Safety Data Sheet

According to

OSHA Hazard Communication Standard, 29 CFR 1910.1200

Section 1. Identification of the Material and the Supplier

Product Identifier

Product: **Superior Pearl Full Knife Grade**
Synonyms: Vinyl Ester Adhesive Knife Grade
Product Code: 10230

Recommended Use of the Product and Restriction on Use

Relevant Identified Uses: Vinyl Ester Adhesive
Uses Advised Against: None Known
Reasons Why Uses Advised Against: Not determined or not applicable.

24 Hour Emergency Telephone Number: CHEMTREC 800-424-9300

Manufacturer:

Superior Stone Products, Inc.
8580 Byron Commerce Drive
Byron Center, MI 49315
Phone: (616) 583-0171

Section 2. Hazards Identification

GHS Pictograms

Signal Word: **Danger**

GHS Classification	Category
Flammable Liquid	Cat. 3
Acute Toxicity (inhalation)	Cat. 4
Skin Irritation	Cat. 2

Eye Irritation	Cat. 2A
Skin Sensitization	Cat. 1
Specific Target Organ Toxicity (Single Exposure)	Cat. 3 (Respiratory Tract)
Carcinogenicity	Cat. 2
Specific Target Organ Toxicity (Repeated Exposure)	Cat. 1

Hazard Code	**Hazard Statement**
H226	Flammable liquid and vapor.
H315	Cause skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeat exposure.

Precautionary Code	**Precautionary Statement**
P201	Obtain special instructions before use.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/fumes/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink, or smoke when using this product.
P271	Use only outdoors or in well-ventilated area.
P272	Contaminated work clothes must not be allowed outside the workplace.
P280	Wear protective gloves, protective clothing, eye protection and face protection.

Response Code	**Response Statement**
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.
P308+P313	If exposed or concerned: get medical advice/attention.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P332+P313	If skin irritation occurs get medical advice/attention.
P337+P313	If eye irritation occurs get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

P370+P378	In case of fire: Use dry chemical, foam, water spray to extinguish.

Storage Code	Storage Statement
P403+P235	Store in a well-ventilated place. Keep cool.
P405+P233	Store locked up. Keep container tightly closed.

Disposal Code	Disposal Statement
P501	Dispose of according to Local Regulations or Authorities

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	Weight%	CAS NUMBER.
Vinyl Ester Resin Mixture	45-70	Proprietary
Styrene	20-30	100-42-5
Fumed Silica	1-10	67762-90-7

Additional Information: None.

Section 4. First Aid Measures

Description of First Aid Measures

General Notes: Show this Safety Data Sheet to the doctor in attendance. Take precautions to ensure your own safety before attempting rescue. Wear appropriate personal protective equipment when treating contaminated person. See Section 8 of this SDS for personal protective equipment recommendations. Place contaminated clothing in a sealed bag for disposal. In case of irregular breathing or respiratory arrest, give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper device.

After Inhalation: Remove person to fresh air and place in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loose tight clothing such as a collar, tie, belt or waistband.

After Skin Contact: Remove contaminated clothing and shoes. Wash with plenty of soap and water. Wash contaminated clothing thoroughly with water before removing it or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reusing. Clean shoes thoroughly before reusing.

After Eye Contact: Immediately rinse eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove contact lenses. Continue to rinse for

at least 10 minutes. Get medical attention. Buffered baby shampoo will aid in removal of resin.

After Swallowing: Wash out moth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention following exposure of if feeling unwell. Bever give anything by mouth to an unconscious person. If unconscious, place in the recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most Important Symptoms and Effects, Both Acute and Delayed

Acute Symptoms and Effects:

Eye Contact: Causes serious eye irritation.
Inhalation: Harmful if inhaled. May cause respiratory irritation.
Skin Contact: Causes skin irritation. May cause an allergic skin reaction.

Delayed Symptoms and Effects:

Eye Contact: pain or irritation, watering, redness.
Inhalation: Respiratory tract irritation, coughing
Skin Contact: irritation, redness

Immediate Medical Attention and Special Treatment

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Section 5. Fire Fighting Measures

Extinguishing Media

Suitable Extinguishing Media:

Dry chemical, Carbon Dioxide, water spray(fog), or foam

Unsuitable Extinguishing Media:

Water jet

Specific Hazards During Fire Fighting:

Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flashback.

Special Protective Equipment for Firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode.

Special precautions:

Decomposition products may include the following materials: Carbon dioxide, carbon monoxide, and halogenated compounds.

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures:

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders: If specialized clothing is required to deal with spillage, take note of any information in section 8 on suitable and unsuitable materials. See also information in "for non-emergency personnel."

Environmental Precautions:

Avoid dispersal of spill material and runoff and contact with soil, waterways, drains, and sewers. Inform the relevant authorities if the product has caused environmental pollution.

Methods and Material for Containment and Cleaning Up:

Small Spill: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water soluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill: Stop leak if without risk. Move containers from spill area. Use spark-proof and explosion-proof equipment. Approach release from upwind. Prevent entry into sewer water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Contain and collect spillage with non-combustible absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Reference to Other Sections:

For personal protective equipment see Section 8. For disposal see Section 13.

Section 7. Handling and Storage

Precautions for Safe Handling:

- Use appropriate personal protective equipment (see Section 8).
- Take precautionary measures against electrostatic discharges.

- Avoid ignition sources (smoking, flames, hot surfaces, pilot lights, electrical sparks): ground and bond containers when transferring the material to prevent static electricity sparks that could ignite vapor and use spark proof tools and explosion proof equipment.
- Avoid breathing vapor and contact with eyes, skin, and clothing.
- Use in well-ventilated areas only. Wear appropriate respirator when ventilation is inadequate.
- Do not leave containers open.
- Avoid repeated or prolonged contact with skin.
- Follow US NFPA 30, "Flammable and Combustible Liquids Code", or other national, state, and local codes on safe handling of flammable liquids.

Advice on General Occupational Hygiene:

- Eating, drinking, and smoking should be prohibited in the areas where this material is handled, stored, and processed.
- Workers should wash hands and face before eating, drinking, and smoking.
- Remove contaminated clothing and PPE before entering eating areas.
- See Section 8 for additional information on hygiene measures.

Conditions for Safe Storage, Including Any Incompatibilities:

- Do not store above 38°C (100.4°F)
- Store in a cool, dry place.
- Store in accordance with local regulations.
- Store in segregated and approved area.
- Empty containers retain product residue.
- Observe all safety precautions.
- Do not reuse container.
- Keep in original container or approved alternative made from compatible materials.
- Store away from direct sunlight.
- Separate from oxidizing materials.
- Do not store near incompatible materials (see Section 10).

Section 8. Exposure Controls / Personal Protection

Occupational Exposure Limit Values:

Country (Legal Basis)	Substance	Identifier	Permissible Concentration
ACGIH	Styrene	100-42-5	TLV-TWA: 10 ppm
	Styrene	100-42-5	TLV-STEL: 20 ppm
	Fumed silica	67762-90-7	TLV: 10 mg/m³ (inhalable particles)
	Fumed silica	67762-90-7	TLV: 5 mg/m³ (respirable particles)
NIOSH	Styrene	100-42-5	TWA 10hr: 50 ppm (215 mg/m³)
	Styrene	100-42-5	STEL 15min: 100 ppm (425 mg/m³)
	Fumed silica	67762-90-7	REL-TWA: 6 mg/m³

Country (Legal Basis)	Substance	Identifier	Permissible Concentration
	Fumed silica	67762-90-7	IDLH 30min: 3,000 mg/m³
OSHA	Styrene	100-42-5	PEL Z2-TWA 8hr: 100 ppm
	Styrene	100-42-5	PEL Z2-CEIL: 200 ppm
	Styrene	100-42-5	PEL Z2-AMP 5min: 600 ppm
	Styrene	100-42-5	PEL 1989-TWA 8hr: 50 ppm (215 mg/m³)
	Styrene	100-42-5	PEL 1989-STEL 15min: 100 ppm (425 mg/m³)
	Fumed silica	67762-90-7	PEL: 15 mg/m³ (Total dust)
	Fumed silica	67762-90-7	PEL: 5 mg/m³ (respirable fraction)
CAL OSHA (California)	Styrene (absorbed through skin)	100-42-5	STEL 15 min: 100 ppm (425 mg/m³)
	Styrene (absorbed through skin)	100-42-5	CEIL: 500 ppm
	Styrene (absorbed through skin)	100-42-5	TWA 8hr: 50 ppm (215 mg/m³)
	Fumed silica	67762-90-7	PEL: 6 mg/m³ (total dust)

Biological Limit Values:

No biological exposure limits noted for the ingredients.

Engineering Controls:

Use only adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep workers exposure to airborne contaminates below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental Exposure Controls:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fumes scrubbers, filters or engineering modifications too process equipment will be necessary to reduce emissions to acceptable levels.

Personal Protection

Equipment Eye and Face Protection:

Use safety glasses with side shields or goggles. Consider the use of a face shield for splash protection. Use eye protection equipment that has been tested and by recognized national standards.

Skin and Body Protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

Respiratory Protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

General Hygienic Measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

Section 9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical State	Putty-like
Color	Pearlescent
Odor	Aromatic, Sweet
Odor Threshold	Not determined or not available
pH	Not determined or not available
Melting point/Freezing point	Not determined or not available
Initial boiling point/range	Not determined or not available
Flash point (closed cup)	Not determined or not available
Evaporation rate	Not determined or not available
Flammability (solid, gas)	Not determined or not available
Upper flammability/explosive limit	Not determined or not available
Lower flammability/explosive limit	Not determined or not available
Vapor pressure	Not determined or not available
Vapor density	Not determined or not available
Density	Not determined or not available
Relative density	Not determined or not available
Solubilities	Insoluble
Partition coefficient (n-octanol/water)	Not determined or not available

Auto/Self-ignition temperature	Not determined or not available
Decomposition temperature	Not determined or not available
Dynamic viscosity	Not determined or not available
Kinematic viscosity	Not determined or not available
Explosive properties	Not determined or not available
Oxidizing properties	Not determined or not available

Section 10. Stability and Reactivity

Reactivity:

No specific test data related to reactivity is available for this product or its ingredients.

Chemical Stability:

Stable under recommended handling and storage conditions.

Possibility of Hazardous Reactions:

Hazardous reactions or instability may occur under certain conditions of storage or use.

Conditions to Avoid:

Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind, or expose containers to heat sources of ignition. Do not allow vapor to accumulate in low or confined areas.
Hazardous polymerization may occur under certain conditions of storage or use.
Keep away from heat and direct sunlight. Kep away from heat and flame. Keep away from oxidizing agents.

Incompatible Materials:

This product is incompatible with the following materials:

- Oxidizing materials
- Metals, including copper alloys and brass
- Strong acids
- Alkalis, including some alkali metals

Hazardous Decomposition Products:

Decomposition from fire or heat may produce carbon monoxide, carbon dioxide, nitrogen oxides, and formaldehyde.

Section 11. Toxicological Information

Acute Toxicity

Assessment:

This product is classified as Acute Toxicity (inhalation) Category 4.

Substance Data:

Name	Route	Result

Styrene (100-42-5)	Oral	LD50 Rat: 2,650 mg/kg
	Dermal	LD50 Rat: 2,000 mg/kg
	Inhalation (vapor)	LD50 Rat: 11,800 mg/m³ (4hrs)
	Inhalation (gas)	LD50 Rat: 2,770 mg/m³ (4hrs)
Fumed silica (67762-90-7)	Oral	LD50 Rat: >5,000 mg/kg
	Dermal	LD50 Rabbit: 2,000 mg/kg

Skin Corrosion/Irritation

Assessment:

This product is classified as Skin Irritation Category 2.

Substance Data:

Name	Result	Exposure	Species
Styrene	Mild irritant	500 mg	Rabbit
	Moderate irritant	100%	Rabbit

Serious Eye Damage/Irritation

Assessment:

This product is classified as Eye Irritation Category 2A.

Substance Data:

Name	Result	Exposure	Species
Styrene	Mild irritant	50 ppm	Human
	Moderate irritant	100 mg (24hrs)	Rabbit
	Severe irritant	100 mg	Rabbit

Respiratory or Skin Sensitization

Assessment:

This product is classified as Skin Sensitization Category 1.

Substance Data:

May cause allergic skin reaction.

Carcinogenicity

Assessment:

This product is classified as carcinogenic category 2.

Substance Data:

Name	Result
Styrene	Confirmed animal carcinogen with unknown relevance to humans.

International Agency for Research on Cancer (IARC):

Name	Result
Styrene	Group 2A carcinogen

National Toxicology Program (NTP):

Name	Result
Styrene	Listed

OSHA Carcinogens:

Not applicable.

Germ Cell Mutagenicity

Assessment:

Based on available data, the classification criteria are not met.

Substance Data:

No data available.

Reproductive Toxicity

Assessment:

Based on available data, the classification criteria are not met.

Substance Data:

No data available.

Specific Target Organ Toxicity (Single Exposure)

Assessment:

This product is classified Specific Target Organ Toxicity (Single Exposure) Category 3 (Respiratory Tract).

Substance Data:

Name	Result
Styrene	Cat. 3 Respiratory tract irritation

Specific Target Organ Toxicity (Repeated Exposure)

Assessment:

This product is classified as Specific Target Organ Toxicity (Repeated Exposure) Category 1.

Substance Data:

Name	Result
Styrene	Cat. 1 Hearing organs.

A study of long-term effects of workers exposed to styrene levels in the range of 25-35 ppm for 8-hour TWA indicated a possible mild hearing loss.

Aspiration Toxicity

Assessment:

This product can be an aspiration hazard.

Substance Data:

Name	Result
Styrene	Cat. 1

Information on Likely Routes of Exposure:

Likely Routes of exposure can include:

- Eye contact
- Ingestion
- Inhalation
- Skin contact

Symptoms Related to Physical, Chemical, and Toxicological Characteristics:

Adverse symptoms may include:

- Eye contact: Pain or irritation, redness, watering
- Inhalation: Respiratory tract irritation
- Skin contact: Irritation, redness

Other Information:

No data available.

Section 12. Ecotoxicological Information

Acute (Short-Term) Toxicity

Assessment:

This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Substance Data:

Name	Result	Species	Exposure
Styrene	Acute EC50 1400 µg/l Fresh Water	Algae- Raphidocelis subcapitata	72 hours
	Acute EC50 720 µg/l Fresh Water	Algae- Raphidocelis subcapitata	96 hours
	Acute EC50 4700 µg/l Fresh Water	Daphina-Daphina magna	48 hours

	Acute LC50 52 mg/l Marine Water	Crustaceans-artemia salina	48 Hours
	Acute LC50 4020 µg/l Fresh Water	Fish-Pimephales promelas	96 hours
Fumed silica	LC50 >10,000 mg/l	Fish-Brachydanio rerio	96 hours

Chronic (Long-Term) Toxicity

Assessment:

This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Substance Data:

Name	Result	Species	Exposure
Styrene	Chronic NOEC 63 µg/l Fresh Water	Algae- Raphidocelis subcapitata	72 hours

Persistence and Degradability

Substance Data:

Name	Test	Result
Styrene	OECD	70% - Readily – 28 days

Bioaccumulative Potential

Substance Data:

Name	BCF	LogPow	Potential
Styrene	2.96	13.49	Low

Mobility in Soil

Product Data:

Results of PBT and vPvB assessment

Product Data:

PBT assessment: This product does not contain any substances that are assessed to be a PBT.

vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Substance Data:

PBT assessment:

No data available.

vPvB assessment:

No data available.

Other Adverse Effects:

No data available.

Section 13. Disposal Considerations

The information in this section contains generic advice and guidance. The list of identified uses in Section 1 should be consulted for any available use-specific information.

Disposal Methods:

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. Disposal of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid disposal. Attempt to use product completely in accordance with intended use. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is no feasible.

Special Precautions:

This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Do no cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soul, water ways, drains and sewers.

Section 14. Transport Information

United States Transportation of Dangerous Goods (49 CFR DOT)

UN Number	UN1866
UN Proper Shipping Name	Resin Solution
Transport Hazard Class	3
Packing Group	III
Marine Pollutant	Non

International Maritime Dangerous Goods (IMDG)

UN Number	UN1866
UN Proper Shipping Name	Resin Solution
Transport Hazard Class	3
Packing Group	III
EmS	F-E, S-E
Marine Pollutant	No

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN Number	UN1866
UN Proper Shipping Name	Resin Solution
Transport Hazard Class	3
Packing Group	III

Marine Pollutant	No

Special Precautions for User:

Transport within users premises: Always transport in closed containers that are upright and secure. Ensure that persons transporting the products know what to do in the event of an accident or spillage.

Section 15 Regulatory Information

United States Regulations:

Inventory Listing (TSCA):

All ingredients are listed-active or exempt.

Significant New Use Rule (TSCA Section 5):

None of the ingredients are listed.

Export Notification under TSCA Section 12(b):

None of the ingredients are listed.

SARA Section 302 Extremely Hazardous Substances:

None of the ingredients are listed.

SARA Section 313 Toxic Chemicals:

The following components are listed:

- Styrene

CERCLA:

None of the ingredients are listed.

RCRA:

None of the ingredients are listed.

Section 112(r) of Clean Air Act (CAA):

None of the ingredients are listed.

Massachusetts Right to Know:

The following components are listed:

- Styrene

New Jersey Right to Know:

The following components are listed:

- Styrene

New York Right to Know:

The following components are listed:

- Styrene

Pennsylvania Right to Know:

The following components are listed:

- Styrene

California Proposition 65:

SCAQMD Rule 1162 establishes specific process, control, housekeeping, and recordkeeping requirements for fabrication operations using polyester resin materials. It is the responsibility of the fabricator to ensure compliance with these requirements.

 **WARNING** – This product can expose you to chemicals including Styrene & Ethylbenzene, which are known to the state of California to cause cancer. For more information go to www.P65Warnings.ca.gov

Section 16 Other Information

Disclaimer

This product has been classified in accordance with OSHA HCS 2024 guidelines. The information provide in this SDS is correct, to the best of our knowledge, based on available information. The information is designed only to give guidance for safety handling, use, storage, transportation and disposal and is not considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the test. The responsibility to distribute appropriate and inform consumers remains with the distributor.

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