



SDS: 0000380
Date Prepared: 06/14/2018

SAFETY DATA SHEET

1. IDENTIFICATION

Product Name: FM® 1000 Adhesive Film
Product Description: Mixture of epoxy and polyamide resins on structural carrier
Synonyms: None
Chemical Family: Mixture
Molecular Formula: Mixture
Molecular Weight: Mixture
Intended/Recommended Use: Adhesive

CYTEC INDUSTRIES INC., 504 CARNEGIE CENTER, PRINCETON, NEW JERSEY 08540, USA

For Product and all Non-Emergency Information call 1-800/652-6013. 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 2 8014 4558 (Carechem24)
China (PRC) - +86 0532 83889090 (NRCC) +86 512 8090 3042 (Carechem24)
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India (Hindi Speaking Only) - +65 3158 1198 or 000800 100 7479 (Carechem24 Singapore)

Canada: 800 424 9300 (Within US,Canada) +1 (703) 527-3887 (International) (CHEMTREC)

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Europe, Middle East, Africa, Israel - +44 1235 239 670
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Brazil - +55 11 3197 5891 (Carechem24)
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All Others - +44 1235 239 670 (Carechem24 UK)

USA: 800 424 9300 (Within US,Canada) +1 (703) 527-3887 (International) (CHEMTREC)

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2. HAZARDS IDENTIFICATION

GHS Classification

Carcinogenicity Hazard Category 2
Germ Cell Mutagenicity Hazard Category 2
Acute Toxicity (Dermal) Hazard Category 4
Specific Target Organ Toxicity - Single Exposure Hazard Category 1
Skin Corrosion / Irritation Hazard Category 2
Skin Sensitizer Hazard Category 1B

LABEL ELEMENTS

**Signal Word**

Danger

Hazard Statements

Suspected of causing cancer
Suspected of causing genetic defects
Harmful in contact with skin
Causes damage to organs
Causes skin irritation
May cause an allergic skin reaction

Precautionary Statements

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.
Contaminated work clothing should not be allowed out of the workplace.
IF ON SKIN: Wash with plenty of soap and water.
Call a POISON CENTER or doctor/physician if you feel unwell.
Specific treatment (see supplemental first aid instructions on this label).
Take off immediately all contaminated clothing and wash it before reuse.
IF exposed or concerned: Call a POISON CENTER or doctor/physician.
Take off all contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local and national regulations.

Hazards Not Otherwise Classified (HNOC), Other Hazards

Not applicable

By excessive exposure to dust, eye and respiratory tract irritation is possible.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Substance, Mixture or Article?** Article**HAZARDOUS INGREDIENTS**

Component / CAS No.	%	GHS Classification	Carcinogen
Polyamide	40 - 70	Not Classified	-
Poly(aromatic glycidyl ether) - Aminotriazine derivative	7-13	Skin Irrit. 3 (H316) Eye Irrit. 2A (H319) Skin Sens. 1B (H317)	-

Component / CAS No.	%	GHS Classification	Carcinogen
Diglycidyl resorcinol ether 101-90-6	20 - 22	Carc. 2 (H351) Muta. 2 (H341) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Skin Irrit. 2 (H315) Eye Irrit. 2A (H319) Skin Sens. 1B (H317) Aquatic Acute 3 (H402) Aquatic Chronic 3 (H412)	IARC 2B NTP
Titanium Dioxide 13463-67-7	~ 1.5	Aquatic Acute 3 (H402) Aquatic Chronic 3 (H412)	IARC 2B
Methanol 67-56-1	~ 2	Flam. Liq. 2 (H225) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT Single 1 (H370) Eye Irrit. 2B (H320)	-

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:

Not an expected route of exposure.

Skin Contact:

Wash immediately with plenty of water and soap. Flush with a continuous flow of lukewarm water until material is removed. Remove contaminated clothing and shoes without delay. Obtain medical attention. Do not reuse contaminated clothing without laundering. Destroy or thoroughly clean shoes before reuse.

Ingestion:

Not an expected route of exposure.

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

Not applicable

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

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

Extinguishing Media to Avoid:

full water jet

Protective Equipment:

Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See MSDS Section 8 (Exposure Controls/Personal Protection).

Special Hazards:

None known

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.

7. HANDLING AND STORAGE

HANDLING

Precautions: Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/clothing and eye/face protection. Do not eat, drink or smoke when using this product. Do not breathe dust.

Special Handling Statements: Heating or curing of unused rolls or sheets of product prior to disposal is not recommended. Heating a large mass of product can lead to a rapid decomposition reaction, generating heat, smoke and possibly fire. Provide good ventilation of working area (local exhaust ventilation if necessary).

STORAGE

Store in accordance with local, state, and federal regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

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:

Wear eye/face protection such as chemical splash proof goggles or face shield. Eyewash equipment and safety shower should be provided in areas of potential exposure.

Skin Protection:

Avoid skin contact. Wear impermeable gloves and suitable protective clothing. Barrier creams may be used in conjunction with the gloves to provide additional skin protection.

Hand Protection:

Wear impermeable gloves. Consider the porosity and elasticity data of the glove manufacturer and the specific conditions in the work place. Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred.

Additional Advice:

Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. 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)

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.

13463-67-7 Titanium Dioxide

OSHA (PEL):	15 mg/m ³ total dust (TWA)
ACGIH (TLV):	10 mg/m ³ (TWA)
Other Value:	Not established

67-56-1 Methanol

OSHA (PEL):	200 ppm (TWA) 260 mg/m ³ (TWA)
ACGIH (TLV):	250 ppm (STEL) (skin) 200 ppm (TWA)
Other Value:	Not established

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	white
Appearance:	film
Odor:	odorless
Boiling Point:	Not applicable
Melting Point:	Not applicable
Vapor Pressure:	Not applicable
Specific Gravity/Density:	~1.1
Vapor Density:	Not applicable
Percent Volatile (% by wt.):	Negligible
pH:	Not applicable
Saturation In Air (% By Vol.):	Not applicable
Evaporation Rate:	Not applicable
Solubility In Water:	negligible
Volatile Organic Content:	10 - 20 gm/L
Flash Point:	Not applicable
Flammability (solid, gas):	Not available
Flammable Limits (% By Vol):	Not available
Autoignition (Self) Temperature:	Not available
Decomposition Temperature:	Not applicable
Partition coefficient (n-octanol/water):	Not applicable
Odor Threshold:	Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

Viscosity (Kinematic): Not applicable

DUST HAZARD INFORMATION

Particle Size (microns):	Not available
Kst (bar-m/sec):	Not available
Maximum Explosion Pressure (Pmax):	Not available
Dust Class:	Not available
Minimum Ignition Energy (MIE) (mJ):	Not available
Minimum Ignition Temperature (MIT) (°C):	Not available
Minimum Explosive Concentration (MEC) (g/m³):	Not available
Limiting Oxygen Concentration (LOC) (%):	Not available

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: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide (CO)
Carbon dioxide
Ammonia (NH3)
Oxides of nitrogen

11. TOXICOLOGICAL INFORMATION

PRODUCT TOXICITY INFORMATION

Likely Routes of Exposure: Skin.

ACUTE TOXICITY DATA

oral (gavage)	rat	Acute LD50	Not an expected route of exposure
dermal	rabbit	Acute LD50	>1970 mg/kg
inhalation	rat	Acute LC50 4 hr	Not an expected route of exposure

LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	skin	Irritating
Acute Irritation	eye	Not an expected route of exposure

ALLERGIC SENSITIZATION

Sensitization	skin	Sensitizing
Sensitization	respiratory	Not an expected route of exposure

GENOTOXICITY

Assays for Gene Mutations

Ames Salmonella Assay

No data

OTHER INFORMATION

The product toxicity information above has been estimated.

HAZARDOUS INGREDIENT TOXICITY DATA

Poly(aromatic glycidyl ether)-Aminotriazine derivative has acute oral (rat) and dermal (rabbit) values of >2000 mg/kg and >2000 mg/kg respectively. This material causes mild skin and moderate eye irritation. Poly(aromatic glycidyl ether)-Aminotriazine derivative may cause skin sensitization.

Diglycidyl resorcinol ether (DGRE) has an oral LD50 (rat) of 400 mg/kg from a repeat dose regimen. Other literature reports an oral LD50 (rat) value of 2,570 mg/kg. The dermal (rabbit) LD50 is >500 mg/kg. A single 8-hour exposure to air saturated with diglycidyl resorcinol ether produced no mortality in rats. DGRE produced severe skin irritation in humans. Allergic skin reactions have also been observed which can be severe in certain individuals. DGRE was found to be mutagenic in the Ames test (Salmonella typhimurium (TA100 and TA1535)), with or without metabolic activation. In oral gavage studies conducted by the National Toxicology Program (NTP), DGRE was found to be carcinogenic in male and female rats and mice, causing both benign and malignant neoplasms of the forestomach. However, no skin tumors occurred in 30 female mice that received skin paintings of 1% solution DGRE in benzene three times per week for life. DGRE has shown positive results for mutagenicity in in vitro mammalian cell line tests and chinese hamster ovary cells and mouse lymphoma cells. Diglycidyl resorcinol ether is a chemical known to the State of California to cause cancer.

Acute exposure to titanium dioxide dust is not likely to cause adverse effects. Chronic exposure to titanium dioxide may cause some lung fibrosis. Inhalation of titanium dioxide dust at 50 times the nuisance dust level caused lung fibrosis and a slight increase in lung tumor incidence in laboratory rats. When titanium dioxide was fed to rats and mice over lifetime in a carcinogen bioassay, it was not carcinogenic.

Based on human evidence, Methanol is considered as classified in category 3 for acute toxicity for all exposure routes (oral, dermal and inhalation). Acute exposure to methanol vapor may cause headache and gastrointestinal irritation. Chronic or extreme inhalation exposure to vapors can cause blurred vision, serious eye damage, central nervous depression and death. Ingestion and inhalation of methanol has caused blindness in humans. Ingestion can also cause harmful effects on the central nervous system and gastrointestinal systems and can lead to death in extreme cases. Absorption of methanol can cause systemic toxicity. It has been reported that chronic skin absorption of methanol has caused ocular disturbances and blindness. Direct contact with the substance did not cause skin irritation but did cause mild eye irritation. This substance did not produce dermal sensitization in the Guinea Pig Maximisation Test. Based on a battery of in vitro and in vivo studies, this substance is not expected to be mutagenic, genotoxic or clastogenic. This product is not expected to be carcinogenic. Methanol has produced fetotoxicity in rats and teratogenicity in mice exposed by inhalation to high concentrations that did not produce significant maternal toxicity. Methanol is not considered to be a reproductive toxin. The substance is not considered to cause serious damage to health on repeated exposure by inhalation.

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**

Environmental exposure from substances of this preparation are limited due to the physical form of the product. This material is not classified as dangerous for the environment.

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
Polyamide	Not available	Not available	Not available
Poly(aromatic glycidyl ether) - Aminotriazine derivative	Not available	Not available	Not available
Diglycidyl resorcinol ether 101-90-6	Not available	Not available	Not available
Titanium Dioxide 13463-67-7	Not available	Not available	Not available
Methanol 67-56-1	Not available	LC50 13500 - 17600 mg/L - Lepomis macrochirus (96h) flow-through LC50 18 - 20 mL/L - Oncorhynchus mykiss (96h) static LC50 19500 - 20700 mg/L - Oncorhynchus mykiss (96h) flow-through LC50 = 28200 mg/L - Pimephales promelas (96h) flow-through LC50 > 100 mg/L - Pimephales promelas (96h) static	Not available

13. DISPOSAL CONSIDERATIONS

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? 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

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): This product is an article that does not intentionally release substances under normal conditions of use and is therefore exempt from the registration requirements under the REACH Regulation (EC) No. 1907/2006.

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.

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.

Component / CAS No.	%	TPQ (lbs)	RQ(lbs)	S313	TSCA 12B
Methanol 67-56-1	~ 2	None	5000	Yes	No
Diglycidyl resorcinol ether 101-90-6	20 - 22	None		Yes	No

PRODUCT HAZARD CLASSIFICATION UNDER SECTION 311 OF SARA

- Acute
- Chronic

16. OTHER INFORMATION

NFPA Hazard Rating (National Fire Protection Association)

Health: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual 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: Revised Section 3
Revised Section 11
Revised Section 16

Date Prepared: 06/14/2018

Date of last significant revision: 06/14/2018

Component Hazard Phrases

Poly(aromatic glycidyl ether) - Aminotriazine derivative

H319 - Causes serious eye irritation.

H317 - May cause an allergic skin reaction.

Diglycidyl resorcinol ether

H302 - Harmful if swallowed.
H312 - Harmful in contact with skin.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H341 - Suspected of causing genetic defects.
H351 - Suspected of causing cancer.
H412 - Harmful to aquatic life with long lasting effects.

Titanium Dioxide

H412 - Harmful to aquatic life with long lasting effects.

Methanol

H225 - Highly flammable liquid and vapor.
H301 - Toxic if swallowed.
H311 - Toxic in contact with skin.
H320 - Causes eye irritation.
H331 - Toxic if inhaled.
H370 - Causes damage to organs.

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