Date Prepared: 1/08/16 Date Printed: 9/8/2017

## 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

MATERIAL IDENTITY: TELEPHONE: 281-797-0457

ROCKHARD SCP Ultra Light Weight - Part A

**EMERGENCY TELEPHONE:** 

COMPANY: 1-800-633-8253 (Transportation only)

SolidCast Polymer Technology PERS (#8385)

5422 Chapel Brook Drive Houston, TX 77069

### 2. HAZARDS IDENTIFICATION

#### GENERAL HAZARD STATEMENT

Exposure to this material may induce an allergic or sensitization reaction and aggravate systemic disease. Chronic effects of exposures may cause liver and kidney damage.

## **EMERGENCY OVERVIEW**

#### **OSHA HAZARDOUS**

Target Organ Effect: Skin Sensitizer, Irritant

Target Organs: Kidney, Liver, Heart

## GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

Healt	h	Environmental	Physical
Acute Toxicity,	Category 5	Not Classified	Not Classified
Dermal	Category 2		
Skin Irritation	Category 2A		
Eye Irritation	Category 1		
Skin Sensitization			

Pictogram:



### Signal Word Warning

	]	Hazard Statements	Precautionary Statements		
H303 +	H313	May be harmful if swallowed or	P261 Avoid breathing		
	in conta	act with skin	dust/fume/gas/mist/vapours/spray.		
H315	Causes	Skin Irritation	P264 Wash skin thoroughly after handling.		
H317	May ca	use allergic skin reaction	P280 Wear protective gloves/protective clothing/eye		
H319	Causes	serious eye irritation	protection/face protection.		
			P305+P351+P338 IF IN EYES: Rinse cautiously with		
			water for several minutes. Remove contact lenses,		
			if present and easy to do. Continue rinsing.		
			P302+P352 IF ON SKIN: Wash with plenty of soap and		
			water.		
			P501 Dispose of contents/container to an approved		
			waste disposal plant.		

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization:

Ingredient(s)	CAS Number	% (by weight)
Vinyl Ester Polymer Compound	Proprietary	100

#### 4. FIRST AID MEASURES

**Eyes Contact:** Can cause severe eye irritation. Symptoms include severe irritation, redness, tearing, blurred vision and corneal damage. Immediately flush eyes gently with large amounts of water for at least 15 minutes. Retract eyelids often. Get prompt medical attention.

**Skin Contact:** May be absorbed through the skin in harmful amounts. May cause skin sensitization, and allergic reaction which become evident upon re-exposure. Remove contaminated clothing. Wash the exposed area with mild soap and water. Flush w/lukewarm water for 15 minutes. Launder contaminated clothing before re-use. Seek medical attention if ill effect or irritation develops.

**Ingestion:** Can cause gastrointestinal irritation with nausea, vomiting and diarrhea. Do not induce vomiting. Never give anything by mouth to an unconscious person. Keep person warm, quiet and get medical attention.

**Inhalation:** If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention immediately. This product contains talc which is currently listed by OSHA as a respirable dust hazard with an exposure limit of 2 mg/m<sup>3</sup>.

Advice to physicians: Treat symptomatically and supportively.

## 5. FIRE FIGHTING MEASURES

## **Conditions of Flammability**

Not flammable or combustible.

Fire or excessive heat may result in rupture of container due to bulk polymerization. Heating may cause explosion.

## Suitable extinguishing media

Dry Chemical, CO2, alcohol resistant foam, water spray/water fog for cooling. USE WATER WITH CAUTION. Water may be ineffective in fighting the fire.

#### **Hazardous Decomposition Products**

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

## **Fire Fighting Instructions**

Wear self contained breathing apparatus (pressure-demand MSHA/NIOSH) approved or equivalent and protective clothing. See Section 10 for decomposition products. Fight fire from safe distance/protected location. 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.

## 6. ACCIDENTAL RELEASE MEASURES

#### **Personal Precautions**

Spilled or released material may polymerize and release heat/gases. Eliminate all ignition sources and ventilate area. Wear protective equipment during clean up (see Section 8).

## **Environmental Precautions**

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Prevent runoff from entering drains, sewers, or streams. Dispose/report per regulatory requirements.

## Methods and Materials for Containment and Cleaning Up

Spilled or released material may polymerize and release heat/gases. Eliminate all ignition sources and ventilate area. Do Not let product enter sewers. Dike and recover large spills. Soak up small spills with inert solids (such as vermiculite, clay) 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. Dispose/report per regulatory requirements.

## 7. HANDLING AND STORAGE

## **Precautions for Safe Handling**

Unless inhibited, product can polymerize, raising temperature and pressure, possibly rupturing container. Check Organoclay

#### **Conditions for Safe Storage**

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.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS					
HAZARDOUS COMPONENT	PEL	STEL	TLV	Other	
Vinyl Ester Polymer Compound	NE	NE	NE	NE	

#### **Engineering Controls**

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

#### **Respiratory Protections**

Where exposure through inhalation may occur from use, NIOSH/MSHA approved respiratory protection equipment is recommended. If cured material is cut or sanded a NIOSH/MSHA particulate respirator is recommended.

### **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 and Body Protection**

When skin contact is possible, protective clothing including apron, sleeves, boots head and face protection should be worn. Wear chemical resistant gloves such as neoprene, rubber, latex, etc.

#### Other hygienic practices

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

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## 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form Viscous paste
Color Gray
pH N/DA

Melting/Freezing Temperature < - 60 C (,-76 F)
Boiling Point 67 C/ 153 F
Flash Point 96 C/ 205 F
Ignition Temperature N/DA
Autoignition Temperature N/DA

Lower explosive limit N/AP Upper explosive limit N/AP

Vapor Pressure 0.1 mm Hg
Vapor Density (air=1) >1
Solubility N/DA

Viscosity, Kinematic AP varies with product mix cps at 25 C/77F

Percent Volatiles Negligible Evaporation Rate (Bac=1) N/DA

Odor Mild to sweet acrylic odor

Odor threshold N/DA

#### 10. STABILITY AND REACTIVITY

### **Chemical Stability**

Stable under recommended storage conditions.

#### **Possibility of Hazardous Reactions**

No data available.

### **Conditions to Avoid**

High temperatures, localized heat sources (i.e., drum or band heaters), oxidizing conditions, freezing conditions, direct sunlight, ultraviolet radiation, inert gas blanketing.

## **Materials to Avoid**

Strong oxidizers, strong reducers, free radical initiators, inert gases, oxygen scavengers, strong oxidizers, acids, bases.

#### **Hazardous Decomposition Products**

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

## 11. TOXICOLOGY INFORMATION

Acute Toxicity Based on HEMA

 $\begin{array}{cccc} Oral \ LD50 & Rat & >5,000 \ mg/kg. \\ Dermal \ LD50 & Rabbit & >3,000 \ mg/kg \\ Inhalation \ LC50 & Rat & 6 \ h > 0.55 \ mg/l \end{array}$ 

Skin Corrosion/Irritation

Skin Rabbit Irritating to skin 24 h

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Serious Eye Damage/Eye Irritation

Eyes Rabbit Irritating to eyes

Respiratory or Skin Sensitization

Guinea pig, various test systems Sensitizing

Cases of sensitization also observed in humans

#### Mutagenicity

Positive as well as negative results in in-vitro mutagenicity/genotoxicity tests.

No experimental indication of genotoxicity in vivo available.

### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

#### 12. ECOLOGICAL INFORMATION

<b>Aquatic Ecotoxicity</b>	Based on Trimethylolpropane triacryalate
----------------------------	--

LC50	1.47 mg/l	Fish	Static Test 96 hours
LC50	19.9 mg/l	Daphnia	Static Test 48 hours
EC50	4.86 mg/l	Algae	Static Test 96 hours

**Bacteria Toxicity** HEMA

EC50 >3,000 mg/l Psuedomonas fluorescens 16 hours

**Biodegradability** 

Readily degradable, OECD 301 B, Bottle Test, 28 d 84%

## Mobility in soil

Do not allow to enter soil, waterways or wastewater.

## 13. DISPOSAL CONSIDERATIONS

## **Waste Disposal**

When a decision is made to discard this material as supplied, it does not meet RCRA's characteristics definition of ignitability, corrosiveness, or reactivity and is not listed in 40CFR261.33. The toxicity characteristic (TC), has not been evaluated by the Toxicity Characteristic Leaching Procedure (TCLP).

## 14. TRANSPORTATION INFORMATION

## DOT (US)

Non-Regulated

**IMDG** 

Non-Regulated

**IATA** 

Non-Regulated

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#### 15. REGULATORY INFORMATION

#### TSCA INVENTORY STATUS

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

### **OSHA HAZARDS**

Target Organ Effect, Skin Sensitizer, Skin Irritant, Eye Irritant

<b>HMIS Classification</b>		NFPA Rating
Health Hazard;	2	2
Flammability	1	1
Physical Hazards	0	0

### SARA TITLE III: Section 311/312 Hazard Class

Acute Health Hazard, Chronic Health Hazard

## SARA TITLE III: Section 313 (40CFR370)

This product does not contain a chemical which is listed in Section 313 at or above the de minimus concentrations.

#### **CERCLA Information (40CFR302.4)**

This material contains no hazardous or extremely hazardous substances as defined by CERCLA or SARA Title III, and release is therefore not reportable.

This material contains an inhibitor (HQ, MEHQ, etc.). The type and amount meet product specifications. Contact a company representative for exact concentrations and details on inhibitor level maintenance.

## California Proposition 65 Information:

This product does not contain substance(s) known to the state of California to cause cancer and/or reproductive toxicity.

#### 16. OTHER INFORMATION

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this SDS was obtained from sources, which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. This SDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

## FOR INDUSTRIAL USE ONLY

### PRODUCT AND COMPANY IDENTIFICATION

### Company

SolidCast Polymer Technology 5422 Chapel Brook Drive Houston, TX 77069

**Telephone Number:** (281) 797-0457

#### **Emergency Information**

Transportation: PERS (#8385)

1-800-633-8253

Other 24 Hour: (281) 797-0457

#### **Product Information**

Product name: ROCKHARD SCP Ultra Light - Part B

Synonyms: Not available
Molecular formula: Complex Mixture

**Chemical family:** Organic peroxide - hydroperoxides **Product use:** Free radical polymerization initiator

### 1. HAZARDS IDENTIFICATION

## **Emergency Overview**

Color: colorless to light yellow

Physical state: liquid

Odor: aromatic, pungent

## \*Classification of the substance or mixture: Flammable liquid., Category 4, H227

Flammable liquid., Category 4, H227
Organic peroxides, Type F, H242
Oral: Acute toxicity, Category 4, H302
Inhalation: Acute toxicity, Category 2, H330
Dermal: Acute toxicity, Category 4, H312
Skin corrosion, Category 1B, H314
Serious eye damage, Category 1, H318
Carcinogenicity, Category 2, H351

Specific target organ toxicity - single exposure, Category 3, H335 Specific target organ toxicity - repeated exposure, Category 2, H373

Aspiration hazard, Category 1, H304 Chronic aquatic toxicity, Category 2, H411

\*For the full text of the H-Statements mentioned in this Section, see Section 16.

#### **GHS-Labelling**











Hazard pictograms:

Signal word: Danger

## **Hazard statements:**

H227: Combustible liquid.

H242: Heating may cause a fire.

H302 + H312 : Harmful if swallowed or in contact with skin

H304 : May be fatal if swallowed and enters airways.

H314: Causes severe skin burns and eye damage.

H330: Fatal if inhaled.

H335: May cause respiratory irritation. H351: Suspected of causing cancer.

H373: May cause damage to organs through prolonged or repeated exposure.

H411: Toxic to aquatic life with long lasting effects.

## **Supplemental Hazard Statements:**

Specific target organ toxicity - repeated exposure: upper respiratory tract. Organic peroxide. Hazardous decomposition may occur.

#### Precautionary statements:

#### Prevention:

P201: Obtain special instructions before use.

P202 : Do not handle until all safety precautions have been read and understood.

P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P220

: Keep/Store away from clothing/ combustible materials.

P234: Keep only in original container.

P260 : Do not breathe gas/mist/vapours/spray.

P264: Wash skin thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P273: Avoid release to the environment.

P280 : Wear protective gloves/ protective clothing/ eye protection/ face protection.

P281: Use personal protective equipment as required.

P284: Wear respiratory protection.

#### Response:

P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

P301 + P330 + P331 : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 : IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing. P308 + P313 : IF exposed or concerned: Get medical advice/ attention.

P310: Immediately call a POISON CENTER or doctor/ physician.

P363: Wash contaminated clothing before reuse.

P370 + P378 : In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

P391: Collect spillage.

#### Storage:

P403 + P233 : Store in a well-ventilated place. Keep container tightly closed.

P405 : Store locked up. P410 : Protect from sunlight.

P411 + P235: Maximum storage temperature is specified on label and in section 7 of SDS. Keep cool.

P420: Store away from other materials.

#### Disposal:

P501: Dispose of contents/ container to an approved waste disposal plant.

#### **Supplemental information:**

#### **Potential Health Effects:**

Prolonged or repeated skin contact may cause defatting resulting in drying, redness and rash. If swallowed, may cause severe irritation and injury to the mouth, throat and digestive tract.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Wt/Wt	GHS Classification**
Hydroperoxide, 1-methyl-1-phenylethyl	80-15-9	>= 80 -<=84 %	H227, H302, H242, H312 H330, H318, H411, , H373
Benzene, (1-methylethyl)-	98-82-8	>= 10 -<25%	H226, H304, H335, H411, H351
Benzenemethanol, .alpha.,.alphadimethyl-	617-94-7	>= 25 -<10 %	H302, H315, H319

<sup>\*\*</sup>For the full text of the H-Statements mentioned in this Section, see Section 16.

### 4. FIRST AID MEASURES

#### General advice:

POISON! Call a Poison Control Center immediately. Get medical attention immediately.

#### Inhalation:

If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

#### Skin

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse.

#### Eves

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.

#### Ingestion:

If swallowed, DO NOT induce vomiting. If vomiting occurs, have person lean forward. Never give anything by mouth to an unconscious person. Rinse mouth.

### 5. FIREFIGHTING MEASURES

## Extinguishing media (suitable):

Water spray, Carbon dioxide (CO2), Dry chemical

#### Extinguishing media (unsuitable):

Water jet.

## Protective equipment:

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand / NIOSH approved or equivalent).

## Further firefighting advice:

Fight fire with large amounts of water from a safe distance.

Cool closed containers exposed to fire with water spray.

Closed containers of this material may explode when subjected to heat from surrounding fire.

After a fire, wait until the material has cooled to room temperature before initiating clean-up activities.

Do not allow run-off from fire fighting to enter drains or water courses.

Fire fighting equipment should be thoroughly decontaminated after use.

### Fire and explosion hazards:

When burned, the following hazardous products of combustion can occur:

Carbon oxides

Hazardous organic compounds

Contact with materials to avoid or exposure to temperatures exceeding the SADT may result in a self-accelerating decomposition reaction with release of flammable vapors which may autoignite.

Vapors are heavier than air and may travel along the ground or be moved by ventilation and ignited by heat, pilot lights, and other flames and ignition sources at locations distant from material handling point.

## 6. ACCIDENTAL RELEASE MEASURES

#### In case of spill or leak:

Prevent further leakage or spillage if you can do so without risk. Evacuate area of all unnecessary personnel. Ventilate the area. Eliminate all ignition sources. Avoid generation of vapors. Contain and collect spillage with non-combustible absorbent material such as sodium bicarbonate, sodium carbonate, calcium carbonate, clean sand or non-acidic clay and then wet down (dampen) the mixture with water. DO NOT USE peat moss. Sweep or scoop up using non-sparking tools and place into suitable properly labeled containers for prompt disposal. The sweepings should be wetted down further with water. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

### 7. HANDLING AND STORAGE

#### Handling

#### General information on handling:

Contact with materials to avoid or exposure to temperatures exceeding the SADT may result in a self-accelerating decomposition reaction with release of flammable vapors which may autoignite.

Do not taste or swallow.

Do not get in eyes, on skin, or on clothing.

Do not breathe vapor or mist.

Keep away from heat, sparks and flames.

No smoking.

Use only with adequate ventilation.

Wash thoroughly after handling.

Prevent product contamination.

Keep container tightly closed and away from combustible materials.

Keep only in the original container.

Check that all equipment is properly grounded and installed to satisfy electrical classification requirements.

Container hazardous when empty.

Follow label warnings even after container is emptied.

RESIDUAL VAPORS MAY EXPLODE ON IGNITION.

DO NOT CUT, DRILL, GRIND, OR WELD ON OR NEAR THIS CONTAINER.

Do not reuse container as it may retain hazardous product residue.

Improper disposal or reuse of this container may be dangerous and/or illegal.

### **Storage**

#### General information on storage conditions:

Store in tightly closed container. Keep container closed when not in use. Store in closed containers, in a secure area to prevent container damage and subsequent spillage. Outside or detached storage is preferred. Store in well ventilated area away from heat and sources of ignition such as flame, sparks and static electricity. Ensure that all storage and handling equipment is properly grounded and installed to satisfy electrical classification requirements. Store out of direct sunlight in a cool well-ventilated place. Store in original container. Store away from combustibles and materials to avoid. Refer also to National Fire Protection Association (NFPA) Code 400, Hazardous Materials Code. Static electricity may accumulate when transferring material. All metal and groundable storage containers, including but not limited to drums, cylinders, Returnable Intermodal Bulk Containers (RIBCs) and Class C Flexible Intermodal Bulk Containers (FIBCs) must be bonded and grounded during filling and emptying operations. Observe all federal, state and local regulations and National Fire Protection Association (NFPA) Codes which pertain to the specific local conditions of storage and use, including OSHA 29 CFR 1910.106 and NFPA 30, 70, 77, and 497.

## Storage stability - Remarks:

Follow the recommended storage temperatures provided in this Section in order to maintain stability and oxygen content.

## Storage incompatibility - General:

Store separate from:

Strong acids

Strong bases

Strong oxidizing agents

Reducing agents

Accelerators					
Friedel - Crafts reaction catalyst					
transition metal salts					
metal ions					
Sulphur compounds					
Ketones					
Brass					
Copper					
Copper alloys					
Iron	ron				
Aluminum and aluminum alloys					
For all Organic Peroxides, compatible materials of contact are stainless steel 304 or 316 (preferred), high-density polyethylene (HDPE), polytetrafluoroethylene or glass linings.					
<b>Temperature tolerance – Do not store a</b> 86 °F (30 °C)	above:				
8. EXPOSURE CONTROLS/PERSO	NAL PROTECTION				
Airborne Exposure Guidelines:					
Hydroperoxide, 1-methyl-1-phenylethy	rl (80-15-9)				
US. OARS. WEELs Workplace Environm	nental Exposure Level Guide				
Time weighted average	1 ppm (6 mg/m3)				
Skin designation  Remarks: Can be absorbed through the skin.					
Remarks: Listed					
Benzene, (1-methylethyl)- (98-82-8)					
US. ACGIH Threshold Limit Values					
Time weighted average	50 ppm				
IS OSHA Table 7-1 Limits for Air Contaminants (29 CFR 1910 1000)					

PEL:

Issued on: 01/08/2016

50 ppm (245 mg/m3)

Skin designation Remarks:

Can be absorbed through the skin.

Only those components with exposure limits are printed in this section. Limits with skin contact designation above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required. Limits with a sensitizer designation above mean that exposure to this material may cause allergic reactions.

## **Engineering controls:**

Investigate engineering techniques to reduce exposures below airborne exposure limits or to otherwise reduce exposures. Provide ventilation if necessary to minimize exposures or to control exposure levels to below airborne exposure limits (if applicable see above). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

#### Respiratory protection:

Do not breathe vapor or mist. Where airborne exposure is likely or airborne exposure limits are exceeded (if applicable, see above), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. Consult respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure or where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

## Skin protection:

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing immediately and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash thoroughly after handling.

## Eye protection:

Where there is potential for eye contact, wear a face shield, chemical goggles, and have eye flushing equipment immediately available.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Color: colorless to light yellow

Physical state: liquid

Odor: aromatic, pungent

Odor threshold: No data available

Flash point 174 °F (79 °C) (Method: closed cup)

**Auto-ignition** No data available

temperature:

Lower flammable limit

0.9 %(V) (LFL):

**Upper flammable limit** 6.5 %(V) (UFL):

pH: 5 - 6

Density: 1.0619 g/cm3 (68 °F (20 °C))

1.0619 (68 °F( 20 °C))Water=1 (liquid)

**Specific Gravity (Relative** 

density):

Vapor pressure: 0.033 mmHg (77 °F (25 °C))

Relative vapor density: 5.4 (68 °F (20 °C))

Vapor density: No data available

**Boiling point/boiling** 

range:

127 °F (53 °C) 0.1 mmHg

Melting point/range: 16 °F (-9 °C)

**Evaporation rate:** No data available

Solubility in water: 13.9 g/l 77 °F (25 °C)

Viscosity, dynamic: 12.5 mPa.s 68 °F (20 °C)

Oil/water partition

coefficient:

No data available

**Self-Accelerating** Decomposition

Temperature (SADT):

180 °F (82 °C) (Method: OPPSD (USA))

Thermal decomposition No data available

Active oxygen content: 8.4 - 8.82 %

Flammability: See GHS Classification in Section 2

### 10. STABILITY AND REACTIVITY

#### Stability:

This material is chemically unstable and should only be handled under specified conditions. See HANDLING AND STORAGE section of this MSDS for specified conditions.

#### Hazardous reactions:

Hazardous polymerization does not occur.

#### Materials to avoid:

Strong acids

Strong bases

Strong oxidizing agents

Reducing agents

Accelerators

Friedel - Crafts reaction catalyst

transition metal salts

metal ions

Sulphur compounds

Ketones

**Brass** 

Copper

Copper alloys

Iron

Aluminium

For all Organic Peroxides, compatible materials of contact are stainless steel 304 or 316 (preferred), high-density polyethylene (HDPE), polytetrafluoroethylene or glass linings.

## Conditions / hazards to avoid:

See HANDLING AND STORAGE section of this MSDS for specified conditions. 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.

### Hazardous decomposition products:

Temperatures at or above SADT can result in the release of hazardous decomposition products which are flammable and may autoignite.

Thermal decomposition giving flammable and toxic products:

Carbon oxides

Hazardous organic compounds

### 11. TOXICOLOGICAL INFORMATION

Data on this material and/or its components are summarized below.

#### **Data for ArmorRock Grout Part B**

#### **Acute toxicity**

#### Oral:

Acute toxicity estimate 446.59 mg/kg.

#### Dermal

Acute toxicity estimate 1,755 mg/kg.

#### Inhalation:

4 h Acute toxicity estimate 1.56 mg/l. (vapour)

#### Data for Hydroperoxide, 1-methyl-1-phenylethyl (80-15-9)

## **Acute toxicity**

#### Skin Irritation:

Causes severe skin burns. (Rabbit) (4 h)

Causes mild skin irritation. (Rabbit) (4 h) (7 %) (dilute solutions)

#### Eye Irritation:

Causes serious eye damage. (Rabbit) Irritation Index: 65/110. (10 %)

Causes mild eye irritation. (Rabbit) Irritation Index: 6/110. (1 %)

### Repeated dose toxicity

Subchronic inhalation administration to Rat / affected organ(s): upper respiratory tract / signs: breathing difficulties, irritation / Local irritation

Chronic dermal administration to Mouse / affected organ(s): site of contact / signs: hair loss, irritation

#### Carcinogenicity

Chronic dermal administration to Mouse / signs: No increase in tumor incidence was reported.

## Genotoxicity

## Assessment in Vitro:

Both positive and negative responses were observed in various standard tests for genetic changes.

#### Genotoxicity

## Assessment in Vivo:

Genetic changes were observed in laboratory tests using: fruit flies

## Data for Benzene, (1-methylethyl)- (98-82-8)

## **Acute toxicity**

### Skin Irritation:

Causes mild skin irritation. (Rabbit) Irritation Index: 3.7/8.0. (24 h)

#### Eye Irritation:

Not irritating. (Rabbit) Irritation Index: 7.6/110.

#### Skin Sensitization:

Not a sensitizer. Guinea pig maximization test. No skin allergy or irritation was observed.

#### Repeated dose toxicity

Chronic oral administration to Rat / affected organ(s): kidney / signs: increased organ weight

Subchronic inhalation administration to Rat / affected organ(s): blood, kidney, liver / signs: changes in organ structure or function / (vapor)

Subchronic inhalation administration to Mouse / affected organ(s): liver / signs: changes in organ structure or function / (vapor)

Chronic inhalation administration to guinea pig, dog, monkey / No adverse effects reported. (vapor)

#### Carcinogenicity

Chronic inhalation administration to rat and mouse / affected organ(s): lung, upper respiratory tract, kidney / signs: Increase in tumor incidence was reported.

Classified by the International Agency for Research on Cancer as: Group 2B: Possibly carcinogenic to humans. Listed by the National Toxicology Program as: Reasonably anticipated to be a human carcinogen.

#### Genotoxicity

#### Assessment in Vitro:

No genetic changes were observed in laboratory tests using: bacteria, animal cells

#### Genotoxicity

#### Assessment in Vivo:

Generally, no genetic changes were observed in laboratory studies using: rats, mice

## **Developmental toxicity**

Exposure during pregnancy. inhalation (rat, rabbit) / No birth defects were observed.

## Reproductive effects

Repeated administration. inhalation (Rat) / No toxicity to reproduction.

#### Other information

Aspiration hazard

## **Aspiration hazard**

May be harmful if swallowed and enters airways.

## Data for Benzenemethanol, .alpha.,.alpha.-dimethyl- (617-94-7)

### **Acute toxicity**

#### Skin Irritation:

Causes skin irritation. (Rabbit) (24 h) (occluded exposure)

#### Eye Irritation:

Causes serious eye irritation. (Rabbit)

## Repeated dose toxicity

Repeated oral administration to Rat / No adverse systemic effects reported.

Repeated administration to Guinea pig / affected organ(s): eye / signs: irritation / (reversible)

#### 12. ECOLOGICAL INFORMATION

#### **Chemical Fate and Pathway**

Data on this material and/or its components are summarized below.

### Data for Hydroperoxide, 1-methyl-1-phenylethyl (80-15-9)

### **Biodegradation:**

Not readily biodegradable. (28 d) biodegradation < 20 %

### **Octanol Water Partition Coefficient:**

log Pow = 1.6

#### Photodegradation:

Air reaction with OH radicals Half-life direct photolysis: 0.25 d

## **Mobility and Distribution in the Environment:**

It is slightly adsorptive in soil and sediment. / Log Koc = 1.4

### Data for Benzene, (1-methylethyl)- (98-82-8)

#### **Biodegradation:**

Biodegradable. (28 d) biodegradation > 60 %

## **Biological Oxygen Demand:**

20.0 d BOD = 70 % ThOD (predominantly domestic sewage)

### **Octanol Water Partition Coefficient:**

log Pow = 3.55

## **Ecotoxicology**

Data on this material and/or its components are summarized below.

## Data for Hydroperoxide, 1-methyl-1-phenylethyl (80-15-9)

## Aquatic toxicity data:

Harmful. Leuciscus idus 48 h LC50 = 14 - 17 mg/l Toxic. Oncorhynchus mykiss 96 h LC50 = 3.9 mg/l

## Aquatic invertebrates:

Harmful. Daphnia magna (Water flea) 48 h EC50 = 18 mg/l

#### Algae:

Toxic. Scenedesmus subspicatus 72 h EC50 (biomass) = 1.6 mg/l Toxic. Scenedesmus subspicatus 72 h EC50 (growth rate) = 3.1 mg/l

### Data for Benzene, (1-methylethyl)- (98-82-8)

#### Aquatic toxicity data:

Toxic. Oncorhynchus mykiss (rainbow trout) 96 h LC50 = 4.8 mg/l Toxic. Cyprinodon variegatus (sheepshead minnow) 96 h LC50 = 4.7 mg/l

#### Aquatic invertebrates:

Toxic. Daphnia magna (Water flea) 48 h EC(I)50 = 2.14 mg/l

#### Algae:

Toxic. Desmodesmus subspicatus (green algae) 72 h ErC50 = 2.01 - 3.86 mg/l

#### Microorganisms:

Respiration inhibition / Activated sludge 3 h EC0 > 2,000 mg/l

#### Chronic toxicity to aquatic invertebrates:

Toxic. Daphnia magna (Water flea) 21 d NOEC (reproduction) = 0.35 mg/l

#### Chronic toxicity to aquatic plants:

Practically nontoxic. Desmodesmus subspicatus (green algae) 72 h NOEC (growth rate) = 1.49 mg/l

#### Data for Benzenemethanol, .alpha.,.alpha.-dimethyl- (617-94-7)

#### Aquatic toxicity data:

Oncorhynchus mykiss (rainbow trout), Bluegill sunfish, Sea lamprey 24 h NOEC = 5 mg/l

## 13. DISPOSAL CONSIDERATIONS

## Waste disposal:

Dilution followed by incineration is the preferred method. Dilution ratio of 10:1 in a clean, compatible, combustible solvent (i.e., Fuel Oil #2, mineral oil) will reduce reactivity hazard during incineration and transportation. Dispose of in accordance with federal, state and local regulations. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

Take appropriate measures to prevent release to the environment.

### 14. TRANSPORT INFORMATION

UN Number : 3109

Proper shipping name : Organic peroxide type F, liquid Technical name : (Cumyl hydroperoxide, <=90%)

Class : 5.2
Subsidiary hazard class : (8)
Packaging group : II
Marine pollutant : yes

Reportable quantity : 10 lbs (hydroperoxide, 1-methyl-1-phenylethyl)

#### **US Department of Transportation (DOT)**

## **International Maritime Dangerous Goods Code (IMDG)**

UN Number : 3109

Proper shipping name : ORGANIC PEROXIDE TYPE F, LIQUID

Technical name : (hydroperoxide, 1-methyl-1-phenylethyl, <=90%)

Class : 5.2 Marine pollutant : yes

Flash point : 174 °F (79 °C)

### 15. REGULATORY INFORMATION

## **Chemical Inventory Status**

EU. EINECS EINECS Conforms to

United States TSCA Inventory TSCA The components of this product are all on

the TSCA Inventory.

Canadian Domestic Substances List (DSL)

DSL

All components of this product are on the

Canadian DSL.

China. Inventory of Existing Chemical Substances in

China (IECSC)

IECSC (CN)

Conforms to

Japan. ENCS - Existing and New Chemical ENCS (JP) Conforms to

Substances Inventory

Japan. ISHL - Inventory of Chemical Substances ISHL (JP) Conforms to

Korea. Korean Existing Chemicals Inventory (KECI) KECI (KR) Conforms to

Philippines Inventory of Chemicals and Chemical PICCS (PH) Conforms to Substances (PICCS)

Australia Inventory of Chemical Substances (AICS)

AICS

Conforms to

## United States - Federal Regulations

## SARA Title III - Section 302 Extremely Hazardous Chemicals:

The components in this product are either not SARA Section 302 regulated or regulated but present in negligible concentrations.

## SARA Title III - Section 311/312 Hazard Categories:

Acute Health Hazard, Chronic Health Hazard, Fire Hazard, Reactivity Hazard

### **SARA Title III – Section 313 Toxic Chemicals:**

The following components are subject to reporting levels established by SARA Title III, Section 313:

Chemical Name	CAS-No.	De minimis	Reportable threshold:
		concentration	
Benzene, (1-methylethyl)-	98-82-8	1.0 %	25000 lbs (Manufacturing and processing) 10000 lbs (Otherwise used (non- manufacturing/processing))
Hydroperoxide, 1-methyl-1-phenylethyl	80-15-9	1.0 %	10000 lbs (Otherwise used (non-manufacturing/processing)) 25000 lbs (Manufacturing and processing)

## Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantity (RQ):

Chemical Name	CAS-No.	Reportable quantity
Benzene, (1-methylethyl)-	98-82-8	5000 lbs
Hydroperoxide, 1-methyl-1-phenylethyl	80-15-9	10 lbs

## **United States - State Regulations**

## **New Jersey Right to Know**

Chemical Name	CAS-No.
Hydroperoxide, 1-methyl-1-phenylethyl	80-15-9
Benzene, (1-methylethyl)-	98-82-8

## New Jersey Right to Know - Special Health Hazard Substance(s)

Chemical Name	CAS-No.
Hydroperoxide, 1-methyl-1-phenylethyl	80-15-9
Benzene, (1-methylethyl)-	98-82-8
Pennsylvania Right to Know	
Chemical Name	CAS-No.
Hydroperoxide, 1-methyl-1-phenylethyl	80-15-9
Benzene, (1-methylethyl)-	98-82-8

Benzenemethanol, .alpha.,.alpha.-dimethyl-

617-94-7

## Pennsylvania Right to Know - Environmentally Hazardous Substance(s)

Chemical Name	CAS-No.
Hydroperoxide, 1-methyl-1-phenylethyl	80-15-9
Benzene, (1-methylethyl)-	98-82-8

## California Prop. 65

WARNING! This product contains a chemical known to the State of California to cause cancer.

Chemical Name	CAS-No.
Benzene, (1-methylethyl)-	98-82-8

## 16. OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3.

H226 H227 H242 H302	Flammable liquid and vapour. Combustible liquid. Heating may cause a fire. Harmful if swallowed.
H304	. Id. III di II di
H312	May be fatal if swallowed and enters airways.  Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

#### Miscellaneous:

Other information: Refer to National Fire Protection Association (NFPA) Codes 30, 70, 77, and 497 and OSHA 29 CFR 1910.106, for safe handling.

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