Safety Data Sheet
prepared to UN GHS Revision 3
KEY Vinyl Ester Binder/Coating Hardener
PART B

1. Identification of the Substance/Mixture and the Company/Undertaking

1.1 Product Identifier VEC-B

Product Name: KEY Vinyl Ester Binder/Coating Hardener PART B

Revision Date: 02/18/2020

Supercedes Date: 12/08/2017

1.2 Relevant identified uses of the substance or mixture and uses advised against Component of multicomponent industrial coatings - Industrial use.

1.3 Details of the supplier of the safety data sheet

Manufacturer:

Key Resin Company
4050 Clough Woods Dr.
Batavia, OH 45103

Phone: 513-943-4225
888-943-4532

Datasheet Produced by: Key Resin Company - EHS

1.4 Emergency telephone number:

CHEMTREC 1-800-424-9300 (Inside US)
CHEMTREC +1 703 527-3887 (Outside US)

2. Hazard Identification

2.1 Classification of the substance or mixture

Acute Toxicity, Oral, category 4
Organic Peroxide, categories C, D
Skin Corrosion, category 1

2.2 Label elements

Symbol(s) of Product

Signal Word

danger

Named Chemicals on Label

MEK PEROXIDES, HYDROGEN PEROXIDE

HAZARD STATEMENTS

Organic Peroxide, categories C, D	H242-CD	Heating may cause a fire.
Acute Toxicity, Oral, category 4	H302	Harmful if swallowed.
Skin Corrosion, category 1	H314-1	Causes severe skin burns and eye damage.

PRECAUTION PHRASES

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P234	Keep only in original container.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/ face protection.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P403+235	Store in a well-ventilated place. Keep cool.

2.3 Other hazards

No Information

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients

3.2 Mixtures

Hazardous Ingredients

CAS-No.	Chemical Name	%
1338-23-4	MEK PEROXIDES	25-50
TRADE SECRET	PLASTICIZER	25-50
7722-84-1	HYDROGEN PEROXIDE	0.1-1.0

CAS-No.	GHS Symbols	GHS Hazard Statements	M-Factors
1338-23-4	GHS05-GHS07	H302-312-314-332	0
TRADE SECRET			0
7722-84-1	GHS05-GHS07	H302-312-314-332	0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures

4.1 Description of First Aid Measures

AFTER INHALATION: Give oxygen or artificial respiration if needed. Remove person to fresh air. If signs/symptoms continue, get medical attention.

AFTER SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation persists, call a physician.

AFTER EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

AFTER INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control centre or doctor immediately. Obtain medical attention. If patient is fully conscious, rinse mouth with water. Give water to drink. Drink water in small sips (Diluting effect). Never give anything by mouth to an unconscious person. Vomiting may cause aspiration into the lungs causing chemical pneumonia. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Prolonged or repeated contact may dry skin and cause irritation. Irritating to eyes and skin. May be harmful if swallowed.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.
When symptoms persist or in all cases of doubt seek medical advice.

5. Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known. Contact with incompatible materials or exposure to temperatures exceeding the SADT may result in a self accelerating decomposition reaction with release of flammable vapors which may autoignite.
All organic peroxides should be considered highly combustible. Once ignited, most organic peroxides burn vigoriously. The flashpoint of an organic peroxide is only meaningful when it is below the temperature at which the organic peroxide begins to decompose due to its thermal instability. Normally, no decomposition occurs until the temperature is well above ambient.
See storage conditions.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Fight fire with normal precautions from a reasonable distance. Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

For personal protection see section 8. Ensure adequate ventilation. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains.

6.3 Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7. Handling and Storage

7.1 Precautions for safe handling

INSTRUCTIONS FOR SAFE HANDLING : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Prepare the working solution as given on the label(s) and/or the user instructions. Protect from contamination. Do not breathe vapours or spray mist. Keep away from heat and sources of ignition. Ensure all equipment is electrically grounded before beginning transfer operations. Use only in an area containing explosion proof equipment. Use only with adequate ventilation. Wash thoroughly after handling. Do not taste or swallow. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection. Organic peroxide. Temperature controlled. Hazardous decomposition may occur. Do not re-use empty containers. Avoid contact with skin, eyes and clothing. Keep container closed when not in use. Keep containers tightly closed to prevent contamination. Avoid contact with eyes, skin, and clothing. Do not eat, drink, or smoke while handling. Wear recommended personal protection equipment. Remove contaminated clothing and wash before reuse. Use spark-proof tools and explosion-proof equipment. Store containers in a well-ventilated area. Open them cautiously, in case they may be under slight pressure. Have good ventilation and suitable protective

equipment in areas where containers will be opened. Keep away from heat, sparks and flame. Do not expose to direct sunlight.

PROTECTION AND HYGIENE MEASURES : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Heat, sparks and open flames.

STORAGE CONDITIONS: Maximum storage temperature: 100F (38C)Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Store below 100F (38C) to maintain stability and active oxygen content. Detached storage is preferred. Store out of direct sunlight in a cool, well-ventilated place. Store away from combustibles and incompatible materials. Refer also to National Fire Protection Agency (NFPA) Code 432, Code for the Storage of Organic Peroxide Formulations.

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits (US)

Name	%	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING	OEL Note
MEK PEROXIDES	25-50	N/E	N/E	N/E	5 MGM3	
PLASTICIZER	25-50	N/E	N/E	N/E	N/E	
HYDROGEN PEROXIDE	0.1-1.0	1.0 PPM	N/E	1.4 MGM3	N/E	

FURTHER INFORMATION: Refer to the regulatory exposure limits for the workforce enforced in each country.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: In order to avoid inhalation of spray-mist and sanding dust, all spraying and sanding must be done wearing adequate respirator. Use only with ventilation to keep levels below exposure guidelines reported in this document. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use State or federally approved supplied air respirator. For silica containing coatings in a liquid state, and/or if no exposure limits are established above, air-supplied respirators are generally not required.

EYE PROTECTION: Safety glasses with side-shields. Wear chemical goggles and faceshield (if not wearing a full facepiece respirator). Wear a synthetic apron or coveralls to prevent contact with skin or clothing.

HAND PROTECTION: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Impervious gloves. Request information on glove permeation properties from the glove supplier.

OTHER PROTECTIVE EQUIPMENT: Ensure that eyewash stations and safety showers are close to the workstation location. Lightweight protective clothing

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Colorless To Light Yellow
Physical State	Liquid
Odor	Irritating
Odor threshold	N/D

pH	N/D
Melting point / freezing point (°C)	N/D
Boiling point/range (°C)	Decomposition 154F (68C) - .
Flash Point, (°C)	80
Evaporation rate	Slower Than Ether
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	N/D - N/D
Vapour Pressure, mmHg	N/D
Vapour density	Heavier than Air
Relative density	Not determined
Solubility in / Miscibility with water	Limited
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	Not Determined
Explosive properties	Not determined
Oxidising properties	Not determined

9.2 Other information

VOC Content g/l:	44
Specific Gravity (g/cm3)	1.072

10. Stability and Reactivity

10.1 Reactivity

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

Stable under normal conditions. This product is stable only when stored at or below the recommended maximum temperature. (see Section 7.)

SADT - Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction. This reaction will generate flammable vapors which may autoignite. The length of time to generate a decomposition reaction, after the SADT has been reached or exceeded, is dependent upon how much the SADT has been exceeded and the length of time needed for the reaction exotherm (heat spike from increasing decomposition rate) to initiate a rapid decomposition reaction. Typically, SADT is inversely proportional to package size. Larger packages will have a lower SADT due to smaller ratio to heat transfer area to volume of product.

SADT - 158F (70C). 40# Package.

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Heat, sparks and open flames.

10.5 Incompatible materials

Reacts violently in contact with acids, amines, driers, polymerisation accelerators and easily oxidized materials. Strong oxidizing agents. Contact with foreign materials, such as strong acids, alkalis, oxiders, reducing agents, amines, vermiculte, zinc, aluminum iron, rust, copper, transtion metal salt ions, and reaction acceleraters may result in a rapid and violent reaction.

10.6 Hazardous decomposition products

Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke. SADT- SELF-ACCELERATING DECOMPOSITION TEMPERATURE. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction. This reaction will generate flammable vapors which may autoignite. The length of time to generate a decomposition reaction, after the SADT has been reached or exceeded, is dependent upon how much the SADT has been exceeded and the length of time needed for the reaction exotherm to initiate a rapid decomposition reaction. Typically, SADT is inversely proportional to package size. Larger packages will have a lower SADT due to smaller ratio of heat transfer area to volume of product. Temperatures at or above the SADT can result in the release of hazardous decomposition products which are flammable and may autoignite.

11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity:

Oral LD50: N/D

Inhalation LC50: N/D

Irritation: Unknown

Corrosivity: Unknown

Sensitization: Unknown

Repeated dose toxicity: Unknown

Carcinogenicity: Unknown

Mutagenicity: Unknown

Toxicity for reproduction: Unknown

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
1338-23-4	MEK PEROXIDES	484 mg/kg, oral, rat	1560 mg/kg	17 mg/l / 4h, Inh, mouse
TRADE SECRET	PLASTICIZER	NOT AVAILABLE		NOT AVAILABLE
7722-84-1	HYDROGEN PEROXIDE	805 mg/kg, oral, rat	2000 mg/kg, (Rabbit)	2000 mg/m3 inh, rat

Additional Information:

No Information

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia):	Unknown
IC50 72hr (Algae):	Unknown
LC50 96hr (fish):	Unknown

12.2 Persistence and degradability: Unknown

12.3 Bioaccumulative potential: Unknown

12.4 Mobility in soil: Unknown

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

12.6 Other adverse effects: Unknown

CAS-No.	Chemical Name	EC50 48hr	IC50 72hr	LC50 96hr
1338-23-4	MEK PEROXIDES	39 mg/l	No information	No information
TRADE SECRET	PLASTICIZER	No information	No information	No information
7722-84-1	HYDROGEN PEROXIDE	18 - 32 mg/l (Daphnia Magna)	No information	16.4 mg/L (Pimephales promelas)

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: Do not burn, or use a cutting torch on, the empty drum. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

14.1	**UN number**	UN 3105
14.2	**UN proper shipping name**	Organic Peroxide Type D Liquid
	Technical name	(Methyl Ethyl Ketone Peroxides, <=45%)
14.3	**Transport hazard class(es)**	5.2
	Subsidiary shipping hazard	N/A
14.4	**Packing group**	II
14.5	**Environmental hazards**	Unknown
14.6	**Special precautions for user**	Unknown
	EmS-No.:	F-J, S-R
14.7	**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code**	Unknown

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation for the substance or mixture:

U.S. Federal Regulations: As follows -

CERCLA - Sara Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Reactive Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
MEK PEROXIDES	1338-23-4

Toxic Substances Control Act:

All components of this product are either listed on the TSCA Inventory or are exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) components exist in this product.

U.S. State Regulations: As follows -

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name	CAS-No.
DIMETHYLPHTHALATE	131-11-3

Pennsylvania Right-To-Know

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name	CAS-No.
DIMETHYLPHTHALATE	131-11-3

California Proposition 65:

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

No Proposition 65 Carcinogens exist in this product.
Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

No Proposition 65 Reproductive Toxins exist in this product.

International Regulations: As follows -

* Canadian DSL:

No Information

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H332	Harmful if inhaled.

Reasons for revision

No Information

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.