SAFETY DATA SHEET

SUPERIOR MANUFACTURING

Section 1. Identification

GHS product identifier : FAST CURE EPOXY PATCH PART A

Product code :

Other means of identification : FAST CURE EPOXY PATCH PART A

Product type : EPOXY RESIN

Identified uses : RESIN FOR EPOXY FLOORING, SEALING AND PATCHING

Supplier's details : Superior Manufacturing
4520 Glenmeade Lane
Auburn Hills, MI 48326

www.ordersuperior.com
info@ordersuperior.com
866.523.5677

Emergency telephone number (with hours of operation) : 1-800-535-5053 INFOTRAC

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 2

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H319 - Causes serious eye irritation.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

Section 2. Hazards identification

Prevention : P280 - Wear protective gloves. Wear eye or face protection.
P273 - Avoid release to the environment.
P261 - Avoid breathing vapor.
P264 - Wash hands thoroughly after handling.
P272 - Contaminated work clothing should not be allowed out of the workplace.

Response : P391 - Collect spillage.
P302 + P352 + P362-2 + P363 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse.
P333 + P313 - If skin irritation or rash occurs: Get medical attention.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical attention.

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified (HNOC) : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

CAS number/other identifiers

CAS number : Not applicable.

Ingredient name	%	CAS number
Epoxy Resin	60 - 100	25068-38-6
Cashew, nutshell liq., glycidyl ethers	10 - 30	171263-25-5
Phenol, polymer with formaldehyde, glycidyl ether	10 - 30	28064-14-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Maintain an open airway. Get medical attention if symptoms occur.

Skin contact : Wash with plenty of soap and water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Section 4. First aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No known significant effects or critical hazards.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds

Special protective actions for fire-fighters : No special measures are required.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Section 8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Viscous.]

Color : Colored.

Odor : Phenolic. [Slight]

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >93.333°C (>200°F)

Flash point : Closed cup: >93.3°C (>199.9°F) [Setaflash.]

Evaporation rate : <1 (Butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : 0.012 kPa (0.09 mm Hg) [room temperature]

Vapor density : >1 [Air = 1]

Relative density : 1.13

Solubility : Negligible in water.

Partition coefficient: n-octanol/water : Not available.

Section 9. Physical and chemical properties

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Volatility : 0% (v/v)

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Excessive heat.

Incompatible materials : Reactive or incompatible with the following materials: Strong Acids, Bases, Amines, Mercaptans.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Reaction product: Bisphenol A-(epichlorhydrin)	LD50 Oral	Rat	11.4 g/kg	-
Phenol, polymer with formaldehyde, glycidyl ether	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Reaction product: Bisphenol A-(epichlorhydrin)	Skin - Moderate irritant	Rabbit	-	24 hours 500 µL	-
	Eyes - Mild irritant	Rabbit	-	100 mg	-
	Skin - Severe irritant	Rabbit	-	24 hours 2 mg	-

Sensitization

There is no data available.

Carcinogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Section 11. Toxicological information

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No known significant effects or critical hazards.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Reaction product: Bisphenol A-(epichlorhydrin)	-	31	low

Mobility in soil

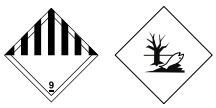
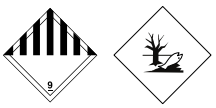
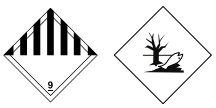
Soil/water partition coefficient (K_{OC}) : There is no data available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT	IMDG	IATA
UN number	UN3082	UN3082	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, polymer with formaldehyde, glycidyl ether). Marine pollutant (Phenol, polymer with formaldehyde, glycidyl ether)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, polymer with formaldehyde, glycidyl ether). Marine pollutant (Phenol, polymer with formaldehyde, glycidyl ether)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, polymer with formaldehyde, glycidyl ether)
Transport hazard class(es)	9 	9 	9 
Packing group	III	III	III
Environmental hazards	Yes.	Yes.	Yes.

Section 14. Transport information

Additional information	Non-bulk packages of this product are not regulated as hazardous materials unless transported by inland waterway. The marine pollutant mark is not required when transported on inland waterways in sizes of ≤5 L or ≤5 kg.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules (EmS)** F-A, S-F	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

AERG : 171

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Reaction product: Bisphenol A-(epichlorhydrin)	60 - 100	No.	No.	No.	Yes.	No.
Cashew, nutshell liq., glycidyl ethers	10 - 30	No.	No.	No.	Yes.	No.
Phenol, polymer with formaldehyde, glycidyl ether	10 - 30	No.	No.	No.	Yes.	No.

SARA 313

No products were found.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

Section 15. Regulatory information

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

California Prop. 65

No products were found.

Section 16. Other information

History

Date of issue mm/dd/yyyy 04/09/2020

Version : 1

Prepared by : KMK Regulatory Services

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

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.

Safety Data Sheet

Version 2.2 SDS Number 300000008442
Revision Date 04/09/2020 Print Date 04/09/2020

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Fast Cure Epoxy Patch Part B
Product Use Description	:	Curing Agent, Epoxy
Manufacturer/Importer/Distributor	:	Superior Manufacturing 4520 Glenmeade Lane Auburn Hills, MI 48326
Telephone	:	866.523.5677
Emergency telephone number (24h)	:	800-535-5053

2. HAZARDS IDENTIFICATION

GHS classification

Acute toxicity - Inhalation Category 4
Acute toxicity - Dermal Category 4
Skin corrosion - Category 1B
Serious Eye Damage - Category 1
Skin sensitization - Category 1
Germ cell mutagenicity - Category 2
Specific target organ toxicity - repeated exposure - Category 2

GHS label elements

Hazard pictograms/symbols

Signal Word: Danger

Hazard Statements:

H312+H332:Harmful in contact with skin or if inhaled
H314:Causes severe skin burns and eye damage.
H317:May cause an allergic skin reaction.
H341:Suspected of causing genetic defects
H373:May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements:

Prevention : P201:Obtain special instructions before use.
P202:Do not handle until all safety precautions have been read and understood.
P260:Do not breathe dust/fume/gas/mist/vapours/spray.
P264:Wash hands thoroughly after handling.
P271:Use only outdoors or in a well-ventilated area
P272:Contaminated work clothing should not be allowed out of the workplace.
P280:Wear protective gloves/protective clothing/eye protection/face protection.
P281:Use personal protective equipment as required.

Response : 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 CENTRE/doctor.
P333+P313 :If skin irritation or rash occurs: Get medical advice/attention.
P363 :Wash contaminated clothing before reuse.

Storage : P405:Store locked up.

Disposal : P501:Disposal of contents/container to be specified in accordance with regulations.

Hazards not otherwise classified

Harmful in contact with skin.
Severe respiratory irritant.
Severe skin irritant.
Severe eye irritant.
May cause sensitization by skin contact.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Concentration (Weight)
Phenol	108-95-2	< 20 %

Benzene-1,3-dimethaneamine (MXDA)	1477-55-0	> 15%

CHEMICAL FAMILY: Aliphatic Amines. The remaining components are trade secret.

4. FIRST AID MEASURES

General advice	:	Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.
Eye contact	:	Rinse immediately with plenty of water for at least 15 minutes.
Skin contact	:	Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Take off contaminated clothing and shoes immediately. NOTE TO PHYSICIANS: Application of corticosteroid cream has been effective in treating skin irritation.
Ingestion	:	Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the recovery position. Prevent aspiration of vomit. Turn victim's head to the side.
Inhalation	:	If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Move to fresh air.
Most important symptoms/effects - acute and delayed	:	Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat.Liver disorders. Kidney disorders. Asthma. Skin disorders and Allergies. Eye disease.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Alcohol-resistant foam. Carbon dioxide (CO2). Dry chemical. Dry sand. Limestone powder.
Specific hazards	:	May generate ammonia gas. May generate toxic nitrogen oxide gases. Use of water may result in the formation of very toxic aqueous solutions. Do not allow run-off from fire fighting to enter drains or water courses. Incomplete combustion may form carbon monoxide. Ammonia gas may be liberated at high temperatures. In case of incomplete combustion an increased formation of oxides of nitrogen (NOx) is to be expected. Downwind personnel must be evacuated. Burning produces noxious and toxic fumes.
Special protective equipment for fire-fighters	:	Avoid contact with the skin. A face shield should be worn. Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.
Further information	:	Do not allow run-off from fire fighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures	:	Use self-contained breathing apparatus and chemically protective clothing. Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas.
Environmental precautions	:	Construct a dike to prevent spreading.
Methods for cleaning up	:	Approach suspected leak areas with caution. Contact Tri-Chem's Emergency Response Center for advice. Place in appropriate chemical waste container.
Additional advice	:	Open enclosed spaces to outside atmosphere. If possible, stop flow of product.

7. HANDLING AND STORAGE

Handling

Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Avoid breathing vapors and/or aerosols. Avoid contact with eyes. Use only in well-ventilated areas. Use personal protective equipment. When using, do not eat, drink or smoke.

Storage

Do not store near acids. Keep containers tightly closed in a dry, cool and well-ventilated place.

Technical measures/Precautions

Do not store in reactive metal containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures

Provide readily accessible eye wash stations and safety showers.
Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.

Personal protective equipment

Respiratory protection	:	Wear appropriate respirator when ventilation is inadequate.
Hand protection	:	Neoprene gloves. PVC disposable gloves Nitrile rubber. Butyl-rubber Impervious gloves. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Eye protection	:	Chemical resistant goggles must be worn.

Skin and body protection : Long sleeve shirts and trousers without cuffs.
Impervious clothing.

Special instructions for protection and hygiene : Wash hands at the end of each workshift and before eating, smoking or using the toilet. Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Provide readily accessible eye wash stations and safety showers.

Exposure limit(s)

Phenol	Time Weighted Average (TWA): ACGIH	5 ppm	-
Phenol	Recommended exposure limit (REL): NIOSH	5 ppm	19 mg/m3
Phenol	Ceiling Limit Value and Time Period (if specified): NIOSH	15.6 ppm	60 mg/m3
Phenol	Permissible exposure limit: OSHA Z1	5 ppm	19 mg/m3
Phenol	Time Weighted Average (TWA): OSHA Z1A	5 ppm	19 mg/m3
Phenol	Time Weighted Average (TWA) Permissible Exposure Limit (PEL): US CA OEL	5 ppm	19 mg/m3
Phenol	Time Weighted Average (TWA): TN OEL	5 ppm	19 mg/m3
Benzene-1,3-dimethaneamine (MXDA)	Ceiling Limit Value: ACGIH	-	0.1 mg/m3
Benzene-1,3-dimethaneamine (MXDA)	Ceiling Limit Value and Time Period (if specified): NIOSH	-	0.1 mg/m3
Benzene-1,3-dimethaneamine (MXDA)	Ceiling Limit Value: OSHA Z1A	-	0.1 mg/m3
Benzene-1,3-dimethaneamine (MXDA)	Ceiling Limit Value: US CA OEL	-	0.1 mg/m3
Benzene-1,3-dimethaneamine (MXDA)	Ceiling Limit Value: TN OEL	-	0.1 mg/m3

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Viscous. Amber.

Odor : Phenolic.

Odor threshold : No data available.

pH : 10

Melting point/range : No data available.

Boiling point/range : > 455 °F (> 235 °C)

Flash point : 230 °F (110 °C)

Evaporation rate	:	No data available.
Flammability (solid, gas)	:	Not applicable.
Upper/lower explosion/flammability limit	:	Not applicable.
Vapor pressure	:	< 20.68 mmHg at 70 ℉ (21 ℃)
Water solubility	:	< 0.1 g/l
Relative vapor density	:	Not applicable.
Relative density	:	1.11 (water = 1)
Partition coefficient (n-octanol/water)	:	No data available.
Auto-ignition temperature	:	No data available.
Decomposition temperature	:	No data available.
Viscosity	:	No data available.
Molecular Weight	:	No data available.
Density	:	69.295 lb/ft3 (1.11 g/cm3) at 70 ℉ (21 ℃)

10. STABILITY AND REACTIVITY

Chemical Stability	:	Stable under normal conditions.
Conditions to avoid	:	No data available.
Materials to avoid	:	Sodium hypochlorite. Organic acids (i.e. acetic acid, citric acid etc.). Mineral acids. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Reactive metals (e.g. sodium, calcium, zinc etc.). Materials reactive with hydroxyl compounds. Oxidizing agents.
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: Carbon monoxide. Carbon dioxide (CO2). Nitrogen oxides (NOx). Nitrogen oxide can react with water vapors to form corrosive nitric acid.

Ammonia
Aldehydes
Flammable hydrocarbon fragments.

Possibility of hazardous Reactions/Reactivity : No data available.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Likely routes of exposure

Effects on Eye : Severe eye irritation.

Effects on Skin : Harmful in contact with skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Inhalation Effects : May cause nose, throat, and lung irritation. Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system.

Ingestion Effects : No data available.

Symptoms : Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat. Liver disorders., Kidney disorders., Asthma., Skin disorders and Allergies., Eye disease.

Acute toxicity

Acute Oral Toxicity : LD50 : > 2,200 mg/kg Species : Rat. Method : Estimated.

Inhalation : LC50 (1 h) : > 20 mg/l Species : Rat. Method : Estimated.

Acute Dermal Toxicity : LD50 : > 1,000 mg/kg Species : Rabbit.
Method : Estimated.

Skin corrosion/irritation : Severe skin irritation.

Serious eye damage/eye irritation : Severe eye irritation.

Sensitization. : No data available.

Chronic toxicity or effects from long term exposures

Carcinogenicity : No data available.

Reproductive toxicity	:	No data is available on the product itself.
Germ cell mutagenicity	:	No data is available on the product itself.
Specific target organ systemic toxicity (single exposure)	:	No data available.
Specific target organ systemic toxicity (repeated exposure)	:	No data available.
Aspiration hazard	:	No data available.

Delayed and Immediate Effects and Chronic Effects from Short and Long Term Exposure

This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater.Prolonged contact may result in chemical burns and permanent damage., Repeated or prolonged contact causes sensitization, asthma and eczemas.Liver disorders., Kidney disorders., Asthma., Skin disorders and Allergies., Eye disease.

Absorption of phenolic solutions through the skin may be very rapid and can cause damage to the kidneys, liver, pancreas and spleen, and edema of the lungs.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Aquatic toxicity : LC50 (96 h) : > 100 mg/l Species : Rainbow trout (Oncorhynchus mykiss).
Method : OECD Test Guideline 203

Toxicity to daphnia - Components

Phenol	EC50 (48 h) : 4 - 7 mg/l	Species : Daphnia

Toxicity to algae - Components

Benzene-1,3-dimethaneamine (MXDA)	EC50 (72 h) : 12 mg/l	Species : Scenedesmus subspicatus

Toxicity to other organisms : No data available.

Persistence and degradability

Biodegradability	:	No data is available on the product itself.
Mobility	:	No data available.
Bioaccumulation	:	No data is available on the product itself.

Bioaccumulation - Components

Phenol	Low bioaccumulation potential.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products	:	Contact supplier if guidance is required.
Contaminated packaging	:	Dispose of container and unused contents in accordance with federal, state, and local requirements.

14. TRANSPORT INFORMATION

DOT

UN/ID No.	:	UN2735
Proper shipping name	:	Amines, liquid, corrosive, n.o.s., (Benzene-1,3-dimethaneamine (MXDA))
Class or Division	:	8
Packing group	:	II
Label(s)	:	8
Marine Pollutant	:	No

IATA

UN/ID No.	:	UN2735
Proper shipping name	:	Amines, liquid, corrosive, n.o.s., (Benzene-1,3-dimethaneamine (MXDA))
Class or Division	:	8
Packing group	:	II
Label(s)	:	8
Marine Pollutant	:	No

IMDG

UN/ID No.	:	UN2735
Proper shipping name	:	AMINES, LIQUID, CORROSIVE, N.O.S., (Benzene-1,3-dimethaneamine (MXDA))
Class or Division	:	8
Packing group	:	II
Label(s)	:	8
Marine Pollutant	:	No

TDG

UN/ID No.	:	UN2735
Proper shipping name	:	AMINES, LIQUID, CORROSIVE, N.O.S., (Benzene-1,3-dimethaneamine (MXDA))
Class or Division	:	8
Packing group	:	II
Label(s)	:	8
Marine Pollutant	:	No

Further Information

The transportation information is not intended to convey all specific regulatory data relating to this material. For complete transportation information, contact a Tri-Chem customer service representative.

15. REGULATORY INFORMATION

Toxic Substance Control Act (TSCA) 12(b) Component(s):

None.

Country	Regulatory list	Notification
USA	TSCA	Included on Inventory.
EU	EINECS	Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer.
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
Japan	ENCS	Included on Inventory.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.
Philippines	PICCS	Included on Inventory.

EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification
Acute Health Hazard Chronic Health Hazard

EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level
Phenol

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.

16. OTHER INFORMATION

HMIS Rating

Health : 3
Flammability : 1
Physical hazard : 0

Prepared by :

Telephone :

Preparation Date : 09/06/2018

For additional information, please visit our Product Stewardship web site at
http://www.airproducts.com/productstewardship/

Fast Cure Epoxy Patch - Part C

Superior Manufacturing

Chemwatch Hazard Alert Code: **1**

Chemwatch: **5184-28**
Version No: **2.1.1.1**
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **04/09/2020**
Print Date: **04/09/2020**
Initial Date: **Not Available**
S.GHS.USA.EN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	Fast Cure Epoxy Patch Part C
Synonyms	RWC-S25, Silicone dioxide
Other means of identification	Not Available

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

Relevant identified uses	Synthetic amorphous (non-crystalline) silica (SAS) can be divided into two groups according to whether the manufacturing process is by the wet route (precipitated silica, silica gel) or the thermal route (pyrogenic silica). Colloidal silicas (silica sols) are stable dispersions of SASs in a liquid, usually water. Furthermore, SASs, which are generally hydrophilic, may be rendered hydrophobic by surface treatment. SASs exist as highly pure, white, fluffy powders or milky-white dispersions of these powders in fluids (usually water). A significant proportion of the global production of SAS is rendered hydrophobic by surface modification mainly with Si-organic compounds. Surface modified (after-treated) SAS can be obtained either by physical or chemical reaction. Floor and repair patching material.

Details of the manufacturer/importer

Registered company name	Superior Manufacturing
Address	4520 Glenmeade Lane, Auburn Hills, MI 48326
Telephone	866.523.5677
Website	http://www.ordersuperior.com
Email	info@ordersuperior.com

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	800-535-5053
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Not considered a Hazardous Substance by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). Not classified as Dangerous Goods for transport purposes.

GHS Classification	Not Applicable

Label elements

GHS label elements	Not Applicable

SIGNAL WORD	**NOT APPLICABLE**

Hazard statement(s)

Not Applicable

Precautionary statement(s) Prevention

Precautionary statement(s) Response

Precautionary statement(s) Storage

Continued...

Precautionary statement(s) Disposal

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
7631-86-9	100	silica amorphous

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ▸ Wash out immediately with fresh running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs: ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	▸ If fumes or combustion products are inhaled remove from contaminated area. ▸ Lay patient down. Keep warm and rested. ▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▸ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▸ Transport to hospital, or doctor. ▸ If dust is inhaled, remove from contaminated area. ▸ Encourage patient to blow nose to ensure clear breathing passages. ▸ Ask patient to rinse mouth with water but to not drink water. ▸ Seek immediate medical attention.
Ingestion	▸ Immediately give a glass of water. ▸ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

	▸ There is no restriction on the type of extinguisher which may be used. ▸ Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.

Advice for firefighters

Fire Fighting	▸ When silica dust is dispersed in air, firefighters should wear inhalation protection as hazardous substances from the fire may be adsorbed on the silica particles. ▸ When heated to extreme temperatures, (>1700 deg.C) amorphous silica can fuse. ▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear breathing apparatus plus protective gloves in the event of a fire. ▸ Prevent, by any means available, spillage from entering drains or water courses. ▸ Use fire fighting procedures suitable for surrounding area.
Fire/Explosion Hazard	▸ Non combustible. ▸ Not considered a significant fire risk, however containers may burn. Decomposition may produce toxic fumes of; silicon dioxide (SiO_2)May emit poisonous fumes.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	▸ Remove all ignition sources. ▸ Clean up all spills immediately. ▸ Avoid contact with skin and eyes. ▸ Control personal contact with the substance, by using protective equipment. ▸ Use dry clean up procedures and avoid generating dust. ▸ Place in a suitable, labelled container for waste disposal.
Major Spills	Moderate hazard. ▸ **CAUTION**: Advise personnel in area. ▸ Alert Emergency Services and tell them location and nature of hazard. ▸ Control personal contact by wearing protective clothing. ▸ Prevent, by any means available, spillage from entering drains or water courses.

Continued...

	▸ Recover product wherever possible.
	Personal Protective Equipment advice is contained in Section 8 of the MSDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of exposure occurs. ▸ Use in a well-ventilated area. ▸ Prevent concentration in hollows and sumps. ▸ **DO NOT** enter confined spaces until atmosphere has been checked. ▸ **DO NOT** allow material to contact humans, exposed food or food utensils.
Other information	▸ Store in original containers. ▸ Keep containers securely sealed. ▸ Store in a cool, dry area protected from environmental extremes. ▸ Store away from incompatible materials and foodstuff containers. ▸ Protect containers against physical damage and check regularly for leaks. ▸ Observe manufacturer's storage and handling recommendations contained within this MSDS.

Conditions for safe storage, including any incompatibilities

Suitable container	▸ Polyethylene or polypropylene container. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	▸ Metals and their oxides or salts may react violently with chlorine trifluoride and bromine trifluoride. ▸ These trifluorides are hypergolic oxidisers. They ignites on contact (without external source of heat or ignition) with recognised fuels - contact with these materials, following an ambient or slightly elevated temperature, is often violent and may produce ignition. ▸ The state of subdivision may affect the results. Silicas: ▸ react with hydrofluoric acid to produce silicon tetrafluoride gas ▸ react with xenon hexafluoride to produce explosive xenon trioxide ▸ reacts exothermically with oxygen difluoride, and explosively with chlorine trifluoride (these halogenated materials are not commonplace industrial materials) and other fluorine-containing compounds ▸ may react with fluorine, chlorates ▸ are incompatible with strong oxidisers, manganese trioxide, chlorine trioxide, strong alkalis, metal oxides, concentrated orthophosphoric acid, vinyl acetate ▸ may react vigorously when heated with alkali carbonates.

PACKAGE MATERIAL INCOMPATIBILITIES

Not Available

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Levels (PELs) - Table Z1	silica amorphous	Silica, amorphous, precipitated and gel	Not Available	Not Available	Not Available	See Table Z-3
US OSHA Permissible Exposure Levels (PELs) - Table Z1	silica amorphous	Silica, fused, respirable dust	Not Available	Not Available	Not Available	See Table Z-3
US OSHA Permissible Exposure Levels (PELs) - Table Z1	silica amorphous	Silica, amorphous, diatomaceous earth	Not Available	Not Available	Not Available	See Table Z-3;containing less than 1% crystalline silica
US OSHA Permissible Exposure Levels (PELs) - Table Z3	silica amorphous	Amorphous	80/(%SiO2) mg/m3 / 20 mppcf	Not Available	Not Available	including natural diatomaceous earth
US NIOSH Recommended Exposure Limits (RELs)	silica amorphous	Diatomaceous earth, Diatomaceous silica, Diatomite, Precipitated amorphous silica, Silica gel, Silicon dioxide (amorphous)	6 mg/m3	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
silica amorphous	Silica gel, amorphous synthetic	6 mg/m3	6 mg/m3	6 mg/m3
silica amorphous	Silica, amorphous fumed	6 mg/m3	6 mg/m3	630 mg/m3
silica amorphous	Diatomaceous earth; (Silica-amorphous diatomaceous earth (uncalcined))	18 mg/m3	200 mg/m3	1200 mg/m3
silica amorphous	Siloxanes and silicones, dimethyl, reaction products with silica; (Hydrophobic silicon dioxide, amorphous)	0.07 mg/m3	0.77 mg/m3	4.6 mg/m3
silica amorphous	Silica, amorphous fume	0.3 mg/m3	0.3 mg/m3	1.6 mg/m3
silica amorphous	Silica amorphous hydrated	6 mg/m3	6 mg/m3	85 mg/m3
silica amorphous	Diatomaceous silica, calcined	0.9 mg/m3	9.9 mg/m3	59 mg/m3

Ingredient	Original IDLH	Revised IDLH

Continued...

silica amorphous	N.E. mg/m3 / N.E. ppm	3,000 mg/m3

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.
Personal protection	
Eye and face protection	▸ Safety glasses with side shields ▸ Chemical goggles. ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable.
Skin protection	See Hand protection below
Hands/feet protection	The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and.has to be observed when making a final choice. Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: ▸ frequency and duration of contact, ▸ chemical resistance of glove material, ▸ glove thickness and ▸ dexterity Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent). ▸ When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
Body protection	See Other protection below
Other protection	▸ Overalls. ▸ P.V.C. apron. ▸ Barrier cream. ▸ Skin cleansing cream. ▸ Eye wash unit.
Thermal hazards	Not Available

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:
"Forsberg Clothing Performance Index".
The effect(s) of the following substance(s) are taken into account in the ***computer-generated*** selection:
Fast Cure Epoxy Patch Part C Not Available

Material	CPI

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:000 & 149:001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	- -	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	White granules with alkaline odor; insoluble in water.

Physical state	Divided Solid	**Relative density (Water = 1)**	1.60
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Applicable
pH (as supplied)	Not Applicable	**Decomposition temperature**	Not Applicable

Continued...

Melting point / freezing point (°C)	Not Applicable	**Viscosity (cSt)**	Not Applicable
Initial boiling point and boiling range (°C)	Not Applicable	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	Not Applicable	**Taste**	Not Available
Evaporation rate	Not Applicable	**Explosive properties**	Not Available
Flammability	Not Applicable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Applicable	**Surface Tension (dyn/cm or mN/m)**	Not Applicable
Lower Explosive Limit (%)	Not Applicable	**Volatile Component (%vol)**	Not Applicable
Vapour pressure (kPa)	Not Applicable	**Gas group**	Not Available
Solubility in water (g/L)	Immiscible	**pH as a solution (1%)**	Not Applicable
Vapour density (Air = 1)	Not Applicable	**VOC g/L**	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable. ▸ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of dusts, or fumes, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled. If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures. Effects on lungs are significantly enhanced in the presence of respirable particles.
Ingestion	The material has **NOT** been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. Not normally a hazard due to the physical form of product. The material is a physical irritant to the gastro-intestinal tract
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.
Chronic	There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Amorphous silicas generally are less hazardous than crystalline silicas, but the former can be converted to the latter on heating and subsequent cooling. Inhalation of dusts containing crystalline silicas may lead to silicosis, a disabling lung disease that may take years to develop. Overexposure to respirable dust may cause coughing, wheezing, difficulty in breathing and impaired lung function. Chronic symptoms may include decreased vital lung capacity, chest infections Repeated exposures, in an occupational setting, to high levels of fine- divided dusts may produce a condition known as pneumoconiosis which is the lodgement of any inhaled dusts in the lung irrespective of the effect.

Fast Cure Epoxy Patch Part C	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
silica amorphous	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >2000 mg/kg*[1]	* [Grace]
	Inhalation (rat) LC50: >0.139 mg/l/14h *][2]	Eye (rabbit): non-irritating *
	Oral (rat) LD50: >3160 mg/kg*[2]	Skin (rabbit): non-irritating *
Legend:	*1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's msds. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*	

Continued...

SILICA AMORPHOUS	For silica amorphous: When experimental animals inhale synthetic amorphous silica (SAS) dust, it dissolves in the lung fluid and is rapidly eliminated. If swallowed, the vast majority of SAS is excreted in the faeces and there is little accumulation in the body. Following absorption across the gut, SAS is eliminated via urine without modification in animals and humans. SAS is not expected to be broken down (metabolised) in mammals. After ingestion, there is limited accumulation of SAS in body tissues and rapid elimination occurs. Intestinal absorption has not been calculated, but appears to be insignificant in animals and humans. Reports indicate high/prolonged exposures to amorphous silicas induced lung fibrosis in experimental animals; in some experiments these effects were reversible. [PATTYS]

Acute Toxicity	⊘	**Carcinogenicity**	⊘
Skin Irritation/Corrosion	⊘	**Reproductivity**	⊘
Serious Eye Damage/Irritation	⊘	**STOT - Single Exposure**	⊘
Respiratory or Skin sensitisation	⊘	**STOT - Repeated Exposure**	⊘
Mutagenicity	⊘	**Aspiration Hazard**	⊘

Legend: ✔ *– Data required to make classification available*
✘ *– Data available but does not fill the criteria for classification*
⊘ *– Data Not Available to make classification*

CMR STATUS

CARCINOGEN	silica amorphous	US Environmental Defense Scorecard Recognized Carcinogens	P65
RESPIRATORY	silica amorphous	US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs) - Respiratory	X

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
silica amorphous	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
silica amorphous	LOW (LogKOW = 0.5294)

Mobility in soil

Ingredient	Mobility
silica amorphous	LOW (KOC = 23.74)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate: ▸ Reduction ▸ Reuse ▸ Recycling ▸ Disposal (if all else fails) This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

SECTION 15 REGULATORY INFORMATION

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

Continued...

silica amorphous(7631-86-9) is found on the following regulatory lists	"US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants","US - Idaho - Toxic and Hazardous Substances - Mineral Dust","US - Hawaii Air Contaminant Limits","US - Wyoming Toxic and Hazardous Substances Table Z-3 Mineral Dusts","US - California Permissible Exposure Limits for Chemical Contaminants","US - Idaho - Limits for Air Contaminants","US - Oregon Permissible Exposure Limits (Z-3)","US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants","US - Oregon Permissible Exposure Limits (Z-1)","International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs","US OSHA Permissible Exposure Levels (PELs) - Table Z3","US - Michigan Exposure Limits for Air Contaminants","US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values","US - Alaska Limits for Air Contaminants","US NIOSH Recommended Exposure Limits (RELs)","US - Washington Permissible exposure limits of air contaminants","US - Minnesota Permissible Exposure Limits (PELs)","US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants","US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants","US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory","US OSHA Permissible Exposure Levels (PELs) - Table Z1"

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	Y
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
Legend:	*Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)*

SECTION 16 OTHER INFORMATION

Other information

Ingredients with multiple cas numbers

Name	CAS No
silica amorphous	112926-00-8, 112945-52-5, 60676-86-0, 61790-53-2, 67762-90-7, 68611-44-9, 68909-20-6, 69012-64-2, 7631-86-9, 844491-94-7, 91053-39-3

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
A list of reference resources used to assist the committee may be found at:
www.chemwatch.net

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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