MATERIAL SAFETY DATA SHEET OF STONE VENEER ALONG WITH MAJOR CONSTITUENTS

MAJOR CONSTITUENTS OF STONE VENEER

1. POLYESTER RESIN:

A) Physical & Chemical Properties

Form / Appearance	Material is a Polyester Resin
Color	Based on specification
Odor	None
Flammability	Not Determined
Melting Point	482-572 ℉ (250-300 ℃)
Odor Threshold	Not Determined
Solubility (H2O)	Insoluble
VOC (Weight %)	Not applicable

B) Chemical Stability & Reactivity Information

CHEMICAL STABILITY

Stable, however, may decompose if heated. Molten polymer or prolong air drying of polymer at temperatures above 195 ℃ will release small quanti ties of acetaldehyde		
NIOSH – Pocket Guide – IDLHs (Immediately dangerous to Life or Health)		
Acetaldehyde	75-07-0	2000 ppm IDLH
U.S. – OSHA-Final PELs-Time Weighted Averages (TWAs)		
Acetaldehyde	75-07-0	200 ppm TWA; 360 mg/m3 TWA
U.S. – OSHA-Vacated PELs-TWAs		
Acetaldehyde	75-07-0	100 ppm TWA; 180 mg/m3 TWA
ACGIH-Threshold Limits Values – Cellings (TLV-C)		
Acetaldehyde	75-07-0	25 PPM Ceiling

C) Toxicological Information

Due to this material's high molecular weight, and results of toxicity studies of similar products, this material is considered to be of little to no toxicological concern.

D) Ecological Information

Ecotoxicity

This Product is not expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems. Based on similar substances, this material is expected to be essentially non-biodegradable

Environmental effects

Based on the physical properties of this product, significant environment persistence and bioaccumulation would not be expected.

E) Disposal Considerations

Disposal Instructions

Any unused product, in discarded, is not considered a RCRA hazardous waste. Dispose of as a non hazardous waste in accordance with local, state and federal regulations.

The information offered here is for the product as shipped, Use of and / or alteration to the product, such as mixing with other materials, may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

2. FIBER GLASS:

A) Composition of E-glass

SiO_2	52 –62%
Alkaline oxides (Na_2O_2, K_2O)	< 2%
Alkaline terrous oxides (CaO, MgO….)	16 – 30%
B_2O_3	0 –10%
Al_2O_3	11 – 16%
TiO_2	0 – 3%
Fe_2O_3	0 – 1%
F_2	0 – 2%

B) PHYSICAL AND CHEMICAL PROPERTIES

⇒ PHYSICAL STATE: Solid

⇒ FORM Continuous or chopped strand mats glued or chopped strands or continuous woven fabric.

⇒ COLOUR: White or yellowish white.

⇒ ODOUR None, except for some products from which a slight odor is sometime released when a pallet or carton is opened. This odor never indicates that an eventual Toxic product has been released in a dangerous amount. PH not applicable.

⇒ SPECIFIC TEMPARATURE AT WHICH CHANGES IN PHYSICAL STATE OCCUR

- **1.** Softening point: Littleton point (defined as the temperature for which the viscosity of the glass is 10 Poises) : approximately 850℃
- **2.** Melting point: Not applicable. Glass dose not melt, but viscosity decreases by elevation of the temperature for E glass is in a range of temperature between 1150℃ and 1250℃ (Fibeizing temperature)

⇒ DECOMPOSATION TEMPERATURE: Sizes and mat binder start to decompose at 200℃

⇒ EXPLOSIVE PROPERTIES: None

⇒ DENSITY (Molten glass): 2.6 g/cu. Cm.

⇒ SOLUBILITY: Very low solubility in water. Sizes and binders can be partially (and even totally) dissolved in most organic solvents.

STONE VENEER MAJOR INGREDIENTS

S. No.	MATERIAL	INGREDIENTS	Concentration
1.	Polyester Resin	Polyethylene Terephthalate	99-99.9%
		Titanium Dioxide	<1%
2.	Fiber Glass (Non-Respirable)		%weight 90%Min
	Size & Binder		<10% Min
3.	Pigments & Colors & Stone	Minimal	Very Small

S. No.	MATERIAL COMPOSITION OF STONE VENEER	QUANTITY Kg./Sq. Mtr.
1.	Processing Material	1.300
2.	Backing material	0.150
3.	Natural Stone	0.100
	TOTAL WEIGHT PER SQ. MTR.	**1.500-1.600**
	THICKNESS OF LAYERS OF STONE VENEER	
	PARTICULARS	**IN MM**
4.	Thickness of Natural Stone Layer	**0.40mm**
5.	Thickness of other Chemicals with backing	**0.80mm**
6.	Total thickness of slate stone veneer sheet	**1.20mm-1.50mm**

	PHYSICAL PROPERTIESOF STONE VENEER	TEST VALUE		PROTOCOL
		Slate	Mica	
7.	Water absorption, % by wt. (Test carried out on thin slate specimen)	2.50	1.9	ASTM C-121 guidelines
8.	Water Absorption, % wt. (Test carried out on thin slate specimen pasted on marble piece)	0.17	0.12	ASTM C-97 guidelines
9.	Abrasion Test ---Average wear, mm ---Max. wear on individual specimen, mm	 0.7 0.8	 0.9 1.0	IS: 9162-1979 guidelines
10.	Density (Mass per unit area, Kg / M^2	1.45	1.66	IS: 12866-1989 guidelines

SECTION I – HAZARDOUS CONSTITUENTS OF STONE VENEER

COMPONENT	CAS NUMBER	PERCENT	PERMISSIBLE EXPOSURE LIMIT (TWA)	SHORT TERM EXPOSURE LIMIT (STEL)
Vinyl acetate homopolymer	9003-20-7	51±2%	NH/NA	NH/NA
Residual monomer	108-05-4	<0.3 % max	10 ppm	20ppm\

SECTION II – IDENTIFICATION OF HAZARDS OF STONE VENEER

Toxic Effects of exposure / contact:
SKIN CONTACT: May irritate skin on prolonged or repeated contact.
EYE CONTACT: May cause slight irritation to eyes.
INHALATION: Not Possible being dry product.
INGESTION: Not permissible
DELAYED EFFECTS: Not reported.

SECTION III – FIRST AID MEASURES OF STONE VENEER USE

SKIN CONTACT: Wash skin with water after handling sheets.
EYE CONTACT: Material being dry does not effect eyes
INHALATION: Inert smell.
INGESTION:
NOTE TO PHYSICIAN: There is no specific antidote. Treatment should be given symptomatically on the clinical condition.

SECTION IV FIRE AND EXPLOSION HAZARD OF STONE VENEER

FIRE EXTINGUISHING MEDIA: Material will burn. Use water, foam dry chemical powder, CO_2 to extinguish the fire.
Thermal decomposition product: May yield acrid smoke and irritating gases with oxides of carbon and inorganic fragments. Toxic fumes & dark smoke yields when burnt.
SPECIAL FIRE FIGHTING PROCEDURE: Wear self contained breathing apparatus or equivalent (MSHA/ NIOSH- approved)
UNUSUAL FIRE EXPLOSION HAZARDS: Sheet burns fast with flames. There is no explosion while burning

SECTION V – ACCIDENTAL RELEASE MEASURES OF STONE VENEER

Personal Precautions: Use personal protective equipment & handling when material needs to be burnt.
ENVIRONMENT PRECAUTIONS: Review fire and safety precautions before proceeding with clean up. Use appropriate personal proactive equipment during clean up. Keep spectators away. Dike and contain spill with an insert (e.g. sand, earth, etc) absorbent collect the absorbed material in plastic beg for final disposal.
CLEANING METHODS: Wash floor with water, contaminated diking material may be incinerated or land filled according to current local or central regulation.

SECTION VI – HANDLING AND STORAGE OF STONE VENEER

HANDLING PROCEDURE: Use appropriate personal protective Hand Gloves during handling. Protect against physical damage. Observe good hygiene practices.
STORAGE REQUIRMENT: Store at ambient temperature. Keep away from freezing. Keep sheets in stored at room temperature away from flames & fire.

SECTION VII – EXPOSER CONTROL / PERSONAL PROTECTIVE EQUIPMENTS DURING STONE VENEER HANDLING & USE

PERSONAL PROTECTIVE EQUIPMENT: Do not eat drink and smoke when working with STONE VENEER sheets. Wash hands before breaks and after work.
EYE PROTECT: Impervious (rubber, neoprene, pvc, etc.) hand gloves, aprons.
RESPIRATION PROTECTION: None required if good ventilation in the area is maintained. Otherwise suggest to wear MSHA/NIOH approved respirator where vapour concentrations is more.
OTHERS: Eye wash facility and emergence shower.
ENGINEERING CONTROLS: not specific

SECTION VIII – PHYSICAL AND CHEMICAL PROPERTIES OF STONE VENEER

Burning Temperature (℃): About 250-300°C
FLAMMABILITY: Combustible.
EXPLOSIVE LIMITS (% by vol.) LEL: NA **UEL:** NA **FLASH POINT:** NA

SECTION IX – STABILITY AND REACTIVITY DATA OF STONE VENEER

CHEMICAL STABILITY: Stable under normal ambient conditions.
INCOMPATIBILITY: Mineral acids and strong salt solution.
HAZARDOUS POLYMERISION: Will occur.
CONDITION TO AVOID: Not specific.

SECTION X – TOXICOLOGICAL INFORMATION ON STONE VENEER

Material has polymer content the product is not a problem in normal handling and storage. However polymer when heated may be release acetaldehyde into workroom atmosphere when sheets are heat above 195 degree centigarde.

SECTION XI – ECOLOGICAL INFORMATION ON STONE VENEER

Not determined, however as a general practice, do not allow product to overheat flame exposer or extreme cold close to sub zero.

SECTION XII – DISPOSAL INFORMATION ON STONE VENEER

The damaged / discarded material may be disposed of in accordance with current local or central regulation.

SECTION XIII – TRANSPORTATION INFORMATION ON STONE VENEER

DO INFORMATION: Not applicable **TDG INFORMATION:** Not determined

The material is not considered as dangerous for transportation

SECTION XIV – MISCELLANEOUS INFORMATION

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