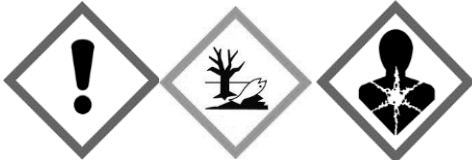



TYFO® SW-1S, COMPONENT A
Section 1. Product and Company Identification

Product Name: Tyfo® SW-1S, Component A
Supplier: FyfeFRP LLC | 621 Lockhaven Drive. Houston, TX 77073 | +1 281.590.8491
Emergency Phone Number: 800.424.9300 (CHEMTREC)
 +1 703.741.5970 (Outside the US)
Product Description: Epoxy resin
Product Use: For professional use only

Section 2. Hazards Identification
Classification of the substance or mixture

Skin Corrosion/irritation – Category 2
 Eye damage/irritation – Category 2
 Sensitization/skin – Category 1
 Mutagenicity – Category 2
 Carcinogenicity – Category 1
 Aquatic Chronic – Category 2

Label Elements:

Hazard Statement(s):

H315 Causes skin irritation
 H317 May cause an allergic skin reaction
 H319 Causes serious eye irritation
 H341 Suspected of causing genetic defects
 H350 May of cause cancer
 H411 Toxic to aquatic life with long lasting effects

Signal Word: Danger

Precautionary Statement(s):

P261 - Avoid breathing vapors
 P264 - Wash hands thoroughly after handling
 P271 - Use only outdoors or in a well-ventilated area
 P272 - Contaminated work clothing must not be allowed out of the workplace
 P280 - Wear eye protection, protective clothing, protective gloves
 P302+P352 - If on skin: Wash with plenty of water
 P332+P313 - If skin irritation occurs: Get medical advice/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 advice/attention.



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Section 3. Composition/ Information on Ingredients

Chemical Name	CAS-No	Weight %
Bisphenol A - Epoxy Resin	25068-38-6	60 – 90
2,3 epoxypropyl o-tolyl ether	2210-79-9	5 – 10
Titanium dioxide	13463-67-7	0.1 – 1

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

General: If exposed or concerned: Get medical advice/attention.

Inhalation: Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

Ingestion: Call a poison center/doctor/physician if you feel unwell.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

Most important symptoms/effects, acute and delayed:

Symptoms/effects after inhalation: May cause respiratory irritation.

Symptoms/effects after skin contact: Irritation. May cause an allergic skin reaction.

Symptoms/effects after eye contact: Eye irritation.

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

Section 5. Fire Fighting Measures

Suitable Extinguishing Media: Water spray. Dry powder. Foam. Carbon dioxide.

Advice for Fire-fighters:

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Specific Hazards Arising from the Substance or Mixture:

Reactivity: The product is non-reactive under normal conditions of use, storage and transport.

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures: Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust, fume, gas, mist, spray, vapors. Avoid release to the environment. Do not attempt to take action without suitable protective equipment. For further information refer to section 8.

Environmental Precautions: Avoid release to the environment. Notify authorities if product enters sewers or public waters.

Methods and Materials for Containment and Cleaning Up: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

**Section 7. Handling and Storage**

Precautions for safe handling: Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

Hygiene measures: Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

Conditions for safe storage including any incompatibilities: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Section 8. Exposure Controls / Personal Protection**Control Parameters (Exposure Limits):**

Chemical Name	ACGIH- TWA (mg/m ³)	OSHA - PEL - TWA (mg/m ³)
Titanium dioxide	10 mg/m ³ (Titanium dioxide; USA; TWA - exposure limit 8 h; TLV - Adopted Value)	15 mg/m ³

Appropriate Engineering Control: Ensure good ventilation of the workstation.

Personal Protective Equipment:

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

Eye / Face Protection: Safety glasses.

Skin Protection: Wear suitable protective clothing. Protective gloves

Environmental exposure controls: Avoid release to the environment.

Section 9. Physical and Chemical Properties

Physical state:	Liquid
Color:	Mixture contains one or more component(s) which have the following color(s): Yellow Colorless to white. Pure substance: white Unpurified: colored White
Odor:	There may be no odor warning properties, odor is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odor(s): Mild odor, odorless
Odor threshold:	No data available
pH:	No data available
Melting point:	Not applicable



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Freezing point:	No data available
Boiling point:	No data available
Flash point:	> 93 °C Closed cup
Relative evaporation rate (butyl acetate=1):	No data available
Flammability (solid, gas):	Not applicable
Explosion limits:	No data available
Explosive properties:	No data available
Oxidizing properties:	No data available
Vapor pressure:	No data available
Relative density:	No data available
Relative vapor density at 20 °C:	No data available
Specific Gravity / density:	No data available
Solubility:	No data available
Log Pow:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity, dynamic:	No data available
Explosion limits:	No data available
Explosive properties:	No data available
Oxidizing properties:	No data available

Section 10. Stability and Reactivity

Reactivity: The product is non-reactive under normal conditions of use, storage and transport.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous reactions: No dangerous reactions known under normal conditions of use.

Conditions to Avoid: None under recommended storage and handling conditions (see section 7).

Incompatible Materials / Chemicals: No additional information available.

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: Not classified

Epoxy Resin (25068-38-6)

LD50 oral rat: > 2000 mg/kg (Rat; OECD 420: Acute Oral toxicity – Acute Toxic Class Method; Experimental value)

LD50 dermal rat: > 2000 mg/kg (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)

2,3 epoxypropyl o-tolyl ether:

LD50 oral > 5000 mg/kg (Rat)

LD50 dermal > 2000 mg/kg (Rat)

LC50 inhalation (mg/l) 6.09 mg/l/4h (Rat)

ATE US (vapors) 6.09 mg/l/4h

ATE US (dust, mist) 6.09 mg/l/4h



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Titanium Dioxide (13463-67-7)

LD50 oral > 10000 mg/kg (Rat; OECD 425: Acute Oral Toxicity: Up-and-Down Procedure; Experimental value; > 5000 mg/kg body weight; Rat; Experimental value)
LD50 dermal > 10000 mg/kg (Rabbit; Literature study)
LC50 inhalation (mg/l) > 6.8 mg/l/4h (Rat; Experimental value)
IARC group 2B - Possibly carcinogenic to humans

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation: Causes serious eye irritation.
Respiratory or skin sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity: Suspected of causing genetic defects (Inhalation, Dermal)
Carcinogenicity: It contain ingredient (s) that is suspected of causing cancer (Dermal, Inhalation).
Reproductive toxicity: Not classified
Specific target organ toxicity – single exposure: May cause respiratory irritation.
Specific target organ toxicity – repeated exposure: Not classified
Aspiration hazard: Not classified

Symptoms/injuries after inhalation: May cause respiratory irritation.
Symptoms/injuries after skin contact: Irritation. May cause an allergic skin reaction.
Symptoms/injuries after eye contact: Eye irritation.
Symptoms/injuries after ingestion: No effects known.

Section 12. Ecological Information

Ecotoxicity: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Toxicity:

Ingredients	LC50 Fish	EC50 Daphnia
Tyfo® SW-1S, Component A	Fish: > 1000 mg/l Mortality	N/A
Epoxy Resin	2.3 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Oncorhynchus mykiss; Semi-static system; Fresh water; Experimental value)	1.1 - 2.8 mg/l (EC50; Equivalent or similar to OECD 202; 48 h; Daphnia magna; Static system, Fresh water; Experimental value)
2,3 epoxypropyl o-tolyl ether	1 - 10 mg/l (LC50)	1 - 10 mg/l (EC50)
Titanium Dioxide	N/A	> 100 mg/l (LC50; Equivalent or similar to OECD 202; 48 h; Daphnia magna; Static system; Fresh water; Weight of evidence) Algae: 61 mg/l (EC50; Other; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Experimental value)



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Persistence and degradability:

Epoxy Resin: Not readily biodegradable in water. Hydrolysis in water. Low potential for adsorption in soil

2,3 epoxypropyl o-tolyl ether: Not readily biodegradable in water. Biodegradability in soil: no data available. Photodegradation in the air.

Titanium Dioxide: Low potential for mobility in soil.

Bioaccumulative potential:**Epoxy Resin:**

Log Pow \geq 2.918 (Experimental value; EU Method A.8: Partition Coefficient; 25 °C)

Bioaccumulative potential Low potential for bioaccumulation (BCF < 500).

BCF other aquatic organisms: 3 - 31 (BCF)

2,3 epoxypropyl o-tolyl ether: Low potential for bioaccumulation (Log Know = 2.16 – Estimated value)

Titanium Dioxide (13463-67-7): Not bioaccumulative.

Mobility in soil:**Epoxy Resin (25068-38-6):**

Surface tension 0.0 587-0.0589, 20 °C

Log Koc log Koc, SRC PCKOCWIN v2.0; 2.65; QSAR

Other adverse effects: No known ecological damage caused by this product.

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**US DOT:**

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A - Epoxy Resin)

UN number: UN3082

Hazard Class: 9

Packing Group: III

DOT Packaging Bulk (49 CFR 173.xxx): 241

DOT Symbols: G - Identifies PSN requiring a technical name

DOT Packaging Exceptions (49 CFR 173.xxx): 155

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): No limit

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): No limit

DOT Vessel Stowage Location: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

IMDG

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A - Epoxy Resin)



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TYFO® SW-1S, COMPONENT A

UN number: UN3082
Hazard Class: 9
Packing Group: III
Limited quantities (IMDG): 5 L
Marine pollutant: Yes

IATA

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A - Epoxy Resin)
UN number: UN3082
Hazard Class: 9
Packing Group: III

Section 15. Regulatory Information

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

Federal Regulations:

All ingredients are listed on the United States TSCA (Toxic Substances Control Act) inventory

International regulations

Canada: No additional information available

EU-Regulations: No additional information available

National regulations:

Titanium Dioxide (13463-67-7): Listed on IARC (International Agency for Research on Cancer)

US State regulations:

U.S. - California - Proposition 65 – Other information: This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Titanium Dioxide (13463-67-7): U.S. - New Jersey - Right to Know Hazardous Substance List

Section 16. Other Information

Key Legend Information:

CAS: Chemical Abstracts Service
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
NIOSH: National Institute for Occupational Safety and Health
OSHA: Occupational Safety and Health Administration

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