NOTE: This chemical subject to reporting requirements under SARA Title III, Section 313

^[2] NOTE: These limits are not established for nickel for this product in its wetted state.

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT, °C (°F): > 145 (293)
VAPOR PRESSURE, mm Hg: < 5 @ 20°C (68°F)
VAPOR DENSITY (AIR=1): 3.6 (styrene)
SOLUBILITY IN WATER: NEGLIGIBLE
SPECIFIC GRAVITY (H₂O=1) 1.18 ± 5% @ 25°C (9.52 lbs/gal ± 5% @ 25°C)
PERCENT VOLATILE: 30-50
EVAPORATION RATE (ETHER=1): < 1
APPEARANCE/ODOR: DK GRAY LIQUID WITH PUNGENT ODOR

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT, °C (°F): 30-35 (87-95)
FLAMMABILITY CLASSIFICATION: CLASS 1C
AUTOIGNITION TEMPERATURE, °C (°F): 490 (914)
FLAMMABILITY LIMITS IN AIR (% by volume): LOWER: 1.1; UPPER: 6.1

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued..)

BASIC FIREFIGHTING PROCEDURES:

Use dry chemical, all purpose or polar AFFF foam or water spray to extinguish fire. Water or foam may cause frothing, with further application leading to boilover. Foam may have limited effectiveness on three dimensional fires. Use water spray to cool fire-exposed containers, structures and to protect personnel. Use water to flush spills away from source of ignition. Do not flush down public sewers.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Fire may produce poisonous or irritating gas, fumes or vapor. Excessive heat may trigger polymerization of confined material. Containers may explode in heat of fire. Styrene vapors are uninhibited and may form polymers in vents or flame arrestors of storage tanks, resulting in stoppage of vents. Exposed firefighters should wear MSHA/NIOSH approved self-contained breathing apparatus, with full face mask and full protective equipment.

SECTION V - REACTIVITY DATA

STABILITY: Stable

HAZARDOUS POLYMERIZATION: May Occur

-INCOMPATIBILITY: Strong acids and oxidizing agents

-CONDITIONS TO AVOID: Heat and direct sunlight

-HAZARDOUS DECOMPOSITION PRODUCTS: Heating of this material to decomposition may cause the emission of irritating, acrid fumes

SECTION VI - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL:

OSHA PEL and ACGIH TLV for styrene are both 50 ppm for an 8-hour Time Weighted Average (TWA). The OSHA and ACGIH Short Term Exposure Level (STEL) are 100 ppm for a 15-minute period. Exposure to styrene may exceed the STEL during a 15-minute period (no ceiling for brief exposures), however, the average for a single STEL period must not exceed 100 ppm.

The OSHA PEL for nickel and nickel carbide in dust form is 1 mg/m³, however, there is no known limit in wetted state as it occurs in this product.

EFFECTS OF OVEREXPOSURE:

SKIN: Prolonged or frequent contact with styrene may cause defatting and dryness of the skin with resultant irritation and possible dermatitis. Styrene may be absorbed through the skin in toxic amounts. Repeated contact with nickel pigment may cause sensitivity and allergic skin rashes.

EYES: May cause irritation. Liquid splashes may result in more serious injuries. May cause lachrymation (tears).

SECTION VI - HEALTH HAZARD DATA (Continued..)

INHALATION: Vapors may cause mucous membrane irritation and upper respiratory tract discomfort. High concentrations may result in headache, nausea, insensibility and other central nervous system effects. Repeated exposure to high concentrations may cause liver and kidney damage.

INGESTION: May cause gastrointestinal disturbances, pain and discomfort.

The U.S. National Institute for Occupational Safety and Health (NIOSH) concluded that the nickel and its inorganic compounds are not carcinogenic when ingested. The U.S. Food and Drug Administration has affirmed nickel is generally recognized as safe (GRAS) as a direct human food ingredient.

FIRST AID:

SKIN: Wash with soap and water.

EYES: Flush with copious amounts of water for 15 minutes. Seek immediate medical aid.

INHALATION: Remove victim from exposure. If victim is unconscious, administer artificial respiration and/or oxygen as needed. Seek medical aid.

INGESTION: DO NOT INDUCE VOMITING (aspiration hazard). Seek immediate medical aid.

PRIMARY ROUTE(S) of ENTRY: Inhalation and Skin Absorption

CARCINOGENICITY:

The International Agency for Research on Cancer (IARC) has classified styrene as possibly carcinogenic to humans (Class 2B). The IARC 2B classification is not based on significant new evidence that styrene might be a carcinogen, but on a revised IARC classification scheme and new data on styrene oxide. A number of lifetime animal studies with styrene, including those conducted in the National Cancer Institute (NCI) bioassay program have not shown styrene to be carcinogenic.

The National Toxicology Program has listed nickel and nickel carbide as reasonably anticipated to be a carcinogen based on the production of injection-site tumors. The IARC found there was inadequate evidence that nickel is carcinogenic to humans but since there was sufficient evidence it is carcinogenic to animals, the IARC concluded it is possibly carcinogenic to humans. Epidemiological studies of workers exposed to nickel powder, dust and fumes generated in the production of metal alloys and of stainless steel have not indicated the presence of a significant respiratory cancer hazard.

The inhalation of nickel powders have not resulted in an increased incidence of malignant lung tumors in rodents.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

COMMUNITY RIGHT-TO-KNOW ACT OF 1986 AND OF 40 CFR 372:

Even when empty, the containers of this product may present fire or explosion hazards. Do not use welding or cutting torches on or near the containers. Follow the label warnings.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE (Continued..)

PROCEDURE FOR SPILLS:

Remove sources of ignition. Prevent flow into sewers or waterways. Clean up with an inert absorbant using non-sparking tools.

WASTE:

Follow applicable regulations on disposal of waste. Residues are hazardous due to their ignitability. Heavy metal compounds are considered hazardous on the basis of EP toxicity.

SECTION VIII - SAFE HANDLING AND USE DATA

When spraying in open areas, use a NIOSH approved mechanical filter (chemical filter "canister") respirator to remove airborne overspray. In confined areas, use a NIOSH approved, positive-pressure, self-contained breathing apparatus. Respiratory protection may also be necessary in any later manufacturing operation in which the product may become airborne as a vapor or dust. Use ventilation as required to control vapor concentrations, avoid prolonged or repeated breathing of vapors. Provide general dilution or local exhaust ventilation in volume and pattern to keep TLV of the most hazardous ingredient in Section II below acceptable limit, and to remove decomposition products during welding or flamecutting on surfaces coated with this product.

VENTILATION:	Local ventilation such as an approved spray booth should be sufficient.
EYE PROTECTION:	Splash goggles or a face shield should be used were there is a possibility of splashing. Emergency eye wash fountains should be in the vicinity.
OTHER PROTECTION:	Neoprene or rubber gloves should be used when constant skin exposure is expected. Follow prudent hygienic practices.
OTHER PROTECTION:	NIOSH approved respirator should be worn if needed. Protective gloves and clothing should be worn. Goggles or face shield are recommended.

Gruber Systems takes no responsibility for determining what measures are required for personal protection in any specific application. The general information given should be used with discretion.

SECTION IX - DISCLAIMER

THE SUITABILITY OF INFORMATION HEREIN FOR THE PURCHASER'S PURPOSES ARE THE PURCHASER'S RESPONSIBILITY. REASONABLE CARE HAS BEEN TAKEN IN THE PREPARATION OF THIS INFORMATION. THIS DATA IS OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICIATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS HEREBY MADE. THE RECOMMENDED INDUSTRIAL HYGIENE AND SAFE HANLDING PROCEDURES ARE

BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTEXT OF THE INTENDED USE AND DETERMINE WHETHER THEY ARE APPROPRIATE.