

# MATERIAL SAFETY DATA SHEET

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Date Prepared: 10/29/2004

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## 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

**MATERIAL IDENTITY:**  
SUV-1024, Vinyl Ester Resin  
UV Curable Topcoat

**INFORMATION TELEPHONE:**  
410-810-2100

**COMPANY:**  
Seamless Technologies, Inc.  
PO Box 428  
Chestertown, MD 21620

**EMERGENCY TELEPHONE:**  
CHEMTREC: 800-424-9300

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)
Unsaturated Vinyl Ester Resin	See Index	AP 25-85
Monomer(s)	See Index	AP 15-75

## 3. HAZARDS IDENTIFICATION

### EYE -- PRIMARY ROUTE

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation. Symptoms may include pain or burning sensation, redness, swelling, tearing/discharge or blurred vision.

### SKIN ABSORPTION -- PRIMARY ROUTE

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a health hazard by skin absorption. Repeated/prolonged skin contact with this material may result in absorption through the skin causing redness, burning, drying, cracking of the skin, and skin burns.

### SKIN IRRITATION -- PRIMARY ROUTE

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a skin irritant. May cause delayed skin irritation and blistering. Symptoms may include localized redness or rash, swelling, blistering and flaking of the skin. Prolonged or repeated exposure may cause a more severe skin response. This material may cause an allergic skin reaction (sensitization) in susceptible individuals upon repeated exposure.

### INGESTION

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a slight ingestion hazard. Lethargy and ataxia may result. Irritation or corrosive effects on the stomach may also occur.

### INHALATION -- PRIMARY ROUTE

Wear appropriate respiration equipment if vapor or mist is expected. Over exposure may cause irritation to the respiratory tract and to other mucous membranes. Symptoms of irritation may include coughing, mucous production and shortness of breath.

### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

This material or its emissions may induce an allergic or sensitization reaction and thereby aggravate systemic disease.

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## 4. FIRST AID MEASURES

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### EYES

Immediately flush eyes gently with large amounts of water for at least 20-30 minutes. Retract eyelids often. Get prompt medical attention.

### SKIN

Remove contaminated clothing. Wash the exposed area with mild soap and water. Flush w/lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Seek medical attention if ill effect or irritation develops.

### INGESTION

If large quantity is swallowed, give lukewarm water (pint) if victim is completely conscious/alert. Do not induce vomiting as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention.

### INHALATION

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

### ADVISE TO PHYSICIANS

If exposed, treat skin and eye burns or irritation conventionally after decontamination.

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## 5. FIRE FIGHTING MEASURES

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### FLASH POINT METHOD= (Estimated)

GT 102C/216F

### FLAMMABLE LIMITS (% VOLUME IN AIR)

LOWER: N/AP UPPER: N/AP

### AUTOIGNITION TEMP. METHOD=N/AP

### FIRE AND EXPLOSIVE HAZARDS

High temperatures, inhibitor depletion, accidental impurities, or exposure to radiation or oxidizers may cause spontaneous polymerizing reaction generating heat/pressure. Closed containers may rupture or explode during runaway polymerization

### EXTINGUISHING MEDIA

Dry Chemical, CO<sub>2</sub>, Foam, Water spray/water fog for cooling.

### FIRE FIGHTING INSTRUCTIONS

Do not enter fire area without proper protection. Wear self contained breathing apparatus (pressure-demand MSHA/NIOSH) approved or equivalent. See Section 10 – decomposition products possible. Fight fire from safe distance/protected location. Heat/impurities may increase temperature/build pressure/rupture closed containers, spreading fire, increasing risk of burns/injuries. Water may be ineffective in firefighting due to low solubility. Use water spray/fog for cooling. Pressure relief system may plug with solids, increasing risk of overpressure. Notify authorities if liquid enters sewer/public waters.

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## 6. ACCIDENTAL RELEASE MEASURES

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Spilled or released material may polymerize and release heat/gases. Extinguish all ignition sources and ventilate area. Wear protective equipment during clean up. Dike and recover large spill. Soak up small spill with inert solids (such as vermiculite, clay)

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and sweep/shovel into vented disposal container. Wash spill area with a strong detergent and water solution; rinse with water but minimize water use during clean up. For spills on water, contain, minimize dispersion and collect. Dispose/report per regulatory requirements.

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## 7. HANDLING AND STORAGE

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Avoid exposure to sources of UV light. Store out of direct sunlight. Unless inhibited, product can polymerize, raising temperature and pressure, possibly rupturing container. Check inhibitor content often, adding to bulk liquid if needed. Do not blanket or mix with oxygen-free gas as it renders inhibitor ineffective. Do not store at below 32F – inhibitor can separate as a solid. If frozen, warm and remix material gently (<90F). Prevent moisture contact. Store in tightly closed, properly vented containers away from: heat, sparks, open flame, strong oxidizers, radiation and other initiators. Prevent contamination by foreign materials. Use only non-sparking tools and limit storage time.

### DECONTAMINATION PROCEDURES

Follow standard plant procedures or supervisor's instructions for decontamination operations.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### EYE PROTECTION

Eye protection such as chemical splash goggles and/or face shield must be worn when possibility exists for eye contact due to splashing or spraying liquid, airborne particles or vapor. Contact lenses should not be worn.

### SKIN PROTECTION

When skin contact is possible, protective clothing including gloves, apron, sleeves, boots head and face protection should be worn. This equipment must be cleaned thoroughly after each use.

### RESPIRATORY PROTECTIONS

No occupational exposure standards have been developed for this material. Where exposure through inhalation may occur from use, NIOSH/MSHA approved respiratory protection equipment is recommended.

### ENGINEERING CONTROLS

Local exhaust ventilation may be required in addition to general room ventilation.

### OTHER HYGIENIC PRACTICES

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

### OTHER WORK PRACTICES

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Promptly remove soiled clothing and wash thoroughly before reuse. Shower after work using plenty of soap and water.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Boiling Point	N/DA
Vapor Pressure	N/DA
Vapor Density (air=1)	N/DA

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Specific Gravity (water=1 @39.2F)	AP 1.20 @ 25C/77F
Percent Volatiles	Negligible
Evaporation Rate (Bac=1)	N/DA
Viscosity Units, Temp. (Brookfield)	AP 650 cps @ 25C/77F
Odor	Mild to sweet acrylic odor
pH	N/DA
Color	Straw to light yellow
State	viscous liquid

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## 10. STABILITY AND REACTIVITY

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### CONDITIONS AND MATERIALS TO AVOID

High temperatures, localized heat sources (i.e., drum or band heaters), oxidizing conditions, freezing conditions, direct sunlight, ultraviolet radiation, inert gas blanketing; strong oxidizers, strong reducers, free radical initiators, inert gases, oxygen scavengers.

### HAZARDOUS DECOMPOSITION PRODUCTS

Acrid smoke-fumes, carbon monoxide, carbon dioxide and perhaps other toxic vapors may be released during a fire involving this product.

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## 11. LABEL INFORMATION

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Use statement---FOR INDUSTRIAL USE ONLY

Signal word --- WARNING

Physical Hazards --- AVOID EXPOSING MATERIAL TO SOURCES OF UV LIGHT

Health Hazards --- MAY CAUSE EYE AND SKIN IRRITATION

MAY CAUSE RESPIRATORY TRACT IRRITATION

MAY CAUSE ALLERGIC SKIN REACTION

Precautionary Measures --- HAZARDOUS POLYMERIZATION MAY OCCUR UPON DEPLETION OF INHIBITOR. DO NOT HANDLE NEAR HEAT, SPARKS OR OPEN FLAME. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. AVOID BREATHING VAPORS/AEROSOLS. USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION. WASH THOROUGHLY AFTER HANDLING. KEEP CONTAINER CLOSED WHEN NOT IN USE. BEFORE USING PRODUCT, READ MATERIAL SAFETY DATA SHEET (MSDS).

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## 12. SUPPLEMENT

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### NPCA HMIS RATING

Health	2
Flammability	1
Reactivity	2
Personal Protection**	D

\*\*Respiratory protection may be necessary depending on conditions of use.

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## 13. CHRONIC HEALTH EFFECTS INFORMATION

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