

## SAFETY DATA SHEET

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### 1. IDENTIFICATION

**Product Name:** DAPCO™ 18-4F Firewall Sealant, Part A  
**Synonyms:** None  
**Chemical Family:** Silicone  
**Molecular Formula:** Mixture  
**Molecular Weight:** Mixture  
**Intended/Recommended Use:** Engineered material sealant

D Aircraft Products, Inc.  
1191 HAWK CIRCLE, ANAHEIM, CALIFORNIA 92807 714/632-8444

**EMERGENCY PHONE (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call:**

**Asia Pacific:**

Australia - +61-3-9663-2130 or 1800-033-111  
China (PRC) - +86 10 5100 3039 (Carechem24 China)  
New Guinea - +61-3-9663-2130  
New Zealand - +61-3-9663-2130 or 0800-734-607  
All Others - +65 3158 1074 (Carechem24 Singapore)

**Canada:** +1-905-356-8310 (Cytec Welland, Canada plant)

**Europe/Africa/Middle East (Carechem24 UK):**

Europe, Middle East, Africa, Israel - +44 (0) 1235 239 670  
Middle East, Africa (Arabic speaking countries) - +44 (0) 1235 239 671

**Latin America:**

Brazil - 0800 0111 767 (SOS Cotec)  
Chile - +56-2-247-3600 (CITUC QUIMICO)  
All Others - +52-376-73 74122 (Cytec Atequiza, Mexico plant)

**USA:** +1-703-527-3887 or 1-800-424-9300 (CHEMTREC #CCN6083)

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### 2. HAZARDS IDENTIFICATION

**GHS Classification**

Carcinogenicity Hazard Category 1A  
Specific Target Organ Toxicity - Repeated Exposure Hazard Category 1  
Skin Corrosion / Irritation Hazard Category 2  
Serious Eye Damage / Eye Irritation Hazard Category 1

**LABEL ELEMENTS**



**Signal Word**  
Danger

**Hazard Statements**

May cause cancer  
 Causes damage to organs through prolonged or repeated exposure  
 Causes skin irritation  
 Causes serious eye damage

#### Precautionary Statements

Obtain special instructions before use.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 Do not breathe dust/fume/gas/mist/vapours/spray.  
 Wash face, hands and any exposed skin thoroughly after handling.  
 Do not eat, drink or smoke when using this product.  
 IF ON SKIN: Wash with plenty of soap and water.  
 Specific treatment (see supplemental first aid instructions on this label).  
 Take off all contaminated clothing and wash it before reuse.  
 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 doctor/physician.  
 Store locked up.  
 Dispose of contents/container in accordance with local and national regulations.

#### Hazards Not Otherwise Classified (HNOC), Other Hazards

Not Applicable

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### HAZARDOUS INGREDIENTS

Component / CAS No.	%	GHS Classification	Carcinogen
Silica, quartz 14808-60-7	35 - 40	Carc. 1A (H350i) STOT RE 1 (H372)	IARC 1 NTP ACGIH A2
Calcium carbonate 471-34-1	10 - 15	Eye Dam. 1 (H318) Skin Irrit. 2 (H315)	-
Silicon dioxide, amorphous (included under CAS # 7631-86-9) 112945-52-5	1 - 5	Not Classified	-
Carbon Fiber 7440-44-0	1 - 5	Not Classified	-
Diatomaceous earth 68855-54-9	1 - 5	Not Classified	-

The specific chemical identity and/or exact percentage of composition for one or more ingredients has been withheld as a trade secret.

Additional GHS classification or other information may be included in this section but has not been adopted by OSHA. See Section 16 for full text of H phrases.

### 4. FIRST AID MEASURES

#### DESCRIPTION OF FIRST AID MEASURES

**Eye Contact:**

Rinse immediately with plenty of water for at least 15 minutes. Obtain medical attention immediately.

**Skin Contact:**

Remove contaminated clothing and shoes without delay. Wash immediately with plenty of water. Do not reuse contaminated clothing without laundering. Get medical attention if pain or irritation persists after washing or if signs and symptoms of overexposure appear.

**Ingestion:**

If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

**Inhalation:**

Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

**MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED**

None known

**INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDS****Notes To Physician:**

Formaldehyde is not a component of this product, however, heating to temperatures above 150 C in the presence of air may result in the release of formaldehyde. The International Agency for Research on Cancer (IARC) has classified formaldehyde as a Group 1 (known) human carcinogen. Formaldehyde is irritating to the eyes, nose, throat and skin and is a dermal sensitizer.

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## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:**

Use water spray or fog, carbon dioxide or dry chemical.

**Protective Equipment:**

Firefighters, and others exposed, wear self-contained breathing apparatus.

**Special Hazards:**

Keep containers cool by spraying with water if exposed to fire.

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## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:**

Where exposure level is not known, wear approved, positive pressure, self-contained respirator. Where exposure level is known, wear approved respirator suitable for level of exposure. Refer to Section 8 (Exposure Controls/Personal Protection) for appropriate personal protective equipment.

**Methods For Cleaning Up:**

Sweep up into containers for disposal. Flush spill area with water.

**References to other sections:**

See Sections 8 and 13 for additional information.

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## 7. HANDLING AND STORAGE

**HANDLING**

**Precautions:** Wash hands thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product. Do not breathe dust. Wear protective gloves and eye/face protection.

**Special Handling Statements:** Heating to temperatures above 150 C (302 F) in the presence of air may result in the release of formaldehyde. Formaldehyde is a known animal carcinogen and is considered to be probably carcinogenic to humans by the International Agency for Research on Cancer and the National Toxicology Program. Formaldehyde is irritating to the eyes, nose, throat and skin and is a dermal sensitizer. The permissible exposure limit for formaldehyde should not be exceeded.

## STORAGE

None

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Engineering Measures:

Utilize a closed system process where feasible. Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure when spraying or curing at elevated temperatures.

### Respiratory Protection:

Where exposures are below the established exposure limit, no respiratory protection is required. Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure. A full facepiece respirator also provides eye and face protection. Cutting, grinding or sanding of parts fabricated after curing may create respirable dust particles. Respiratory protection appropriate for this dust may be required. Refer to components listed above for potential hazardous components in the dust.

### Eye Protection:

Prevent eye and skin contact. Provide eye wash fountain and safety shower in close proximity to points of potential exposure. Wear eye/face protection such as chemical splash proof goggles or face shield.

### Skin Protection:

Prevent contamination of skin or clothing when removing protective equipment. Barrier creams may be used in conjunction with the gloves to provide additional skin protection. Wear impermeable gloves and suitable protective clothing.

### Hand Protection:

Wear impermeable gloves. Consider the porosity and elasticity data of the glove manufacturer and the specific conditions in the work place.

### Additional Advice:

Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. It is recommended that a shower be taken after completion of workshift especially if significant contact has occurred. Work clothing should then be laundered prior to reuse. Street clothing should be stored separately from work clothing and protective equipment. Work clothing and shoes should not be taken home.

## Exposure Limit(s)

### 112945-52-5 Silicon dioxide, amorphous (included under CAS # 7631-86-9)

OSHA (PEL):	20 mppcf
ACGIH (TLV):	Not established
Other Value:	Not established

### 14808-60-7 Silica, quartz

OSHA (PEL):	0.1 mg/m <sup>3</sup> (respirable dust) (250)/(%SiO <sub>2</sub> + 5) mppcf TWA (respirable) (10)/(%SiO <sub>2</sub> + 2) mg/m <sup>3</sup> TWA (respirable) (30)/(%SiO <sub>2</sub> + 2) mg/m <sup>3</sup> TWA (total dust)
ACGIH (TLV):	0.025 mg/m <sup>3</sup> respirable fraction (TWA)
Other Value:	Not established

### 7440-44-0 Carbon Fiber

**112945-52-5 Silicon dioxide, amorphous (included under CAS # 7631-86-9)**

OSHA (PEL):	Not established
ACGIH (TLV):	Not established
Other Value:	3 fibers/cc (Cytec)

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

Color:	green
Appearance:	paste
Odor:	slight characteristic
Boiling Point:	Not applicable
Melting Point:	Not applicable
Vapor Pressure:	Not available
Specific Gravity/Density:	1.3
Vapor Density:	Not applicable
Percent Volatile (% by wt.):	Not available
pH:	Not applicable
Saturation In Air (% By Vol.):	Not applicable
Evaporation Rate:	Not applicable
Solubility In Water:	Not available
Volatile Organic Content:	Not applicable
Flash Point:	Not applicable
Flammable Limits (% By Vol.):	Not applicable
Autoignition Temperature:	Not applicable
Decomposition Temperature:	Not available
Partition coefficient (n-octanol/water):	Not applicable
Odor Threshold:	Not available
Viscosity (Kinematic):	Not available

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**10. STABILITY AND REACTIVITY**

Stability:	Stable
Conditions To Avoid:	None known
Polymerization:	Will not occur
Conditions To Avoid:	None known
Materials To Avoid:	Oxidizing agents fluorine Alum, ammonium salts, mercury and hydrogen acids
Hazardous Decomposition Products:	chlorine Formaldehyde oxides of carbon silicon dioxide When heated to decomposition, it emits toxic fumes.

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**11. TOXICOLOGICAL INFORMATION****PRODUCT TOXICITY INFORMATION**

Likely Routes of Exposure: Eyes, Skin.

**ACUTE TOXICITY DATA**

oral	rat	Acute LD50	>2,000 mg/kg
dermal	rabbit	Acute LD50	>2,000 mg/kg
inhalation	rat	Acute LC50 4 hr	No data

**LOCAL EFFECTS ON SKIN AND EYE**

Acute Irritation	dermal	Irritating
Acute Irritation	eye	Causes serious damage

**ALLERGIC SENSITIZATION**

Sensitization	skin	No data
Sensitization	respiratory	No data

**GENOTOXICITY****Assays for Gene Mutations**

Ames Salmonella Assay	No data
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**OTHER INFORMATION**

The product toxicity information above has been estimated.

**HAZARDOUS INGREDIENT TOXICITY DATA**

Quartz silica (respirable fraction) can cause reduced pulmonary function when inhaled. Exposure to respirable quartz silica can cause delayed (chronic) fibrosis and other lung injury. Chronic inhalation exposure showed that quartz silica can cause lung cancer in rats but not in mice. There is also limited human evidence which shows an association of lung cancer with occupational exposure to quartz silica. This material is reported to have shown positive results in in vitro mutagenicity tests with human cell cultures. Studies have shown that tobacco smoking and high quartz silica exposure exhibit a synergistic effect for lung cancer. Silica, crystalline is a chemical known to the State of California to cause cancer.

Calcium carbonate has an acute oral (rat) LD50 of 6.5 g/kg. Direct contact will cause moderate skin and severe eye irritation. Inhalation of dust can cause mild respiratory irritation.

Silicon Dioxide has acute oral (rat) LD50 values ranging from 3160 mg/kg to >7500 mg/kg. The LC50 (rat) following a 4-hour inhalation study is >0.25 mg/L (maximum attainable concentration). Chronic and sub-chronic inhalation tests with laboratory animals produced lung damage and death after the lung clearance mechanisms were overloaded. Amorphous silica does not cause the lung diseases crystalline silica is known to cause.

Carbon fibers may cause mechanical irritation of the eyes, skin, nose and throat. Airborne carbon fibers are not considered respirable. A typical carbon fiber may be characterized as having a diameter of 5-7 microns and a length greater than 100 microns. Fibers with diameters greater than 3.5 microns are not considered respirable.

Overexposure to diatomaceous earth by inhalation, skin, oral, or dermal route is not expected to cause adverse effects. It is considered a nuisance dust.

California Proposition 65 Warning (applicable in California only) - This product contains (a) chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

**12. ECOLOGICAL INFORMATION****TOXICITY, PERSISTENCE AND DEGRADABILITY, BIOACCUMULATIVE POTENTIAL, MOBILITY IN SOIL, OTHER ADVERSE EFFECTS**

This material is not classified as dangerous for the environment.  
The ecological assessment for this material is based on an evaluation of its components.

### RESULTS OF PBT AND vPvB ASSESSMENT

Not determined

### HAZARDOUS INGREDIENT TOXICITY DATA

Component / CAS No.	Toxicity to Algae	Toxicity to Fish	Toxicity to Water Flea
Silica, quartz 14808-60-7	Not available	Not available	Not available
Calcium carbonate 471-34-1	Not available	Not available	Not available
Silicon dioxide, amorphous (included under CAS # 7631-86-9) 112945-52-5	Not available	Not available	Not available
Carbon Fiber 7440-44-0	Not available	Not available	Not available
Diatomaceous earth 68855-54-9	Not available	Not available	Not available

## 13. DISPOSAL CONSIDERATIONS

The information on RCRA waste classification and disposal methodology provided below applies only to the product, as supplied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA "listed hazardous waste" or has any of the four RCRA "hazardous waste characteristics." Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA "listed hazardous waste"; information contained in Section 15 of this MSDS is not intended to indicate if the product is a "listed hazardous waste." RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, see Section 9 of this MSDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 3 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed. The Company encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. The Company recommends that organic materials classified as RCRA hazardous wastes be disposed of by thermal treatment or incineration at EPA approved facilities. The Company has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

## 14. TRANSPORT INFORMATION



## 14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

### US DOT

Dangerous Goods? Not applicable/Not regulated

### TRANSPORT CANADA

Dangerous Goods? Not applicable/Not regulated

### ICAO / IATA

Dangerous Goods? Not applicable/Not regulated

### IMO

Dangerous Goods? Not applicable/Not regulated

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## 15. REGULATORY INFORMATION

### Inventory Information

**United States (USA):** All components of this product are included on the TSCA Chemical Inventory or are not required to be listed on the TSCA Chemical Inventory.

**Canada:** All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

**European Economic Area (including EU):** Cytec has appointed an Only Representative to relieve our customers from their registration requirements under the REACH Regulation (EC) No. 1907/2006. Please contact us if you wish to benefit from the OR arrangement.

**Australia:** All components of this product are included in the Australian Inventory of Chemical Substances (AICS) or are not required to be listed on AICS.

**China:** All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.

**Japan:** All components of this product are included on the Japanese (ENCS) inventory or are not required to be listed on the Japanese inventory.

**Korea:** All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory.

**Philippines:** All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine inventory.

**Switzerland:** All components of this product are exempt from the new substance notification requirements for Switzerland (SR 813.11 art. 16-17).

### OTHER ENVIRONMENTAL INFORMATION

The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

This product does not contain any components regulated under these sections of the EPA

### PRODUCT HAZARD CLASSIFICATION UNDER SECTION 311 OF SARA



- Acute
- Chronic

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## 16. OTHER INFORMATION

### NFPA Hazard Rating (National Fire Protection Association)

Health: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

Fire: 1 - Materials that must be preheated before ignition can occur.

Instability: 0 - Materials that in themselves are normally stable, even under fire exposure conditions.

**Reasons For Issue:** New Format

**Date Prepared:** 01/04/2013

**Date of last significant revision:** 01/04/2013

### Component Hazard Phrases

Silica, quartz

H350i - May cause cancer by inhalation.

H372 - Causes damage to organs through prolonged or repeated exposure.

Calcium carbonate

H315 - Causes skin irritation.

H318 - Causes serious eye damage.

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SDS: 0009051  
 Date Prepared: 12/20/2016

**SAFETY DATA SHEET**
**1. IDENTIFICATION**

**Product Name:** DAPCO™ 18-4F Silicone Firewall Sealant, Part B  
**Product Description:** Polysiloxane mixture  
**Synonyms:** None  
**Chemical Family:** Polysiloxane Mixture  
**Molecular Formula:** Mixture  
**Molecular Weight:** Mixture  
**Intended/Recommended Use:** Engineered material sealant

CYTEC INDUSTRIES INC., FIVE GARRET MOUNTAIN PLAZA, WOODLAND PARK, NEW JERSEY 07424, USA  
**For Product and all Non-Emergency Information call 1-800-852-6013.** Outside the USA and Canada call 1-973/357-3193.

**EMERGENCY PHONE (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call:**

**Asia Pacific:**

Australia - +61-3-9663-2130 or 1800-033-111 (IXOM)  
 China (PRC) - +86 0532 83889090 (NRCC)

New Guinea - +61-3-9663-2130 or 1800-033-111

New Zealand - +61-3-9663-2130 or 0800-734-607 (IXOM)

India, Japan, Korea, Malaysia, Thailand - +65 3158 1074 (Carechem24 Singapore)

India (Hindi Speaking Only) - +65 3158 1198 or 00800 100 7479 (Carechem24 Singapore)

Canada: +1-905-356-8310 (Cytac Welland, Canada plant)

**Europe/Africa/Middle East (Carechem24 UK):**

Europe, Middle East, Africa, Israel - +44 (0) 1235 239 670

(Arabic speaking countries) - +44 (0) 1235 239 671

**Latin America:**

Brazil - 0600 7077 022 (SUATRANS)

Chile - +56-2-2-247-3600 (CITUC QUIMICO)

All Others - +52-376-73 74122 (Cytac Ataquiza, Mexico plant)

USA: +1-703-527-3887 or 1-800-424-9300 (CHEMTREC #CCN6083)

The ® indicates a Registered Trademark in the United States and the ™ indicates a trademark in the United States. The mark may also be registered, subject of an application for registration, or a trademark in other countries.

**2. HAZARDS IDENTIFICATION**
**GHS Classification**

Flammable Liquid Hazard Category 4

Carcinogenicity Hazard Category 1A

Reproductive Toxicant Category 2

Specific Target Organ Toxicity - Repeated Exposure Hazard Category 1

**LABEL ELEMENTS**

**Eye Contact:**

Rinse immediately with plenty of water for at least 15 minutes.

**Skin Contact:**

Wash immediately with plenty of water and soap.

**Ingestion:**

If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

**Inhalation:**

Material is not expected to be harmful if inhaled. Remove to fresh air.

**MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED**

None known

**INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDS**
**Notes To Physician:**

Formaldehyde is not a component of this product, however, heating to temperatures above 150 C in the presence of air may result in the release of formaldehyde. The International Agency for Research on Cancer (IARC) has classified formaldehyde as a Group 1 (known) human carcinogen. Formaldehyde is irritating to the eyes, nose, throat and skin and is a dermal sensitizer.

**5. FIRE-FIGHTING MEASURES**
**Suitable Extinguishing Media:**

Use water spray, carbon dioxide or dry chemical.

**Extinguishing Media to Avoid:**

full water jet

**Protective Equipment:**

Firefighters, and others exposed, wear self-contained breathing apparatus.

**Special Hazards:**

Keep containers cool by spraying with water if exposed to fire.

**6. ACCIDENTAL RELEASE MEASURES**
**Personal precautions:**

Where exposure level is known, wear approved respirator suitable for level of exposure. Where exposure level is not known, wear approved, positive pressure, self-contained respirator. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impermeable boots.

**Methods For Cleaning Up:**

Cover spills with some inert absorbent material, sweep up and place in a waste disposal container. Flush spill area with water.

**References to other sections:**

See Sections 8 and 13 for additional information.

**7. HANDLING AND STORAGE**
**HANDLING**
**Signal Word**

Danger

**Hazard Statements**

Combustible liquid

May cause cancer

Suspected of damaging fertility or the unborn child

Causes damage to organs through prolonged or repeated exposure

**Precautionary Statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Wear protective gloves/protective clothing/eye protection/face protection.

Obtain special instructions before use.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash face, hands and any exposed skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction.

If exposed or concerned: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local and national regulations.

**Hazards Not Otherwise Classified (HNOC), Other Hazards**

Not applicable

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance, Mixture or Article? Mixture

**HAZARDOUS INGREDIENTS**

Component / CAS No.	%	GHS Classification	Carcinogen
Silica, quartz 14808-60-7	5 - 10	Carc. 1A (H350) STOT RE 1 (H372)	IARC 1 NTP ACGIH A2
Toluene 108-88-3	0.1 - 0.5	Flam. Liq. 2 (H225) Repr. 2 (H361) STOT RE 2 (H373) STOT SE 3 (H336) Skin Irrit. 2 (H315) Eye Irrit. 2B (H320) Asp. Tox. 1 (H304) Aquatic Acute 2 (H401) Aquatic Chronic 3 (H412)	-

The specific chemical identity and/or exact percentage of composition for one or more ingredients has been withheld as a trade secret.

Additional GHS classification or other information may be included in this section but has not been adopted by OSHA. See Section 16 for full text of H phrases.

**4. FIRST AID MEASURES**
**DESCRIPTION OF FIRST AID MEASURES**
**7. HANDLING AND STORAGE**

**Precautions:** Keep away from heat, sparks and open flame. - No smoking. Wear protective gloves and eye/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe vapors or spray mist.

**Special Handling Statements:** Heating to temperatures above 150 C (302 F) in the presence of air may result in the release of formaldehyde. Formaldehyde is a known animal carcinogen and is considered to be probably carcinogenic to humans by the International Agency for Research on Cancer and the National Toxicology Program. Formaldehyde is irritating to the eyes, nose, throat and skin and is a dermal sensitizer. The permissible exposure limit for formaldehyde should not be exceeded.

**STORAGE**

Areas containing this material should have fire safe practices and electrical equipment in accordance with applicable regulations and/or guidelines. Standards are primarily based on the material's flashpoint, but may also take into account properties such as miscibility with water or toxicity. All local and national regulations should be followed.

In the Americas, National Fire Protection Association (NFPA) 30, Flammable and Combustible Liquids Code, is a widely used standard. NFPA 30 establishes storage conditions for the following classes of materials: Class I Flammable Liquids Flashpoint < 37.8 °C. Class II Combustible Liquids, 37.8 °C < Flashpoint < 60 °C. Class IIIa Combustible Liquids, 60 °C < Flashpoint < 93 °C. Class IIIb Combustible Liquids, Flashpoint > 93 °C.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
**Engineering Measures:**

Engineering controls are not usually necessary if good hygiene practices are followed.

**Respiratory Protection:**

Where exposures are below the established exposure limit, no respiratory protection is required. Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure.

**Eye Protection:**

Wear eye/face protection such as chemical splash proof goggles or face shield.

**Skin Protection:**

Avoid skin contact. Wear impermeable gloves and suitable protective clothing.

**Hand Protection:**

Wear impermeable gloves. Consider the porosity and elasticity data of the glove manufacturer and the specific conditions in the work place.

**Additional Advice:**

Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. It is recommended that a shower be taken after completion of work shift especially if significant contact has occurred. Work clothing should then be laundered prior to reuse. Street clothing should be stored separately from work clothing and protective equipment. Work clothing and shoes should not be taken home.

**Exposure Limit(s)**

The below constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

No values have been established.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	blue
Appearance:	liquid
Odor:	mild
Boiling Point:	Not available
Melting Point:	Not applicable
Vapor Pressure:	Not available
Specific Gravity/Density:	1.1
Vapor Density:	Not applicable
Percent Volatile (% by wt.):	Not available
pH:	Not available
Saturation In Air (% By Vol.):	Not available
Evaporation Rate:	Not available
Solubility In Water:	Not available
Volatile Organic Content:	Not available
Flash Point:	>82.8 °C 181 °F Closed Cup
Flammability (solid, gas):	Not available
Flammable Limits (% By Vol):	Not applicable
Autoignition (Self) Temperature:	Not applicable
Decomposition Temperature:	Not available
Partition coefficient (n-octanol/water):	Not applicable
Odor Threshold:	Not available
Viscosity (Kinematic):	Not applicable

### DUST HAZARD INFORMATION

Particle Size (microns):	Not applicable
Kst (bar-m <sup>2</sup> /sec):	Not applicable
Maximum Explosion Pressure (Pmax):	Not applicable
Dust Class:	Not applicable
Minimum Ignition Energy (MIE) (mJ):	Not applicable
Minimum Ignition Temperature (MIT) (°C):	Not applicable
Minimum Explosive Concentration (MEC) (g/m <sup>3</sup> ):	Not applicable
Limiting Oxygen Concentration (LOC) (%):	Not applicable

## 10. STABILITY AND REACTIVITY

Reactivity:	No information available
Stability:	Stable
Conditions To Avoid:	None known
Polymerization:	Will not occur
Conditions To Avoid:	None known
Materials To Avoid:	Oxidizing agents Acids Bases
Hazardous Decomposition Products:	Formaldehyde oxides of carbon Oxides of nitrogen hydrogen silicon dioxide

California Proposition 65 Warning (applicable in California only) - This product contains (a) chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

## 12. ECOLOGICAL INFORMATION

### TOXICITY, PERSISTENCE AND DEGRADABILITY, BIOACCUMULATIVE POTENTIAL, MOBILITY IN SOIL, OTHER ADVERSE EFFECTS

This material is not classified as dangerous for the environment.  
The ecological assessment for this material is based on an evaluation of its components.

### RESULTS OF PBT AND vPvB ASSESSMENT

Not determined

### HAZARDOUS INGREDIENT TOXICITY DATA

Component / CAS No.	Toxicity to Algae	Toxicity to Fish	Toxicity to Water Flea
Silica quartz 14808-02-7	Not available	Not available	Not available
Toluene 108-88-3	EC50 = 12.5 mg/L - Green Algae (72h)	LC50 11-70.3 mg/L - Various Fish Species (96h) static LC50 5.8-28.2 mg/L - Various Fish Species (96h) semi-static LC50 5.69-19.05 mg/L - Various Fish Species (96h) flow-through NOEC = 1.39 mg/L - Coho Salmon (40 Day) flow-through	EC50 5.46 - 11.5 mg/L - Daphnia magna (48h) Static EC50 = 3.78 mg/L (measured) - Ceriodaphnia dubia (48h) Daily renewal NOEC = 0.74 - Ceriodaphnia dubia (7 Day) Daily Renewal

## 13. DISPOSAL CONSIDERATIONS

## 11. TOXICOLOGICAL INFORMATION

### PRODUCT TOXICITY INFORMATION

Likely Routes of Exposure: Eyes, Skin, Oral

### ACUTE TOXICITY DATA

oral (gavage)	rat	Acute LD50	>2000 mg/kg
dermal	rabbit	Acute LD50	>2000 mg/kg
inhalation	rat	Acute LC50 4 hr	>5.0 mg/l (Dust/Mist)

### LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	skin	Not irritating
Acute Irritation	eye	Not irritating

### ALLERGIC SENSITIZATION

Sensitization	skin	Not sensitizing
Sensitization	respiratory	No data

### GENOTOXICITY

### Assays for Gene Mutations

Ames Salmonella Assay	No data
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### OTHER INFORMATION

The product toxicity information above has been estimated.

### HAZARDOUS INGREDIENT TOXICITY DATA

Silica, quartz dust may cause mechanical irritation of the eyes. Prolonged or repeated contact may have a drying effect on the skin and may also cause irritation (skin abrasion). Exposure to dust generated during handling or use may irritate the nose, throat and upper respiratory tract. Silica, quartz is not expected to produce dermal sensitization. The chronic health effects are associated with respirable particles of 3-4 microns over extended periods of time. Currently, there is limited understanding of the mechanisms of quartz toxicity, including its mechanism for lung carcinogenicity. Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and milary nodules in the lung, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. Advanced silicosis may result in death due to cardiac failure or destruction of lung tissue. Crystalline silica is classified as group 1 "known to be carcinogenic to humans" by IARC and "sufficient evidence" of carcinogenicity by the NTP based on human evidence.

Toluene has acute oral (rat) and dermal (rabbit) LD50 values of 4,328 mg/kg and 12124 mg/kg, respectively. The acute 4-hour inhalation (rat, female) LC50 value is 5,060 ppm (19,07 mg/L). Toluene is a severe eye and moderate skin irritant. Inhalation overexposure to toluene vapor can cause headache, fatigue, nausea, and central nervous system depression. Sustained inhalation of high levels of toluene has been shown to cause reversible kidney and liver damage. Subchronic inhalation of toluene vapors have caused permanent hearing loss, decreased learning capabilities and damage to the eyes in laboratory animal tests. Deliberate inhalation of high concentrations of toluene vapor by pregnant women has been shown to adversely affect the fetus. These fetotoxic effects include intrauterine growth retardation and delayed postnatal development. The fetotoxic effects of toluene seen in laboratory animals are similar to those seen in humans. Ingestion of toluene in laboratory animals caused mild gastritis and harmful effects on the respiratory system, kidneys, liver and heart. Ingestion in laboratory animals also caused harmful effects on the central nervous system and death. It has also been reported that subchronic ingestion of toluene caused brain and bladder damage in laboratory animals. Due to synergistic effects, the toxicity of toluene may be enhanced by exposure to n-hexane, benzene, xylene, acetylsalicylic acid and chlorinated hydrocarbons. The literature reports that toluene is an aspiration hazard, that acute oral exposure resulted in reversible visual dysfunction, and that chronic exposure has caused altered immune function in animals. Toluene is a chemical known to the State of California to cause reproductive toxicity.

## 13. DISPOSAL CONSIDERATIONS

The information on RCRA waste classification and disposal methodology provided below applies only to the product, as supplied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA "listed hazardous waste" or has any of the four RCRA "hazardous waste characteristics." Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA "listed hazardous waste", information contained in Section 15 of this MSDS is not intended to indicate if the product is a "listed hazardous waste." RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, see Section 9 of this MSDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 3 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed. The Company encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. The Company recommends that organic materials classified as RCRA hazardous wastes be disposed of by thermal treatment or incineration at EPA approved facilities. The Company has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

## 14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

### US DOT

Dangerous Goods? X  
Proper Shipping Name: Combustible liquid, n.o.s.  
Hazard Class: Combustible liquid  
Packing Group: III  
UNID Number: NA1993  
Technical Name (N.O.S.): Toluene

Comments: Combustible liquids are not regulated in non-bulk packagings unless the combustible liquid is a hazardous substance, a hazardous waste, or a marine pollutant.

### TRANSPORT CANADA

Dangerous Goods? Not applicable/Not regulated

### ICAO / IATA

Dangerous Goods? Not applicable/Not regulated

### IMO

Dangerous Goods? Not applicable/Not regulated

## 15. REGULATORY INFORMATION

### Inventory Information

**United States (USA):** All components of this product are included on the TSCA Chemical Inventory or are not required to be listed on the TSCA Chemical Inventory.

**Canada:** All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

- European Economic Area (including EU)** - A complete list of the restrictions in force in each of the member states of the European Union is published in the Official Journal of the European Union, with a long-forming designation.
- Australia** - A complete list of the restrictions in force in each of the member states of the European Union is published in the Official Journal of the European Union.
- China** - A complete list of the restrictions in force in each of the member states of the European Union is published in the Official Journal of the European Union.
- Japan** - A complete list of the restrictions in force in each of the member states of the European Union is published in the Official Journal of the European Union.
- Korea** - A complete list of the restrictions in force in each of the member states of the European Union is published in the Official Journal of the European Union.
- Philippines** - A complete list of the restrictions in force in each of the member states of the European Union is published in the Official Journal of the European Union.
- Switzerland** - A complete list of the restrictions in force in each of the member states of the European Union is published in the Official Journal of the European Union.
- Taiwan** - A complete list of the restrictions in force in each of the member states of the European Union is published in the Official Journal of the European Union.

**OTHER ENVIRONMENTAL INFORMATION**

This product does not contain any of the substances listed in the Annexes to the Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) and in particular the Annexes to the Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) and in particular the Annexes to the Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

This product does not contain any of the substances listed in the Annexes to the Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) and in particular the Annexes to the Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

**PRODUCT HAZARD CLASSIFICATION, UNDER SECTION 311 OF SARA**

- 1. Toxic
- 2. Flammable

**16. OTHER INFORMATION**

**NFPA Hazard Rating (National Fire Protection Association)**

- Health: 1 - Material that is not immediately dangerous to life or health.
- Flammability: 2 - Material that is flammable.
- Reactivity: 1 - Material that is normally not hazardous.

Reasons For Issue: Regulatory

Date Prepared: 12/21/2014  
Date of last significant revision: 12/21/2014

**Component Hazard Phrases**

- H228: Flammable
- H302: Harmful if swallowed
- H312: Causes skin irritation
- H332: Irritating to eyes

P201: Read label

- H228: Flammable
- H302: Harmful if swallowed
- H312: Causes skin irritation
- H332: Irritating to eyes

P201: Read label

P202: Do not breathe dust/fume/gas/mist/vapors/spray

P232: Avoid contact with skin

P240: Wear protective gloves

P241: Avoid breathing dust/fume/gas/mist/vapors/spray

P242: Avoid contact with eyes

P243: Avoid contact with clothing

P273: Avoid release to the environment

P280: Wear eye protection

P281: Wear eye protection

P282: Wear eye protection

P283: Wear eye protection

P284: Wear eye protection

P285: Wear eye protection

P286: Wear eye protection

P287: Wear eye protection

P288: Wear eye protection

P289: Wear eye protection

P290: Harmful to the environment

P302+P352: Wash thoroughly after handling

P303+P361+P353: IF ON CLOTHING: Remove contaminated clothing and wash immediately before re-use

P304+P340: IF INHALED: Remove person to fresh air and rest. Seek medical attention if breathing is difficult

P305+P351+P338: IF IN EYES: Hold eye open. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P308+P313: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

P312: Call a POISON CENTER or doctor if you feel unwell

P314: Call a POISON CENTER or doctor if you feel unwell

P315: Call a POISON CENTER or doctor if you feel unwell

P316: Call a POISON CENTER or doctor if you feel unwell

P317: Call a POISON CENTER or doctor if you feel unwell

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P329: Call a POISON CENTER or doctor if you feel unwell

P330: Call a POISON CENTER or doctor if you feel unwell

P331: Call a POISON CENTER or doctor if you feel unwell



**European Economic Area (including EU):** Cytec has appointed an Only Representative to relieve our customers from their registration requirements under the REACH Regulation (EC) No. 1907/2006. Please contact us if you wish to benefit from the OR arrangement.

**Australia:** All components of this product are included in the Australian Inventory of Chemical Substances (AICS) or are not required to be listed on AICS.

**China:** All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.

**Japan:** All components of this product are included on the Japanese (ENCS) inventory or are not required to be listed on the Japanese inventory.

**Korea:** All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory.

**Philippines:** All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine inventory.

**Switzerland:** All components of this product are exempt from the new substance notification requirements for Switzerland (SR 813.11 art. 16-17).

**Taiwan:** All components of this product are included on the Taiwan Chemical Substance Inventory (TCSI) or are not required to be listed on the Taiwan inventory.

- H225 - Highly flammable liquid and vapor.
- H301 - Suspected of damaging fertility or the unborn child.
- H373 - May cause damage to organs through prolonged or repeated exposure.
- H336 - May cause drowsiness or dizziness.
- H315 - Causes skin irritation.
- H320 - Causes eye irritation.
- H304 - May be fatal if swallowed and enters airways.
- H401 - Toxic to aquatic life.
- H412 - Harmful to aquatic life with long lasting effects.

Prepared By: Legal & Compliance Services, E-mail: [custinfo@cytec.com](mailto:custinfo@cytec.com)

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**OTHER ENVIRONMENTAL INFORMATION**

The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

This product does not contain any components regulated under these sections of the EPA

**PRODUCT HAZARD CLASSIFICATION UNDER SECTION 311 OF SARA**

- Chronic
- Fire

**16. OTHER INFORMATION**

**NFPA Hazard Rating (National Fire Protection Association)**

Health: 1 - Materials that, under emergency conditions, can cause significant irritation.

Fire: 1 - Materials that must be preheated before ignition can occur.

Instability: 0 - Materials that in themselves are normally stable, even under fire exposure conditions.

Reasons For Issue: Revised Section 7

Date Prepared: 12/20/2016

Date of last significant revision: 08/25/2014

**Component Hazard Phrases**

Silica, quartz

H350 - May cause cancer.

H372 - Causes damage to organs through prolonged or repeated exposure.

Toluene