

Revision Date 06-02-2020

Version 1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Trade name : BINDING RESIN
CAS No : mixture
Product code : FRL
Formula : na

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Various surface bonding

1.3. Details of the supplier of the safety data sheet

JV ENT, LLC (DBA: Multi-Tech Products)
1177 N Red Gum St
Anaheim, CA 92806
Phone: +1 (951) 834-9066

1.4. Emergency telephone number

Emergency number : CHEMTREC US: 800-424-9300
: International: 703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Flam. Liq. 3	H226
Skin Irrit. 2	H315
Eye Irrit. 2A	H319
Carc. Not classified	

Emergency Overview

Danger

Hazard statements

Causes skin irritation
Causes serious eye irritation
May cause cancer
Suspected of damaging fertility or the unborn child
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure
May be fatal if swallowed and enters airways

BINDING RESIN

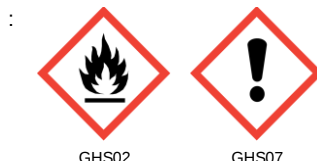
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2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Warning

Hazard statements (GHS-US)

: H226 - Flammable liquid and vapor
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary statements (GHS-US)

: P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P264 - Wash EXPOSED AREA. thoroughly after handling
P280 - Wear eye protection, protective clothing, protective gloves
P302+P352 - IF ON SKIN: Wash with plenty of soap and water
P303+P361+P353 - IF ON SKIN (or hair): Remove/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. Continue rinsing
P321 - Specific treatment (see SEEK MEDICAL AID. on this label)
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P370+P378 - In case of fire: Use carbon dioxide (CO2), dry chemical powder, foam to extinguish
P403+P235 - Store in a well-ventilated place. Keep cool
P501 - Dispose of contents/container to LOCAL, STATE, AND NATIONAL REGULATIONS.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

Full text of H-phrases: see section 16

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Unsaturated Vinyl Ester Resin (Proprietary Mixture)	(CAS No) TRADE SECRET	<= 63	Not classified
styrene, inhibited	(CAS No) 100-42-5	<= 30	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation: vapour), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 2, H351
talc	(CAS No) 14807-96-6	<= 8	Not classified
titanium(IV) oxide	(CAS No) 13463-67-7	<= 5	Carc. 2, H351
LEADS FREE COLOR DISPERSION	(CAS No) Proprietary	<= 0.5	Not classified
cobalt(II) 2-ethylhexanoate	(CAS No) 136-52-7	<= 0.5	Carc. 2, H351

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest. Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.
- First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: wash thoroughly for five minutes. seek medical attention. Get medical advice/attention. Specific treatment (see seek medical attention. on this label).
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: SEEK IMMEDIATE MEDICAL ATTENTION. Get medical advice/attention.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : May cause genetic defects (avoid skin contact and inhalation.). May cause cancer (avoid skin contact and inhalation.).
- Symptoms/injuries after inhalation : Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.
- Symptoms/injuries after skin contact : Causes skin irritation.
- Symptoms/injuries after eye contact : Causes serious eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

- suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Highly flammable liquid and vapor. Flammable liquid and vapor.
- Explosion hazard : May form flammable/explosive vapor-air mixture.
- Reactivity : No reactivity hazard other than the effects described in sub-sections below.

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking.

6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Protective goggles. Protective clothing.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Dam up the liquid spill. Contain released substance, pump into suitable containers.
- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

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6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.
- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No naked lights. No smoking. Use only non-sparking tools. Use only outdoors or in a well-ventilated area. Avoid breathing DUST, FUMES, MIST, OR VAPORS. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Eliminate all ignition sources if safe to do so. Take precautionary measures against static discharge.
- Hygiene measures : Wash HANDS thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating and lighting equipment.
- Storage conditions : Keep only in the original container in a cool, well ventilated place away from : HEAT SPARKS OR OPEN FLAMES. Keep in fireproof place. Keep container tightly closed.
- Incompatible products : Strong bases. strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

styrene, inhibited (100-42-5)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA ACGIH	ACGIH STEL (ppm)	40 ppm
talc (14807-96-6)		
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³
titanium(IV) oxide (13463-67-7)		
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³

8.2. Exposure controls

- Appropriate engineering controls : Ensure exposure is below occupational exposure limits (where available).
- Personal protective equipment : Avoid all unnecessary exposure.
- Hand protection : Wear protective gloves.
- Eye protection : Chemical goggles or safety glasses.
- Skin and body protection : Wear suitable protective clothing.
- Respiratory protection : Wear approved mask.
- Other information : When using, do not eat, drink or smoke.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: white.
Odor/Odor threshold	: characteristic/NA
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: $\geq 64^{\circ}\text{C}$
Flash point	: $30 - 34^{\circ}\text{C}$
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: ≥ 1.1
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available
VOC (applied by brush)	: 1.51 lb/gal (181.2 g/L)

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Polymerization can result in formation of solid deposits, even in vapour space. Not established. Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture. Flammable liquid and vapor.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.

10.5. Incompatible materials

strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

BINDING RESIN (mixture)	
ATE CLP (vapors)	11.000 mg/l/4h
styrene, inhibited (100-42-5)	

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LD50 oral rat	5000 mg/kg (>6000 mg/kg bodyweight; Rat; Rat)
LD50 dermal rat	2820 mg/kg (>2000 mg/kg bodyweight; Rat; Rat; Experimental value)
LD50 dermal rabbit	5010 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	12 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	2770 ppm/4h (Rat)
ATE CLP (oral)	5000.000 mg/kg body weight
ATE CLP (dermal)	2820.000 mg/kg body weight
ATE CLP (gases)	2770.000 ppmV/4h
ATE CLP (vapors)	12.000 mg/l/4h
ATE CLP (dust, mist)	12.000 mg/l/4h

titanium(IV) oxide (13463-67-7)	
LD50 oral rat	> 10000 mg/kg (Rat; Experimental value,Rat; Experimental value)
LD50 dermal rabbit	> 10000 mg/kg (Rabbit; Experimental value,Rabbit; Experimental value)
LC50 inhalation rat (mg/l)	> 6.8 mg/l/4h (Rat; Experimental value,Rat; Experimental value)

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eyeirritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified.

styrene, inhibited (100-42-5)	
IARC group	2B - Possibly Carcinogenic to Humans

cobalt(II) 2-ethylhexanoate (136-52-7)	
IARC group	2B - Possibly Carcinogenic to Humans

talc (14807-96-6)	
IARC group	3 - Not classifiable

titanium(IV) oxide (13463-67-7)	
IARC group	2B - Possibly Carcinogenic to Humans

Reproductive toxicity	: Not classified Based on available data, the classification criteria are notmet
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified Based on available data, the classification criteria are notmet
Aspiration hazard	: Not classified Based on available data, the classification criteria are notmet
Potential Adverse human health effects and symptoms	: Harmful if inhaled. Based on available data, the classification criteria are notmet.

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Symptoms/injuries after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

styrene, inhibited (100-42-5)	
LC50 fish 1	25 mg/l (96 h; Lepomis macrochirus)
LC50 other aquatic organisms 1	10 - 100 mg/l (96 h)
EC50 Daphnia 1	23 mg/l (48 h; Daphnia magna; LOCOMOTOR EFFECT)
LC50 fish 2	32 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 2	27 mg/l (24 h; Daphnia magna)
TLM fish 1	25.1 mg/l (96 h; Lepomis macrochirus; SOFTWATER)
TLM fish 2	46.4 mg/l (96 h; Pimephales promelas; SOFTWATER)

styrene, inhibited (100-42-5)	
TLM other aquatic organisms 1	10 - 100,96 h
Threshold limit other aquatic organisms 1	10 - 100,96 h; Pseudomonas putida
Threshold limit other aquatic organisms 2	72 mg/l
Threshold limit algae 1	> 200 mg/l (192 h; Scenedesmus quadricauda; INHIBITORY)
Threshold limit algae 2	67 mg/l (Microcystis aeruginosa; INHIBITORY)

talc (14807-96-6)	
LC50 fish 1	> 100 g/l (24 h; Brachydanio rerio; INTERMITTENT FLOW)

titanium(IV) oxide (13463-67-7)	
LC50 fish 1	> 1000 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 1	< 1000 mg/l (432 h; Daphnia magna; Static system)
LC50 fish 2	> 1 g/l (96 h; Leuciscus idus)
EC50 Daphnia 2	< 500 mg/l (720 h; Daphnia magna; Static system)

12.2. Persistence and degradability

BINDING RESIN (mixture)	
Persistence and degradability	Not established.

styrene, inhibited (100-42-5)	
Persistence and degradability	Readily biodegradable in water. Not readily biodegradable in water. Forming sediments in water. Non degradable in the soil. Adsorbs into the soil. Photodegradation in the air. Not established.
Chemical oxygen demand (COD)	2.80 g O ₂ /g substance
ThOD	3.07 g O ₂ /g substance
BOD (% of ThOD)	0.42 % ThOD

cobalt(II) 2-ethylhexanoate (136-52-7)	
Persistence and degradability	Biodegradability in water: no data available.

talc (14807-96-6)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

Unsaturated Vinyl Ester Resin (TRADE SECRET)	
Persistence and degradability	Not established.

LEADS FREE COLOR DISPERSION (Proprietary)	
Persistence and degradability	Not established.

titanium(IV) oxide (13463-67-7)	
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Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bio accumulative potential

Binding Resin (mixture)	
Bio accumulative potential	Not established.

styrene, inhibited (100-42-5)	
BCF fish 1	12 - 77 (QSAR)
BCF fish 2	35.5 (Carassius auratus)
Log Pow	2.95 - 3.16 (Experimental value)
Bio accumulative potential	Low potential for bioaccumulation (BCF < 500). Not established.

cobalt(II) 2-ethylhexanoate (136-52-7)	
Bioaccumulative potential	No bioaccumulation data available.

Unsaturated Vinyl Ester Resin (TRADE SECRET)	
Bioaccumulative potential	Not established.

LEADS FREE COLOR DISPERSION (Proprietary)	
Bioaccumulative potential	Not established.

titanium(IV) oxide (13463-67-7)	
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil

styrene, inhibited (100-42-5)	
Surface tension	0.032 N/m (19 °C)

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to approved disposal site.

Additional information : Handle empty containers with care because residual vapors are flammable.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

UN-No. (DOT) : UN1866

DOT Proper Shipping Name : RESIN SOLUTION

Department of Transportation (DOT) Hazard Classes : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : III - Minor Danger

Additional information

Other information : No supplementary information available.

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ADR

Transport document description : UN 1866, 3, III, (D/E)
Packing group (ADR) : III
Class (ADR) : 3 - Flammable liquid
Hazard identification number (Kemler No.) : 33
Classification code (ADR) : F1
Danger labels (ADR) : 3 - Flammable liquids



Orange plates :



Tunnel restriction code : D/E
LQ : 5L
Excepted quantities (ADR) : E2

Transport by sea

UN-No. (IMDG) : 1866
Proper Shipping Name (IMDG) : RESIN SOLUTION
Class (IMDG) : 3 - Flammable liquids
Packing group (IMDG) : III - substances presenting low danger

Air transport

UN-No. (IATA) : 1866
Proper Shipping Name (IATA) : RESIN SOLUTION
Class (IATA) : 3 - Flammable Liquids
Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

styrene, inhibited (100-42-5)	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	1000 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Reactive hazard Fire hazard Delayed (chronic) health hazard

15.2. International regulations CANADA

No additional information available

EU-Regulations

No additional information available

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Classification according to Regulation (EC) No. 1272/2008[CLP]

Flam. Liq. 3	H226
Acute Tox. 4 (Inhalation:vapour)	H332
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Muta. 1B	H340
Carc. 1B	H350

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

Carc.Cat.2; R45
Muta.Cat.2; R46
F; R11
Xn; R20
Xi; R36/38

Full text of R-phrases: see section 16

15.2.2. National regulations

styrene, inhibited (100-42-5)

Listed on EPA's Hazardous Air Pollutants (HAPS)

15.3. US State regulations

Binding Resin (mixture)				
State or local regulations		U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS) U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right To Know List«_STATE_OR_LOCAL_REGULATIONS&disp=value&t»		
styrene, inhibited (100-42-5)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
styrene, inhibited (100-42-5)				
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List				

SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

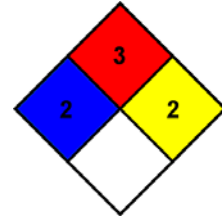
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Carc. 2	Carcinogenicity Category 2
Carc. Not classified	Carcinogenicity Not classified
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 3	Flammable liquids Category 3
Skin Irrit. 2	Skin corrosion/irritation Category 2
H226	Flammable liquid and vapor
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H351	Suspected of causing cancer

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- NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
- NFPA fire hazard : 3 - Liquids and solids that can be ignited under almost all ambient conditions.
- NFPA reactivity : 2 - Normally unstable and readily undergo violent decomposition but do not detonate. Also: may react violently with water or may form potentially explosive mixtures with water.



HMIS III Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 3 Serious Hazard
- Physical : 1 Slight Hazard
- Personal Protection : H

DISCLAIMER

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be 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 or in any process, unless specified in the text. Shipping information may vary based upon container size and shipping destination. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage, or release to the environment. The manufacturer assumes no responsibility for injury to the recipient or third persons, or for any damages to any property resulting from misuse of the product.