



## MATERIAL SAFETY DATA SHEET

### PENACOLITE R2170

#### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

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Product name: Penacolite R2170  
Synonym: None  
Product Use: Used in RFL dipping and fabric processing  
Chemical Family: Resorcinol-Formaldehyde Resin Solution  
Formula:  $(C_6H_6O_2) \cdot CH_2O \cdot x$   
Supplier: Castle Chemicals Ltd, Peak House  
6 Oxford Road, Altrincham, Cheshire WA14 2DY  
Tel: +44 161 608 8800 Fax: +44 161 608 1910  
Email: [Info@castlechemicals.com](mailto:Info@castlechemicals.com)

#### 2. HAZARD IDENTIFICATION

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Risk Phrases According to Council Directive 67/548/EEC  
R Phrases: R36/38 Irritating to Eyes and Skin  
Signal Word Irritant Xi  
GHS EC 1272/2008  
Hazard Class Hazard Category GHS Hazard Statement

Acute Toxicity	5	H303 May be Harmful if Swallowed	No
Skin Corrosion/ Irritation	3	H313 May be Harmful in Contact with Skin	No
Serious Eye Damage/ Eye Irritation	2A	H316 Causes Mild Skin Irritation	No
Signal Word	Warning	H319 Causes Serious Eye Irritation	Yes
		Pictogram – GHS 07	Yes
		Exclamation Mark	

### 3. COMPOSITION INFORMATION ON INGREDIENTS

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Resorcinol	Resorcinol
Hazardous Ingredients	
Percent	<20
Hazard Class	R22, Xn, H302, GHS07
US TSCA	108-46-3
EC EINECS	203-585-2
Japan ENCS	(3)-543
Korea KECI	KE-02557
Australia AICS	108-46-3

Resorcinol - Formaldehyde	Resorcinol - Formaldehyde
Hazardous Ingredients	
Percent	55-65
US TSCA	24969-11-7
EC EINECS	Exempt
Japan ENCS	(7)-827
Korea KECI	KE-17089
Australia AICS	24969-11-7

Water	Water
Hazardous Ingredients	
Percent	25
US TSCA	7732-18-5

### 4. FIRST AID MEASURES

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Eye Contact:	Remove contact lenses. Immediately flush eyes and surrounding areas with large amounts of lukewarm water for at least 15 minutes. Seek immediate medical aid.
Skin Contact:	Remove contaminated clothing. Wipe material from skin. Immediately flush area with large amounts of water for at least 15 minutes. If any irritation is present seek medical aid. Wash contaminated clothing before reuse.
Inhalation:	Remove from exposure. If breathing has stopped or is difficult, administer artificial respiration or oxygen as indicated. Seek medical aid.
Ingestion:	DO NOT ATTEMPT TO GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Remove any evidence of substance from patient's mouth. If victim is conscious and alert, give 8-12 ounces of water or milk. Immediately seek medical aid.
Note To Physician:	Further treatment may be necessary. Contact local Poison Control Center.

### 5. FIREFIGHTING MEASURES

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TDG Flammability	
Classification:	None
Extinguishing Media:	Use dry chemical, carbon dioxide, foam or water spray.
Fire-Fighting Procedures:	Wear complete fire service protective equipment, including full-face MSHA/NIOSH approved self-contained

Fire and Explosion

Hazards:

breathing apparatus. Use water to cool fire-exposed container/structure/protect personnel.

Closed containers may explode or rupture when exposed to extreme heat (fire).

Sensitivity to Mechanical

Impact / Static Discharge

Not Defined

## **6. ACCIDENTAL RELEASE MEASURES**

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Spill or Leak Procedure:

Stop spill/leak if no risk involved. Stay upwind. Shovel back into original dry container or waste receptacle. Flush area with water. Contain runoff from fire control and dilution water.

## **7. HANDLING AND STORAGE**

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Handling:

Avoid prolonged or repeated breathing of vapors, mists or fumes. Avoid prolonged or repeated contact with skin or eyes.

Storage:

Keep in a closed, labeled container within a cool (well shaded), dry well ventilated area. Protect from physical damage. Keep containers closed when material is not in use. Maintain good housekeeping.

Other:

Not for use or storage in or around the home. Do not use until manufacturer's precautions have been read / understood. Wash exposed areas promptly and thoroughly after skin contact and before eating, drinking, using tobacco products or restrooms.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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Eye Protection:

Industrial safety glasses, minimum. Also at a minimum, comply with 29 CFR 1910.133 or equivalent and evaluate work area conditions: use side shields, goggles or face shield.

Skin Protection:

As required, industrial resistant flexible-type gloves. Depending on working conditions, i.e., contact potential, wear impervious protective garments such as head/neck cover, aprons, jackets, pants, coveralls, boots, etc.

Respiratory Protection:

Not required under normal use conditions. If ventilation does not maintain inhalation exposures below TLV (PEL), use MSHA/NIOSH approved units as per current 29 CFR 1910.134 or equivalent and manufacturers' "Instructions" and "Warnings". If within OSHA protection factor, air purifying organic vapor cartridge/canister with particulate filter is acceptable.

Ventilation:

Provide sufficient general/local exhaust ventilation in pattern/volume to control inhalation exposures below current exposure limits and areas below flammable vapor concentrations.

Hazardous Ingredients	Exposure Limit	PPM	MG/M3
Resorcinol	ACGIH-TLV	10	45
	ACHIG-STEL	20	90
Resorcinol-Formaldehyde	None Established	-	-
Water	-	-	-

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Flash Point & Method:	>100° C (>212°F)
Auto ignition Temp:	NA
Flammable Limits (% BY VOLUME/AIR):	Lower: NA Upper: NA
Specific Gravity	1.24
% Volatile By Vol:	25
Boiling Point:	100° C (212° F)
Evaporation Rate (ETHER=1):	NA
Melting Point:	NA
Viscosity:	50 poise @ 23 °C
Vapor Pressure:	<20 mm
pH:	1
Vapor Density (AIR=1):	ND
Solubility (WATER):	Appreciable
VOC:	NA
Coefficient of Water/Oil Distribution:	ND
Appearance / odor:	Viscous orange-red liquid; slight phenolic odor

## 10. STABILITY AND REACTIVITY

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Conditions Contributing to Instability:	None
Compatibility:	Reaction with formaldehyde is mildly exothermic.
Hazardous Reactions / Decomposition / Combustion Products:	Water, Carbon Dioxide, Carbon Monoxide
Conditions Contributing to Hazardous Polymerization:	None

## 11. TOXICOLOGICAL INFORMATION

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Acute Toxicity	
Oral Toxicology:	4.1 g/kg Oral-Rat LD50
Dermal Toxicology:	>3.98 g/kg Intact and Abraded Skin- Rabbit LD50 24 hrs..
Skin Corrosion/Irritation:	Score 1.1 – Moderate Irritation Rabbit 24 hrs
Serious Eye Damage/Irritation	Score 62.2 @24, 61.8 @48 and 60.0 @72 hrs. – Serious Eye Damage Rabbit
Respiratory Sensitization:	Not Determined
Skin Sensitization:	Not Determined
Mutagenicity:	Not Determined



## 16. OTHER INFORMATION

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### Disclaimer

Chemical analysis indicates that <0.1% free formaldehyde is present in product. No known ingredients which occur at greater than 0.1% are listed as a carcinogen in the IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, the NTP Annual Report on Carcinogens or OSHA 29 CFR 1910 Subpart Z Toxic and Hazardous Substances (specifically regulated substances).  
SKIN PROTECTION (protective material):  
Permeation/degradation values of chemical mixtures cannot be predicted from pure components or chemical classes. Thus, these materials are normally best estimates based on available pure component data. A significant difference in chemical breakthrough time has been reported for generically similar gloves from different manufacturers (AIHJ., 48, 941-947 1987). Do not use until manufacturer's precautions have been read/understood. Wash exposed areas promptly and thoroughly after skin contact from working with this product and before eating, drinking, using tobacco products or restrooms. Do not wear contact lenses without proper eye protection when using this product.

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