

1. COMPANY AND PRODUCT DESCRIPTION

APPLIED SILICONE CORPORATION
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EMERGENCY PHONE NUMBERS: FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CONTACT:

**CHEMTREC: 800-424-9300 WITHIN THE UNITED STATES OR
703-527-3887 FOR INTERNATIONAL COLLECT CALLS**

PRODUCT STATUS: FDA regulated use only

CHEMICAL NAME OR SYNONYM: ALKOXYSILANE IN XYLENE

For Product Information: (805) 525-5657

2. COMPOSITION AND INFORMATION ON INGREDIENTS

Component	CAS Reg Number	OSHA Hazard	Percentage
XYLENE	1330-20-7	Y	70 - 75
ETHYLBENZENE	100-41-4	Y	10 - 30
ALKYL SILICATE	*****	N	
ISOPROPYL ORTHOTITANATE	546-68-9	Y	3 - 7

3. HAZARDS IDENTIFICATION**A. EMERGENCY OVERVIEW**

Physical Appearance and Odor: clear, colorless viscous liquid, aromatic odor.

Warning Statements: WARNING!! FLAMMABLE LIQUID. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. CAUSES SKIN, EYE AND RESPIRATORY TRACT IRRITATION. CENTRAL NERVOUS SYSTEM DEPRESSION.

B. POTENTIAL HEALTH EFFECTS:

Acute Eye: Severe irritant. Can cause redness, tissue destruction, irritation.

Acute Skin: Harmful if absorbed through skin. Irritant. Can cause redness, dryness, loss of natural oils, irritation, on prolonged contact.

Acute Inhalation: Harmful if inhaled. May cause nausea, headache, dizziness, loss of coordination, respiratory tract irritation.

Chronic Effects: This product contains ingredients that are considered to be probable or suspected human carcinogens (see Section 11 - Chronic).

Acute Ingestion:

Toxic if ingested. May cause nausea, dizziness, loss of coordination, burns to mouth and esophagus, vomiting, irritation, depression, excitement, headache, coma, liver damage, kidney damage, Aspiration of the swallowed or vomited product can cause severe pulmonary complications.

4. FIRST AID MEASURES**FIRST AID MEASURES FOR ACCIDENTAL:**

Eye Exposure: In case of contact, immediately absorb excess with clean absorbent cloth or cotton. Then, hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek medical attention if irritation develops or persists or if visual changes occur.

Skin Exposure: Immediately wipe excess material off skin with a dry cloth; then wash skin with plenty of soap and water. Seek medical attention if irritation develops or persists.

Inhalation: If respiratory irritation or distress occurs remove victim to fresh air. Seek medical attention if respiratory irritation or distress continues.

Ingestion: NEVER attempt to induce vomiting. Consult a doctor if necessary.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE: No specific information found.

NOTES TO PHYSICIAN: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Treat symptomatically. No specific antidote available.

5. FIRE FIGHTING MEASURES

FIRE HAZARD DATA:

Flash Point: 26°C (79°F). Flammability Class: FLAMMABLE.

Method Used: Tagliabue Closed Cup

Flammability Limits (vol/vol%): Lower: 1 Upper: 7

Extinguishing Media: Recommended: dry chemical, foam, carbon dioxide.

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Cool containers exposed to fire with water. CAUTION: After fire is extinguished, vapors could accumulate and travel to a source of ignition and flash back.

Unusual Fire and Explosion Hazards: Product will burn under fire conditions. Vapors may travel a considerable distance to a source of ignition and flash back along vapor trail. Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.

Hazardous Decomposition Materials (Under Fire Conditions): formaldehyde, oxides of carbon, silica

Auto-ignition Temperature: > 204°C (399°F)

6. ACCIDENTAL RELEASE MEASURES

Evacuation Procedures and Safety: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8. CAUTION: Spilled material may make the floor slippery. Do not leave traces of product on floors, ladders, etc., as this may present a slipping hazard.

Containment of Spill: Follow procedure described below under Cleanup and Disposal of Spill.

Cleanup and Disposal of Spill: Absorb with an inert absorbent. Scrape up and place in appropriate closed container (see Section 7: Handling and Storage). Clean up residual material with an appropriate solvent like paint thinner or mineral spirits, provided that there is good ventilation and no sources of ignition.

Environmental and Regulatory Reporting: Do not flush to drain.

7. HANDLING AND STORAGE

Minimum/Maximum Storage Temperatures: 5 to 25°C (41 to 77°F)

Handling: Avoid breathing vapors and mists. Avoid direct or prolonged contact with skin and eyes. Use non-sparking tools and grounded/bonded equipment and containers when transferring.

Storage: Store in tightly closed containers. Store in an area that is dry, well-ventilated, away from combustible material, away from ignition sources, away from incompatible materials (see Section 10. Stability and Reactivity), Expected shelf life if stored at recommended temperatures: 12 months.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations.

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

This product can form formaldehyde vapors when heated to temperatures above 150°C in the presence of air. Formaldehyde is a potential cancer hazard, a known skin and respiratory sensitizer, and an irritant to the eyes, nose, throat, skin, and digestive system. Safe handling conditions may be maintained by keeping vapor concentrations within the OSHA Permissible Exposure Limit for formaldehyde.

Exposure Guidelines:

Exposure limits represent regulated or recommended worker breathing zone concentrations measured by validated sampling and analytical methods, meeting the regulatory requirements. The following limits apply to this material, where, if indicated, S=skin and C=ceiling limit:

XYLENE

	Notes	TWA	STEL
ACGIH		100 ppm	150 ppm
OSHA		100 ppm	655 mg/cu m
OSHA		435 mg/cu m	150 ppm

ETHYLBENZENE

	Notes	TWA	STEL
ACGIH		100 ppm	125 ppm
OSHA		100 ppm	545 mg/cu m
OSHA		435 mg/cu m	125 ppm

Engineering Controls: Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: general area dilution/exhaust ventilation.

Respiratory Protection: When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): Air-purifying (half-mask/full-face) respirator with cartridges/canister approved for use against organic vapors.

Eye / Face Protection: Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material. It is generally regarded as good practice to wear a minimum of safety glasses with side shields when working in industrial environments.

Skin Protection: Skin contact should be minimized through use of gloves and suitable long-sleeved clothing (i.e., shirts and pants). Consideration must be given both to durability as well as permeation resistance.

Work Practice Controls: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

- (1) Do not store, use, and or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- (2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet
- (3) Wash exposed skin promptly to remove accidental splashes or contact with this material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical properties here represent typical properties of this product. Contact the Technical Services Department using the phone number in Section 1 for its exact specifications.

Physical Appearance: clear, colorless viscous liquid.

Odor: aromatic odor.

pH: Not Applicable

Specific Gravity: 0.087 at 15°C (59°F).

Water Solubility: insoluble

Percent Volatiles by Volume: 90

Melting Point Range: Not Available

Boiling Point Range: 138 to 0 C (280 to 32 F) at 760 mmHg

Vapor Pressure: 5.1 to 0 mmHg at 20 C (68 F)

Vapor Density: 3.7

Evaporation Rate: 9.5 (Butyl Acetate = 1)

Viscosity: viscosity (centipoises): 3000 to 10000 cps at 25°C (77°F).

10. STABILITY AND REACTIVITY

Chemical Stability: This material is stable under normal handling and storage conditions described in Section 7.

Conditions to be Avoided: heat , open flame, spark , static electricity

Materials/Chemicals to be Avoided: strong bases, strong acids, strong oxidizing agents

The Following Hazardous Decomposition Products Might Be Expected:

Decomposition Type: Oxidative/Thermal – formaldehyde

Hazardous Polymerization Will Not Occur

Avoid the Following to Inhibit Hazardous Polymerization: Not Applicable

Decomposition Type: thermal dimethylcyclosiloxanes, methylphenylcyclosiloxanes

11. TOXICOLOGICAL INFORMATION

Acute Eye Irritation: The following data are for the specified ingredients.

Acute Skin Irritation: The following data is for the specified ingredient.

Acute Dermal Toxicity: The following data is for the specified ingredients.

Toxicological Information and Interpretation: LD50 - lethal dose 50% of test species, > 2 mg/kg, rabbit. LC50 - lethal concentration 50% of test species, 0.113 mg/cu m/1 hr, rat.

Acute Respiratory Irritation: No test data found for product.

Toxicological Information and Interpretation: lung - lung irritation (qualitative), 0.02 NAP, human.

Acute Inhalation Toxicity: The following data is for the specified ingredients.

Acute Oral Toxicity: The following data is for the specified ingredients.

Toxicological Information and Interpretation: LD50 - lethal dose 50% of test species, > 0.004 mg/kg, rat.

Chronic Toxicity: This product contains the substances that are considered to be "probable" or "suspected" human carcinogens as follows:

Ingredient Name	Regulatory Agency Listing Carcinogen			
	OSHA	IARC	NTP	ACGIH
ETHYLBENZENE	No	2B	No	No

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: No data found for product.

Chemical Fate Information: No data found for product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

Container Handling and Disposal: Any containers or equipment used should be decontaminated immediately after use.

EPA Hazardous Waste: YES

EPA RCRA HAZARDOUS WASTE CODES: "I" Ignitable.

14. TRANSPORTATION INFORMATION

Transportation Status: IMPORTANT! Statements below provide additional data on listed DOT classification:

US Department of Transportation Hazard Class..... 3

ID Number..... UN1139

US Department of Transportation Shipping Name: COATING SOLUTION

Packing Group.... III

Labels..... FLAMMABLE LIQUID

Emergency Guide #.... 127

15. REGULATORY INFORMATION

INVENTORY STATUS

Inventory	Status
UNITED STATES (TSCA)	Y
CANADA (DSL)	Y
EUROPE (EINECS / ELINCS)	Y
AUSTRIAL (AICS)	Y
JAPAN (MITI)	Y
SOUTH KOREA (KECL)	Y

Y = All ingredients are on the inventory

E = All ingredients are on the inventory or exempt from listing

P = One or more ingredients fall under the polymer exemption or are on the no longer polymer list. All other ingredients are on the inventory or exempt from listing

N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing

FEDERAL REGULATIONS

Inventory Issues: All functional components of this product are listed on the TSCA Inventory.

SARA Title III Hazard Classes:

Fire Hazard	- YES
Reactive Hazard	- NO
Release of Pressure	- NO
Acute Health Hazard	- YES
Chronic Health Hazard	- YES

SARA 313 Chemicals XYLENE (70 - 75%) ETHYLBENZENE (10 - 30%)

SARA Extremely Hazardous Substances (EHS)/CERCLA Hazardous Substances

Ingredient	CERCLA/SARA RQ	SARA EHS TPQ
XYLENE	100 lbs	
ETHYLBENZENE	1000 lbs	

STATE REGULATIONS: This product contains the following components that are regulated under California Proposition 65:

Ingredient Name	Cancer List	Reprod. List	No Sign. Risk Lvl (ug/day) California
ETHYLBENZENE	Y	N	ND

16. OTHER INFORMATION

National Fire Protection Association Hazard Ratings – NFPA(R)

3 Health Hazard Rating – Serious

3 Flammability Rating – Serious

0 Instability Rating – Minimal

National Paint and Coating Hazardous Materials Identification System – HMIS(R)

3 Health Hazard Rating – Serious

3 Flammability Rating – Serious

0 Reactivity Rating – Minimal

Reason for Revision: Initial release of MSDS with updated format

Key Legend Information

ACGIH – American Conference of Governmental Industrial Hygienists

OSHA – Occupational Safety and Health Administration

TLV – Threshold Limit Value

PEL – Permissible Exposure Limit

TWA – Time Weighted Average
STEL – Short Term Exposure Limit
NTP – National Toxicology Program
IARC – International Agency for Research on Cancer
NTP – National Toxicology Program
ND – Not Determined

DISCLAIMER

All information appearing herein is based upon data considered to be accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.