



TYFO NSM GEL PART A

Section 1. Product and Company Identification

Product Name: Tyfo NSM Gel Part A
Supplier: FyfeFRP LLC | 15341 Vantage Parkway East. Houston, TX 77073 | +1 855.708.3617
Emergency Phone Number: 800.424.9300 (CHEMTREC)
+1 703.741.5970 (Outside the US)
Product Description: Bonding Gel for NSM Carbon Bars
Product Use: Repair of Concrete Structures
Chemical Name or Synonym: N/A

Section 2. Hazards Identification

Classification of the substance or mixture

Acute toxicity – Category 4
Skin Corrosion/irritation – Category 2
Sensitization/skin – Category 1
Eye damage/irritation – Category 2A
Carcinogenicity – Category 1A
Specific target organ toxicity (repeated exposure) – Category 1
Chronic Hazard (long term) – Category 2

Label Elements:



Hazard Statements:

H302 Harmful if swallowed
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H319 Causes serious eye irritation
H350 May cause cancer
H372 Causes damage to organs (lung) through prolonged or repeated exposure (inhalation)
H411 Toxic to aquatic life with long lasting effects.

Signal Word: DANGER

Precautionary Statements:

P280 – Wear protective gloves. Wear eye or face protection. Wear protective clothing.
P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.
P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting.
P302 + P352 + P363 - IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse.



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P303 + P361 + P353 + P363 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.

P333 + P313 - If skin irritation or rash occurs: Get medical attention.

P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Section 3. Composition/ Information on Ingredients

Chemical Name	CAS-No	Weight %
Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)], homopolymer	25085-99-8	30-60%
Crystalline silica, respirable powder	14808-60-7	25-50%
Cristobalite	14464-46-1	10-25%
1,3-Propanediol,2-ethyl-2-(hydroxymethyl)-, polymer with 2-(chloromethyl)oxirane	30499-70-8	<15%
Titanium dioxide	13463-67-7	<5%
Ethanediol	107-21-1	<5%

Section 4. First Aid Measures**First Aid Measures for Accidental:**

Inhalation: Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Ingestion: Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Eye contact: Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

Skin contact: Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.



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Most important symptoms/effects, acute and delayed:

Inhalation: No known significant effects or critical hazards.

Eye contact: Causes serious eye damage.

Skin Contact: Causes severe burns. May cause an allergic skin reaction.

Ingestion: No known significant effects or critical hazards.

Over-exposure signs/symptoms:

Eye Contact: Adverse symptoms may include the following: pain, watering, redness

Inhalation: Adverse symptoms may include the following: Reduce fetal weight, increase in fetal deaths, skeletal malformations

Skin Contact: Adverse symptoms may include the following: pain or irritation, redness, blistering may occur, reduced fetal weight, increase in fetal deaths, skeletal malformations.

Ingestion: Adverse symptoms may include the following: stomach pains, reduced fetal weight, increase in fetal deaths, skeletal malformations

Indication of immediate medical attention and special treatment needed: Treat symptomatically.

Section 5. Fire Fighting Measures

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

Unsuitable Extinguishing Media: No data available

Special Fire Fighting Procedures: 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.

Special Protective Equipment for Fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Specific Hazards Arising from the substance or mixture: Carbon dioxide, carbon monoxide, halogenated compounds, metal oxides/oxide.

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate personal protective equipment. The risk of inhalation of dust must be minimized as much as possible.

Environmental Precautions: Material should not be released into the environment. Prevent product from entering drains.

Methods and Materials for Containment and Cleaning Up: Dam and absorb spillages with sand, earth or other non-combustible material. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labeled container. All waste materials should be packaged, labeled and transported in accordance with all national, state/provincial, and local requirements.

Section 7. Handling and Storage

Precautions for safe handling: No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash promptly with soap and water if skin becomes contaminated. Practice good housekeeping. Avoid conditions which create dust.



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Conditions for safe storage including any incompatibilities: Keep containers tightly closed. Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames, and high temperatures.

Section 8. Exposure Controls / Personal Protection

Control Parameters (Exposure Limits):

Chemical Name	Exposure Limits
Crystalline silica, respirable powder	OSHA PEL Z3 (United States, 6/2016). TWA: 250 mppcf / (%SiO ₂ +5) 8 hours. Form: Respirable TWA: 10 mg/m ³ / (%SiO ₂ +2) 8 hours. Form: Respirable NIOSH REL (United States, 10/2016). TWA: 0.05 mg/m ³ 10 hours. Form: Respirable dust OSHA PEL (United States, 6/2016). TWA: 50 µg/m ³ 8 hours. Form: Respirable dust ACGIH TLV (United States, 3/2017). TWA: 0.025 mg/m ³ 8 hours. Form: Respirable fraction
Cristobalite	OSHA PEL Z3 (United States, 6/2016). TWA: 250 mppcf / 2 x (%SiO ₂ +5) 8 hours. Form: Respirable TWA: 10 mg/m ³ / 2 x (%SiO ₂ +2) 8 hours. Form: Respirable TWA: 30 mg/m ³ / 2 x (%SiO ₂ +2) 8 hours. Form: Total dust NIOSH REL (United States, 10/2016). TWA: 0.05 mg/m ³ 10 hours. Form: Respirable dust OSHA PEL (United States, 6/2016). TWA: 50 µg/m ³ 8 hours. Form: Respirable dust ACGIH TLV (United States, 3/2017). TWA: 0.025 mg/m ³ 8 hours. Form: Respirable fraction
Titanium dioxide	ACGIH TLV (United States, 3/2017). TWA: 10 mg/m ³ 8 hours. OSHA PEL (United States, 6/2016). TWA: 15 mg/m ³ 8 hours. Form: Total dust
Ethanediol	ACGIH TLV (United States, 3/2017). STEL: 10 mg/m ³ 15 minutes. Form: Inhalable fraction. Aerosol only STEL: 50 ppm 15 minutes. Form: Vapor fraction TWA: 25 ppm 8 hours. Form: Vapor fraction

Appropriate Engineering Control: Ventilation must be adequate for most operations. Protection against nuisance dust must be used when the general level exceeds 10 mg/m³.

Personal Protective Equipment:

Respiratory Protection: Wear dust masks in dusty areas. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Eye / Face Protection: Wear necessary protective equipment. Avoid contact with eyes and prolonged skin contact.



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Skin Protection: Wear suitable protective clothing as protection against splashing or contamination. Wash promptly with soap and water if skin becomes contaminated. Protective gloves should be used if there is a risk of direct contact or splash. Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves. Wear rubber boots. Wear appropriate clothing to prevent repeated or prolonged skin contact.

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.

Section 9. Physical and Chemical Properties

Physical State:	Paste
Colour:	White
Odor:	Slight
Melting Point/ Freezing Point:	No data available
Boiling point:	No data available
Flammability (solid, gas):	No data available
Lower and Upper Explosion limits/	
Flammability Limits:	No data available
Flash Point:	No data available
Auto-ignition Temperature:	No data available
Decomposition Temperature:	No data available
pH:	No data available
Kinematic Viscosity:	No data available
Solubility:	No data available
Evaporation rate (ether=1):	No data available
Flammability Limits in Air:	No data available
Solubility in other solvents:	No data available
Partition coefficient (n-octanol/water):	No data available
Vapour Pressure:	No data available
Density and/or Relative Density:	No data available
Relative Vapour Density:	No data available
Specific Gravity:	No data available
Particle Characteristics:	No data available

Section 10. Stability and Reactivity

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous reactions: Product reacts with water and will generate heat.

Conditions to Avoid: No data available

Incompatible Materials / Chemicals: No data available

Hazardous Decomposition Products: No data available



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Section 11. Toxicological Information**Information in the likely route of exposure:****Potential Acute Health Effects:**

Skin contact: Irritating to skin.

Eye contact: Irritating to eyes.

Symptoms related to the physical, chemical and toxicological characteristics:**Target organs:** No data available**Mutagenicity:** No data available**Carcinogenicity:** May cause cancer (Inhalation)**Reproductive Toxicity:** No data available**Tetratogenicity:** No data available**Specific Target Organ Toxicity - single exposure (STOT-se):** May cause respiratory irritation (Inhalation).**Specific Target Organ Toxicity - repeated exposure (STOT-re):** Causes damage to organs (lung) through prolonged or repeated exposure (inhalation).**Over-exposure signs / symptoms:** No data available**Delayed and immediate effects and also chronic effects from short and long-term exposure:**

Short term exposure: No data available.

Long term exposure: No data available

Numerical measures of toxicity: No data available**Section 12. Ecological Information****Ecotoxicity:** No determined**Persistence and degradability:** No determined**Bioaccumulative potential:** This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).**Mobility in soil:** No determined**Other adverse effects:** No determined**Section 13. Disposal Considerations****Waste treatment methods:** Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.**Uncleaned packaging:** Do not re-use empty containers for food, clothing, or products for human or animal consumption, or where skin contact can occur. Dispose of container and unused contents in accordance with federal, state, and local regulations.**Section 14. Transport Information****IATA:**

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Oxirane)

UN number: UN3082

Hazard Class: 9



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Packing Group: III
Marine Pollutant: Yes

IMDG:

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Oxirane)
UN number: UN3082
Hazard Class: 9
Packing Group: III
Note: the marine pollutant mark is not required when transported in sizes of <5L or <5kg.

DOT:

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Oxirane)
UN number: UN3082
Hazard Class: 9
Packing Group: III
Note: This product is not regulated as a marine pollutant when transported on inland waterways in sizes of <5L or <5kg or by road, rail or inland air in non-bulk sizes, provided packaging meets the general provisions of §§ 173.24 and 173.24a.

Section 15. Regulatory Information

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

U.S. Federal regulations :

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs): Listed

Clean Air Act Section 602 Class I Substances: Not listed

Clean Air Act Section 602 Class II Substances

DEA List I Chemicals (Precursor Chemicals): Not listed

DEA List II Chemicals (Essential Chemicals): Not listed

SARA 313

	Product Name	CAS Number
Form R – Reporting Requirements	Ethanediol	107-21-1
Supplier Notification	Ethanediol	107-21-1

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution if the notice attached to copies of the SDS subsequently redistributed.

State Regulations

Massachusetts: All the components are listed.

New York: The following components are listed: Ethanediol

New Jersey: All the components are listed.

Pennsylvania: All the components are listed.

California Proposition 65: This product can expose you to chemicals including Titanium dioxide, Crystalline silica, respirable powder, Cristobalite, which are known to the State of California to cause cancer, and Ethanediol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



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Notification status:

US. TSCA: On TSCA Inventory

DSL: This product contains the following components listed on the Canadian NDSL list. All other components are on the Canadian DSL list.

AICS: Not in compliance with the inventory

NZIoC: Not in compliance with the inventory

ENCS: On the inventory, or in compliance with the inventory

KECI: Not in compliance with the inventory

PICCS: Not in compliance with the inventory

IECSC: On the inventory, or in compliance with the inventory

Section 16. Other Information**Key Legend Information:**

CAS – Chemical Abstracts Service

OSHA – Occupational Safety and Health Administration

NIOSH – National Institute for Occupational Safety and Health

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