



MATERIAL SAFETY DATA SHEET

PRODUCT NAME: TYFO® SW-1
MSDS NUMBER: SW1-B-002

COMPONENT B
DATE: April 19, 2013

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SUPERSEDES: Sept. 28, 2010

SECTION I: MATERIAL AND MANUFACTURER IDENTIFICATION

MANUFACTURER:
FYFE CO. LLC
8380 Miralani Drive
San Diego, CA 92126

EMERGENCY TELEPHONE NUMBER:
800-424-9300 or 703-527-3887
INFORMATION TELEPHONE NUMBER:
858-642-0694

PRODUCTION IDENTIFICATION: TYFO® SW-1, Component B
CHEMICAL FAMILY: Amine Mixture

SECTION II: COMPOSITION / INGREDIENTS

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200).

MATERIAL OR COMPONENT	CAS NUMBER	% BY WEIGHT	OSHA(PEL)	ACGIH(TLV)
MODIFIED AMINE	*	>50%	N/E	N/E
SILICON DIOXIDE	14808-60-7	<15	N/E	.1 mg/m3
POLYAMINE	68953-36-6	<15%	N/E	N/E
PETROLEUM	68477-31-6	<15%	N/E	N/E
DISTILLATE	84852-15-3	<12%	N/E	N/E
ALKYL PHENOL	112-57-2	<8%	N/E	N/E
ALIPHATIC AMINE	67762-90-7	<4%	N/E	N/E
COLLOIDAL SILICA	90-72-2	<3%	N/E	N/E
AMINO PHENOL	14808-60-7	>50%	N/E	N/E

* Specific chemical identity of this component is being held as trade secret information in accordance with CFR 1910.1200
N/E = NOT ESTABLISHED

SECTION III: HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:

APPEARANCE AND ODOR: Dark Amber with slight odor.

PRIMARY ROUTES OF EXPOSURE:

EYES--YES SKIN CONTACT--YES INHALATION--YES INGESTION--NO

HMIS RATING:

HEALTH--3 FLAMMABILITY--1 REACTIVITY--0 SPECIAL--NONE

POTENTIAL HEALTH EFFECTS:

EYES: Product may cause irritation to the eyes. Corrosive to the eyes and may cause severe damage including blindness.

SKIN CONTACT: Corrosive to the skin. May cause skin sensitization.

SKIN ABSORPTION: No known information available.

INHALATION: Vapors/mist may be corrosive to upper respiratory tract. Repeated or prolonged exposure can result in lung damage. May be evident by shortness of breath and may be accompanied by chronic cough.

INGESTION: Not expected to be a relevant route of exposure. However, may cause permanent damage to mouth, throat and stomach.

CHRONIC: Repeated exposure may cause skin sensitization, skin irritation, and dermatitis. Preexisting eye, skin, and respiratory disorders may be aggravated by exposure of this product.

SECTION IV: FIRST AID MEASURES

EYES: Flush eyes with water, lifting upper and lower lids occasionally for 15 minutes. Seek medical attention.

SKIN CONTACT: Immediately remove contaminated clothing. Wash thoroughly with soap and water for at least 15 minutes. If irritation occurs, get medical attention. Do not re-use clothing until thoroughly cleaned.

INHALATION: Remove victim from exposure. If difficulty with breathing, administer oxygen. If breathing has stopped, administer artificial respiration. Seek medical attention.

INGESTION: Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Give one glass of water unless victim is drowsy, convulsing, or unconscious. Seek medical attention.

SECTION V: FIRE FIGHTING MEASURES

FLASH POINT/METHOD OF DETERMINATION: >200°F / SETAFLASH

AUTO-IGNITION TEMP: Not available

LIMITS OF FLAMMABILITY: LEL: Not available UEL: Not available

MEANS OF EXTINCTION: Use water fog, dry chemical or CO₂ to extinguish fires. Use water to keep containers cool.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS: Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure NIOSH approved self-contained breathing apparatus. Cool fire exposed containers with water.

USUAL FIRE AND EXPLOSION HAZARDS: Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture. Delayed lung damage can be experienced after exposure to combustion product. Nitrogen oxides and nitrogen containing organic compounds may be released upon combustion.

SECTION VI: ACCIDENTAL RELEASE MEASURES

PROCEDURES IN CASE OF ACCIDENTAL RELEASE OF LEAKAGE: Clean up personnel must be equipped with self-contained breathing apparatus, rubber gloves and protective clothing. Dike and contain the spill. Soak up residue with an absorbent such as clay, sand or other suitable material. Dispose of the absorbent material in accordance with federal, state and local regulations. Residual resin may be removed with hot soapy water.

WASTE DISPOSAL METHOD: Dispose in compliance with federal, state and local regulations.

SECTION VII: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store in a cool, dry place with adequate ventilation. Store in closed containers. Keep sealed from dirt and moisture. Keep away from open flames and high temperatures.

SECTION VIII: EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE/FACE PROTECTION: Avoid eye and skin contact. Wear chemical type goggles and a face shield to prevent contact with eyes.

SKIN PROTECTION: Protective clothing such as uniforms, coveralls or lab coats must be worn. Wear chemical resistant protective clothing, gloves, and boots. Launder or dry-clean when soiled.

RESPIRATORY PROTECTION: Do not breathe vapors/mists. Use a NIOSH approved respirator to prevent overexposure. In accord with 29 cfr 1910.134, use a full face, air supplying respirator or an air-purifying respirator for organic vapors. Avoid breathing vapors which may be produced under some conditions such as applications of uncured material in large surfaces.

VENTILATION: Use explosion proof exhaust ventilation to control the vapor, mists concentrations. If exhaust ventilation is not available or is inadequate, use a NIOSH approved respirator, as appropriate.

GENERAL HYGIENE RECOMMENDATIONS: Before eating, drinking, smoking or using toilet facilities, wash face and hands thoroughly with soap and water. If significant amounts of this material gets on work clothes, the employee should shower immediately and the clothing should be laundered before it is worn again.

SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR	Brown Paste, ammonical odor
BOILING POINT (°F/°C)	N/AV
FREEZING POINT (°F/°C)	N/AV
SPECIFIC GRAVITY (WATER=1)	1.20
pH OF UNDILUTED PRODUCT	N/AV
VAPOR PRESSURE (MM Hg. @ 20C)	N/AV
VAPOR DENSITY (AIR-1)	>Air
PERCENT (%) VOC	0.1%
SOLUBILITY IN WATER	Negligible
ODOR THRESHOLD	N/AV
EVAPORATION RATE	N/AV
WATER/OIL DISTRIBUTION	N/AV

N/AV= Not available

SECTION X: STABILITY AND REACTIVITY

STABILITY: Stable under normal handling and storage conditions.

INCOMPATIBLE MATERIALS: Avoid heat, flame and contact with strong oxidizing agents.

PRODUCTS EVOLVED FROM HEAT OF COMBUSTION OR DECOMPOSITION: Carbon monoxide, aldehydes and acids may be formed during combustion.

HAZARDOUS POLYMERIZATIONS: Will not occur under normal conditions of use.

SECTION XI: TOXICOLOGICAL INFORMATION

PRIMARY ROUTE OF ENTRY: INHALATION, DERMAL, EYES

EFFECTS OF OVER EXPOSURE

INHALATION: May cause irritation on the respiratory tract.

LC(50) INHAL.:	N/AV
EYES:	May cause severe damage to the eyes including blindness
SKIN CONTACT	Corrosive to the skin. In some individuals it may cause sensitization.
SKIN ABSORPTION:	No information available.
INGESTION:	Not expected to be a relevant route of entry. May cause permanent damage to mouth, throat, and stomach.
LD(50) ORAL:	<u>CAS. NO.</u> 90-72-2: >2169 mg/kg (rat) 112-57-2: 3.99 g/kg (rat) 68477-31-6: 2622 mg/kg (rat) 84852-15-3: 58 g/kg (rat)
CHRONIC:	Product does not contain chemicals considered to be carcinogenic by NTP, IARC, or OHSA.

This product contains silicon dioxide and titanium dioxide as the filter, which are bound in the resin matrix, hence affects of any exposure to inhalation as nuisance dust is unlikely. These items are listed on the SARA TITLE III Section 313 inventory.

SECTION XII: ECOLOGICAL INFORMATION

Marine Pollutant: NL
(NL = Not Listed; P = Moderate; PP = Severe; ND = Not Determined)

SECTION XIII: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS: Material for disposal should be placed in appropriate sealed containers to avoid potential human and environmental exposure. It is the responsibility of the generator to comply with all federal, state, provincial and local laws and regulations. We recommend that you contact an appropriate waste disposal contractor and environmental agency for relevant laws and regulations. Under the US, Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets relevant waste classification and to assure proper disposal.

SECTION XIV: TRANSPORTATION INFORMATION

DOT SHIPPING NAME	Corrosive Liquid, N.O.S., (alkaline amine)
DOT HAZARD CLASS	Class 8, PGIII
DOT PLACARD	Corrosive
OTHER REQUIREMENTS:	UN1760, Class 60

SECTION XV: REGULATORY INFORMATION

ALL MATERIALS OF COMPONENTS OF THIS PRODUCT ARE EITHER LISTED OR ARE NOT REQUIRED TO BE LISTED IN THE EPA /TSCA INVENTORY.

TITLE III SECTION 302:	No reportable materials.
TITLE III SECTION 311/312:	Health hazard: Immediate Physical hazard: Fire
TITLE III SECTION 313:	Silicon Dioxide (14808-60-7)

SECTION XVI: OTHER INFORMATION

SPECIAL PRECAUTIONS: Empty containers will retain some of the product residue. When handling or disposing of them, follow all label warnings, other instructions and waste disposal procedures.

EXPLANATION AND DISCLAIMER: Wherever such words or phrases as "hazardous," "toxic," "carcinogen," etc. appear herein, they are used as defined or described under state employee right-to-know laws, Federal OSHA laws or the direct sources for these laws such as the International Agency for Research on Cancer (ISRC), the National Toxicology Program (NTP), etc. The use of such words or phrases should not be taken to mean that we deem or imply any substance or exposure to be toxic, hazardous or otherwise harmful. ANY EXPOSURE CAN ONLY BE UNDERSTOOD WITHIN THE ENTIRE CONTEXT OF ITS OCCURRENCE, WHICH INCLUDES SUCH FACTORS AS THE SUBSTANCE'S CHARACTERISTICS AS DEFINED IN THE MSDS, AMOUNT AND DURATION OF EXPOSURES, OTHER CHEMICALS PRESENT AND PREEXISTING INDIVIDUAL DIFFERENCES IN RESPONSE TO THE EXPOSURE.

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APPROVED AND AUTHORIZED BY: *Edward R. Fyfe*