



Section 1. Product and Company Identification

Product Name: TYFO® S-330 Part B
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: Hardener solution
Product Use: Intended to repair pipes
Chemical Name or Synonym: N/A

Section 2. Hazards Identification

Classification of the substance or mixture:

Acute toxicity / Oral – Category 4
 Acute toxicity / Dermal – Category 4
 Skin corrosion/irritation – Category 1A
 Eye damage/eye irritation – Category 1
 Acute toxicity / Inhalation – Category 4
 STOT (SE) – Category 3

Label Elements:



Signal Word: Danger

Hazard Statements:

H302 Harmful if swallowed
 H312 Harmful in contact with skin
 H314 Causes severe skin burns and eye damage.
 H318 Causes serious eye damage
 H332 Harmful if inhaled
 H335 May cause respiratory irritation

Precautionary Statement:

P261 Avoid breathing dust/fume/gas/mist.
 P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P301+P312 IF SWALLOWED: Call a Poison Center/doctor if you feel unwell.
 P302+P361+P353 IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water.
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P362 - Take off contaminated clothing and wash before reuse



P310 - Immediately call a POISON CENTER or doctor/ physician
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

Section 3. Composition/ Information on Ingredients

Chemical Name	CAS-No	Weight %
Cyclohex-1,2-ylenediamine	694-83-7	80.0 – 95.0
Aminopropyltriethoxysilane	919-30-2	1.5 – 7.0

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

General Advice: Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye Contact: Immediate medical attention is required. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Remove material from skin immediately. In the case of skin irritation or allergic reactions see a physician.

Ingestion Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

Inhalation Move to fresh air. If symptoms persist, call a physician.

Protection of First-aiders Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Most important symptoms/effects, acute and delayed:

Hives. Itching. Rashes. Serious eye irritation or damage.

Indication of immediate medical attention and special treatment needed: May cause sensitization of susceptible persons. Treat symptomatically.

Section 5. Fire Fighting Measures

Suitable Extinguishing Media: Water spray. Alcohol-resistant foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable Extinguishing Media: No information available.

Special Protective Equipment and Precautions for Fire-fighters: As in any fire, wear self-contained breathing apparatus and full protective gear.

Specific Hazards Arising from the Chemical (Under Fire Conditions): May cause sensitization by skin contact. Thermal decomposition can lead to release of irritating gases and vapors. Carbon oxides and nitrogen oxides.

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Avoid contact with skin, eyes and clothing. Use personal protective equipment. Evacuate personnel to safe areas.

Environmental Precautions: Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

Methods and Materials for Containment and Cleaning Up: Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.



Reference to other sections: See Section 12 for additional information.

Section 7. Handling and Storage

Precautions for safe handling: Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapors or spray mist. Use only in area provided with appropriate exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Do not take internally.

Conditions for safe storage including any incompatibilities: Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep in properly labeled containers.

Section 8. Exposure Controls / Personal Protection

Exposure Limits: No exposure limit noted for the ingredients.

Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment:

Eye Protection: Tightly fitting safety goggles.

Skin and Body Protection: Impervious clothing.

Hand Protection: Impervious gloves.

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

Environmental Exposure Controls: Do not allow material to contaminate ground water system.

Section 9. Physical and Chemical Properties

Physical Appearance:	Red liquid
Odor:	Amine
pH:	No data available
Flash Point:	No data available
Melting Point Range:	No data available
Boiling point:	No data available
Evaporation rate (ether=1):	No data available
Flammability (solid, gas):	No data available
Specific Gravity:	No data available
Viscosity:	44 cP
Water Solubility:	No data available
Solubility in other solvents:	No data available
Vapor Pressure:	No data available
Vapor density (Air=1)	No data available
Density or Relative Density:	0.94 g/cm ³
Partition coefficient (n-octanol/water):	No data available
Auto-ignition Temperature:	No data available
Decomposition Temperature:	No data available
Explosive Properties:	No information available
Oxidizing Properties:	No information available



VOC Content (%): No information available
Flammability Limits in Air: No data available
Remarks/Method for each test is not known.

Section 10. Stability and Reactivity

Reactivity: No data available.
Chemical Stability: Stable under standard normal conditions.
Possibility of Hazardous reactions: None under normal processing.
Conditions to Avoid: Incompatible products.
Incompatible Materials / Chemicals: Strong oxidizing agents. Strong acids. Acid chlorides. Acid anhydrides.
Hazardous Decomposition Products: Thermal decomposition can lead to release of irritating gases and vapors. Carbon oxides. Nitrogen oxides (NOx).

Section 11. Toxicological Information

Information in the likely route of exposure: Inhalation, ingestion, skin contact, eye contact.

Acute Toxicity

Inhalation: No known effect.

Eye Contact: Corrosive to the eyes. May cause severe damage including blindness.

Skin Contact: May irritate or burn the skin. Causes skin irritation. May cause allergic skin reaction.

Ingestion: May be harmful if swallowed.

Sensitization: May cause sensitization of susceptible persons. May cause sensitization by skin contact.

Mutagenic Effects: No information available.

Carcinogenic Effects: No information available.

Reproductive Toxicity: No information available.

Developmental Toxicity: No information available.

STOT - single exposure: No information available.

STOT - repeated exposure: No information available.

Aspiration Hazard: No information available.

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

Short term exposure: No specific data.

Long term exposure: No specific data

Numerical measures of toxicity**Acute toxicity:**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cyclohex-1,2-ylenediamine	4,556 mg/kg (rat)	-	-
Aminopropyltriethoxysilane	1,780 mg/kg (rat)	3,800 mg/kg (rabbit)	-

Section 12. Ecological Information

Ecotoxicity Effects: No data available

Persistence and degradability: No information available



Bioaccumulative potential: No information available

Mobility in soil: No information available

Results of PBT and vPvB assessment: No information available

Other adverse effects: This product does not contain any known or suspected endocrine disruptors.

Section 13. Disposal Considerations

Waste treatment methods: Disposal of this product solutions and by-products should at all times comply with the requirements of the environmental protection and waste disposal legislation and any regional local authority requirements.

Uncleaned packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. Dispose of in accordance to all local, state, national and/or international legislation/regulations.

Section 14. Transport Information

DOT

UN-Number: UN2735

Proper Shipping Name: Amine, liquid, corrosive, n.o.s (Cyclohex-1,2-ylenediamine)

Hazard Class: 8

Packing Group: II

IATA

UN-Number: UN2735

Proper Shipping Name: Amine, liquid, corrosive, n.o.s (Cyclohex-1,2-ylenediamine)

Hazard Class: 8

Packing Group: II

ERG Code: 8L

Section 15. Regulatory Information

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

TSCA Inventory Status: All Ingredients are reported/included on the EPA TSCA inventory list.

Section 16 Other Information

Key Legend Information:

N/A – Not Applicable

ND – Not Determined

OSHA – Occupational Safety and Health Administration

NIOSH – National Institute for Occupational Safety and Health

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances



ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

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