

## MATERIAL SAFETY DATA SHEET

### FR308 Epoxy Putty (COMPONENT A – RESIN)

#### SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<b>Common Name:</b>	FR308 Epoxy Putty (Component A – Resin)	<b>Code:</b>	FR308
<b>Synonym:</b>	Not available	<b>Validation Date:</b>	15.08.2017
<b>Trade Name:</b>	FR308	<b>Print Date:</b>	16.08.2017
	(Component A – Resin)		
<b>Manufacturer:</b>	Star International, Star House, Turbine Business Park, Turbine Road, Birkenhead, Merseyside, CH41 9BA Tel: +44 (0) 1244 504 500 <a href="http://www.star-international.co.uk">www.star-international.co.uk</a>		

#### Section 2. Composition, Information on Ingredients

Substance/Preparation: Preparation

Ingredient Name	CAS Number	%	EC Number	EU/SABS 0265 Classification
Reaction product: bisphenol A-(epichlorhydrin)	25068-38-6	20 – 30	500-033-5	Xi; R36/38 R43 N; R51/53
Calcium Carbonate Magnesium Silicate	n/a	>70	n/a	
<b>See Section 16 for the full text of the R Phrases declared above</b>				

\* Occupational Exposure Limit(s), if available, are listed in section 8

#### Section 3. Hazardous Identification

The preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification:** Xi; R36/38  
R43  
N; R51/53

**Human health hazards:** Irritating to eyes and skin.  
May cause sensitisation by skin contact.

**Environmental Hazards:** Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.  
**See Section 11 for more detailed information on health effects and symptoms.**

#### Section 4. First Aid Measures

**Eye Contact:** In cases of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

**Skin Contact:** Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if symptoms appear.

**Inhalation:** If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if symptoms persist.

**Ingestion:** Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

**Notes to Physician:** No specific treatment, treat symptomatically.  
**See Section 11 for more detailed information on health effects and symptoms.**

## Section 5. Fire Fighting Measures

<b>Flammability of the Product:</b>	May be combustible at high temperatures
<b>Auto-ignition Temperature:</b>	Not available
<b>Flash Points:</b>	> 200°C
<b>Flammable Limits:</b>	Not available
<b>Products of Combustion:</b>	These products are carbon oxides (CO, CO <sub>2</sub> .....).
<b>Fire Hazards in Presence of Various Substances:</b>	Slightly flammable to flammable in presence of open flame, sparks and static discharge, of heat.
<b>Explosion Hazards in Presence of Various Substances:</b>	Non identified
<b>Fire Fighting Media and Instructions:</b>	In case of fire, use water spray (fog), foam, dry chemical, or CO <sub>2</sub> .
<b>Special protective Equipment for fire-fighters:</b>	Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
<b>Special Remarks on Fire Hazards:</b>	No additional remark.
<b>Special Remarks on Explosion Hazards:</b>	No additional remark.

## Section 6. Accidental Release Measures

<b>Personal precautions:</b>	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Follow all fire fighting procedures (Section 5).
<b>Environmental Precautions and Clean-up Methods:</b>	Minimize contact of spilled material with soils to prevent runoff to surface waterways. See Section 13 for Waste Disposal Information. If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

**Note:** See section 8 for personal protective equipment and section 13 for waste disposal.

## Section 7. Handling and Storage

<b>Handling:</b>	Wash thoroughly after handling. Use suitable protective equipment (Section 8).
<b>Storage:</b>	Keep container tightly closed. Keep container in a cool, well-ventilated area.
<b>Packaging materials Recommended:</b>	Use original container.

## Section 8. Exposure Controls, Personal Protection

### Exposure Controls

#### Occupational exposure

<b>Controls:</b>	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.
<b>Respiratory protection:</b>	A respirator is not needed under normal and intended conditions of product use. Wear appropriate respirator when ventilation is inadequate.
<b>Hand protection:</b>	Rubber gloves. Neoprene gloves.
<b>Eye protection:</b>	Safety glasses. Goggles, face shield, or other full-face protection if potential exists for direct exposure to aerosols or splashes.
<b>Skin protection:</b>	Additional body garments should be used based upon the task being performed (e.g. sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces. Appropriate techniques should be used to remove potentially contaminated clothing.

#### Personal protective Equipment (Pictograms):



#### Occupational exposure limits:

Ingredient Name: Occupational Exposure Limits

Calcium Carbonate	OSHA permissible exposure limit (PEL) 15 mg/m <sup>3</sup> total dust, 5 mg/m <sup>3</sup> respirable fraction for nuisance dusts ACGIH Threshold limit value (TVL) 10mg/m <sup>3</sup> total dust containing no asbestos and < 1% crystalline silica for particulates not otherwise classified
Magnesium Silicate	OSHA permissible exposure limit (PEL) 20 MPPCF for talc containing no asbestos ACGIH Threshold limit value (TVL) 2 mg/m <sup>3</sup> (TWA) respirable dust for talc containing no asbestos

**Engineering control measures:** A system of local and/or general exhaust is recommended to keep employee exposures below the airborne exposure limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

**Personal protection – respiratory:** If the exposure limit is exceeded a half-face dust/mist respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respiratory supplier, whichever is lowest. A full-face piece dust/mist respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator.

**Personal protection – hands:** Gloves

**Personal protection – eye:** Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

**Personal protection – skin:** Lab coat, apron or coveralls

**Other protection:** None

## Section 9. Physical and Chemical Properties

### Physical State and

<b>Appearance:</b>	Putty
<b>Colour:</b>	White or Black
<b>Odour:</b>	Not available
<b>Taste:</b>	Not available
<b>Molecular Weight:</b>	Not applicable
<b>Molecular Formula:</b>	Not applicable
<b>pH:</b>	Not applicable
<b>Boiling/Condensation Point:</b>	Not available
<b>Melting/Freezing Point:</b>	Not available
<b>Critical Temperature:</b>	Not available
<b>Specific Gravity:</b>	2.0 – 2.2 g/cm <sup>3</sup>
<b>Vapour Pressure:</b>	Not available
<b>Vapour Density:</b>	Not available
<b>Volatility:</b>	Not available
<b>Odour Threshold:</b>	Not available
<b>Evaporation Rate:</b>	Not available
<b>VOC:</b>	Not available
<b>Viscosity:</b>	Paste
<b>LogK<sub>ow</sub>:</b>	The product is insoluble in water and octanol.
<b>Ionicity (in Water):</b>	Not available
<b>Dispersion Properties:</b>	Is not dispersed in cold water, hot water.
<b>Solubility:</b>	Insoluble in cold water, hot water, methanol, diethyl ether, n-octanol.
<b>Physical Chemical</b>	
<b>Comments:</b>	No additional remark.

## Section 10. Stability and Reactivity

<b>Stability and Reactivity:</b>	The product is stable
<b>Conditions of Instability:</b>	None identified.

**Incompatibility with Various****Substances:** Reactive with acids.**Hazardous Decomposition****Products:** These products are carbon oxides (CO, CO<sub>2</sub>), nitrogen oxides (NO, NO<sub>2</sub>...)**Hazardous Polymerization:** Will not occur.**Section 11. Toxicological Information****Potential Acute Health Effects****Inhalation:** No specific hazard**Ingestion:** Ingestion may cause gastrointestinal irritation and diarrhea.**Skin contact:** Irritating to skin. May cause sensitisation by skin contact.**Eye contact:** Irritating to eyes.**Acute toxicity**

<u>Ingredient Name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
Reaction product: bisphenol	LD50	11400 mg/kg	Oral	Rat
A-(epichlorhydrin)	LD50	13600 mg/kg	Oral	Rat
	LD50	>500 mg/kg	Oral	Mouse
	LD50	>1200 mg/kg	Dermal	Rat
	LD50	>1270 mg/kg	Dermal	Mouse
Calcium Carbonate	No data available			
Magnesium Silicate	No data available			

**Potential Chronic Health Effects**

<u>Ingredient Name</u>	<u>Carcinogenic Effects</u>	<u>Mutagenic Effects</u>	<u>Developmental toxicity</u>	<u>Impairs fertility</u>
No evidence of risk in humans				

**Over-exposure signs/symptoms****Target Organs:** Contains material, which causes damage to the following organs: cardiovascular system, skin, eye, lens or cornea.**Other adverse effects:** None identified.**Section 12. Ecological Information****Ecotoxicity Data**

<u>Ingredient Name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
Titanium dioxide	Daphnia magna (EC50)	48 hour(s)	>1000 mg/l

**BOD and COD:** Not available.**Biodegradable/OECD:** Not available.**Mobility:** Not available.**Products of Degradation:** These products are carbon oxides (CO, CO<sub>2</sub>) and water, nitrogen oxides (NO, NO<sub>2</sub>...).**Toxicity of the Products****of Biodegradation:** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The products of biodegradation are less toxic than the original product.**Special Remarks on the****Products of Biodegradation:** Not expected to bio-accumulate.

## Section 13. Disposal Considerations

**Waste Disposal:** Incinerate in a licensed high temperature hazardous waste incinerator. Dispose of according to all federal, state and local applicable regulations.

**Waste Stream:** Not applicable.

**Waste Classification:** Not applicable.

**European Waste Catalogue (EWC):** Not applicable.

Consult your local or regional authorities.

## Section 14. Transport Information

Regulatory Information	UN number	Proper shipping name	Class	Packing Group	Label	Additional information
ADR/RID/SABS 0228 Class	Not regulated					
IMDG Class	Not regulated					
IATA-DGR Class	Not regulated					

## Section 15. Regulatory Information

### EU / SABS 0265 Classification

**Hazard symbol(s):**



Irritant

**Risk phrases:**

R36/38- Irritating to eyes and skin.

R43- May cause sensitisation by skin contact.

R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases:**

S24- Avoid contact with skin.

S29- Do not empty into drains

S37- Wear suitable gloves.

S46- If swallowed, seek medical advice immediately and show this container or label.

**Contains:**

Reaction product: bisphenol A-(epichlorhydrin) 500-033-5

**Product Use:**

Classification and labelling have been performed according to EU directives 67/548/EEC, 1999/45/EC including amended and the intended use.

- Industrial applications.

## Section 16. Other information

**Full text of R phrases referred to in Section 2 and 3:**

R36- Irritating to eyes

R36/37/38- Irritating to eyes, respiratory system and skin.

R36/38 Irritating to eyes and skin.

R43- May cause sensitisation by skin contact.

R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Full text of classifications referred to in Sections 2 and 3:**

Xi- Irritant

N- Dangerous for the environment.

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**Notice to Reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.