

## 1. Product and company identification

### Product identifier

Trade name: TMH 5005B

### Relevant identified uses of the substance or mixture and uses advised against

General use: Curing agent.  
Reserved for industrial and professional use.

### Details of the supplier of the safety data sheet

Company name:

Airtech International, Inc.  
5700 Skylab Road  
Huntington Beach, CA 92647  
E-mail: [airtech@airtechintl.com](mailto:airtech@airtechintl.com)  
Website: [www.airtechonline.com](http://www.airtechonline.com)  
Telephone: +1 714.899.8100  
Dept. responsible for information:  
Telephone: +1 714.899.8100  
E-mail: [airtech@airtechintl.com](mailto:airtech@airtechintl.com)

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Luxembourg  
Website: [www.airtech.lu](http://www.airtech.lu)  
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Telephone: +352 582.282  
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Tygavac Advanced Materials Ltd.  
The Causeway  
Broadway Business Park  
Chadderton, Oldham  
OL9 9XD United Kingdom  
Website: [www.tygavac.co.uk](http://www.tygavac.co.uk)  
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Telephone: +44 161.947.1610  
E-mail: [sales@tygavac.co.uk](mailto:sales@tygavac.co.uk)

Airtech Asia Ltd.  
No. 161 of Anyuan Rd  
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Wuqing District  
301721, Tianjin, P.R. China  
Website: [www.airtech.asia](http://www.airtech.asia)  
Telephone: +86 22 8862 9800  
Telefax: +86 22 8862 9900  
Dept. responsible for information:  
Telephone: +86 22 8862 9800  
E-mail: [airtech.asia@airtechasia.com.cn](mailto:airtech.asia@airtechasia.com.cn)

### Emergency phone number

**CHEMTREC EMERGENCY PHONE:**  
**Within USA/Canada: 1-(800)424-9300**  
**International: +1 703-741-5970**

## 2. Hazards identification

### Emergency overview

Appearance: Physical state at 68 °F and 101.3 kPa: liquid  
Color: amber

Odor: amine odor

Classification: Acute Toxicity - oral - Category 3; Skin Corrosion - Category 1A; Eye Damage - Category 1; Sensitization - skin - Category 1; Specific Target Organ Toxicity (Repeated Exposure) - Category 2; Aquatic toxicity - chronic - Category 2;

Hazard symbols:



Signal word: **Danger**

Hazard statements: Toxic if swallowed.  
Causes severe skin burns and eye damage.  
May cause an allergic skin reaction.  
May cause damage to organs through prolonged or repeated exposure.  
Toxic to aquatic life with long lasting effects.

Precautionary statements:  
Do not breathe vapors.  
Wash hands and face thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Contaminated work clothing should not be allowed out of the workplace.  
Avoid release to the environment.  
Wear protective gloves/protective clothing/eye protection/face protection.  
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
IF ON SKIN: Wash with plenty of water/soap.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/or shower.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
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/doctor.  
Specific treatment (see ' First aid ' on this label).  
If skin irritation or rash occurs: Get medical advice/attention.  
Take off contaminated clothing and wash it before reuse.  
Wash contaminated clothing before reuse.  
Collect spillage.  
Store locked up.  
Dispose of contents/container to hazardous or special waste collection point.

### Regulatory status

This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and SIMDUT in Canada.

### Hazards not otherwise classified

May be harmful in contact with skin. May be harmful if inhaled. Special danger of slipping by leaking/spilling product.  
see section 11: Toxicological information

## 3. Composition / Information on ingredients

Chemical characterization:

A mixture of amines and resin

Relevant ingredients:

CAS No.	Designation	Content	Classification
CAS 28480-77-5	alpha-(4- Aminocyclohexyl)-p- toluidine	< 65 %	Acute Toxicity - oral - Category 3. Skin Corrosion - Category 1B. Sensitization - skin - Category 1.

## 4. First aid measures

General information: First aider: Pay attention to self-protection!

- In case of inhalation: Move victim to fresh air, put at rest and loosen restrictive clothing. If breathing has stopped, give artificial respiration immediately. In case of breathing difficulties administer oxygen. Seek medical attention.
- Following skin contact: After contact with skin, wash immediately with soap and plenty of water. Change contaminated clothing. Immediately get medical attention.
- After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently seek the immediate attention of an ophthalmologist.
- After swallowing: Immediately get medical attention. Never give anything by mouth to an unconscious person. Rinse mouth immediately and drink plenty of water. Do not induce vomiting without medical assistance.

### Most important symptoms/effects, acute and delayed

In case of inhalation:

Strongly irritant. The following symptoms may occur: Sore throat, headache, fatigue, dizziness, cough, nausea, vomiting.

In case of ingestion:

Toxic if swallowed. Burns in the mouth, pharynx, oesophagus, and gastrointestinal tract.

Other symptoms: Danger of stomach perforation. Abdominal pain, nausea, sore throat, vomiting, thirst and coma.

After contact with skin: Burns, causes poorly healing wounds.

After eye contact: Redness, pain, Danger of loss of sight.

### Information to physician

Treat symptomatically.

## 5. Fire fighting measures

Flash point/flash point range:

> 199.4 °F

Auto-ignition temperature:

No data available

Suitable extinguishing media:

Water spray jet, dry chemical powder, foam, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Full water jet

### Specific hazards arising from the chemical

This material is combustible, but will not ignite readily.

Harmful and/or toxic vapors may be produced in the event of thermal decomposition.

In case of fire may be liberated: aldehydes, acids, nitrogen oxides (NO<sub>x</sub>), phenols, Nitrosamine, carbon monoxide and carbon dioxide. Formation of numerous unknown compounds is possible.

Protective equipment and precautions for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information:

Seal off endangered area. Heating causes rise in pressure with risk of bursting. Cool endangered containers with water spray and, if possible, remove from danger zone. Fight fire from a safe distance. Stay upwind/keep distance from source. Use a water fog to control vapors. Do not allow fire water to penetrate into surface or ground water.

## 6. Accidental release measures

- Personal precautions: Avoid the formation of aerosol/vapors. Avoid inhalation and contact with skin and eyes. Wear appropriate protective equipment. Ensure adequate ventilation, especially in confined areas. Keep unprotected people away.
- Environmental precautions: Do not allow to enter into ground-water, surface water or drains. If necessary notify appropriate authorities.
- Methods for clean-up: Soak up with absorbent materials such as sand, siliceus earth, acid- or universal binder. Store in special closed containers and dispose of according to ordinance. Thoroughly clean surrounding area. Dispose of waste according to applicable legislation.
- Additional information: Special danger of slipping by leaking/spilling product.

## 7. Handling and storage

### Handling

- Advices on safe handling: Provide adequate ventilation, and local exhaust as needed. Execute works under fume hood.  
Avoid contact with skin, eyes, and clothing. Avoid the formation of aerosol. Do not breathe vapor/aerosol/fog. Do not ingest.  
Wear appropriate protective equipment. When using do not eat, drink or smoke. Wash hands before breaks and after work.

- Precautions against fire and explosion: Take standard precautions to prevent fire.

### Storage

- Requirements for storerooms and containers: Store container tightly closed in a dry and cool place. Do not drop, drag or bang the container. Store containers in upright position.  
Protect from moisture contamination. Store in a well-ventilated place. Keep away from sources of ignition. Keep away from incompatible materials.
- Hints on joint storage: Incompatible materials: Nitrous acid, Sodium hypochlorite, peroxides, strong acids, mineral acids, strong oxidizing agents. Keep away from food and drinks.

## 8. Exposure controls / personal protection

### Engineering controls

- Provide adequate ventilation, and local exhaust as needed. Execute works under fume hood.  
See also information in chapter 7, section storage.

### Personal protection equipment (PPE)

- Eye/face protection: Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.
- Skin protection: Protective work clothing, chemical resistant safety shoes.  
Protective gloves according to OSHA Standard - 29 CFR: 1910.138.  
Glove material: Rubber or neoprene  
Layer thickness (recommended): >0.5 mm.  
Breakthrough time: not tested.  
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection: When vapors form, use respiratory protection.  
Recommended: Use filter type A (= against vapors of organic substances) according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.  
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

General hygiene considerations:

Avoid contact with skin, eyes, and clothing. Take off immediately all contaminated clothing. Do not breathe vapor/aerosol/fog. Work place should be equipped with a shower and an eye rinsing apparatus.

When using do not eat, drink or smoke. After work, wash hands and face.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

Appearance:	Physical state at 68 °F and 101.3 kPa: liquid Color: amber
Odor:	amine odor
Odor threshold:	No data available
pH value:	alkaline
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flash point/flash point range:	> 199.4 °F
Evaporation rate:	No data available
Flammability:	This material is combustible, but will not ignite readily.
Explosion limits:	No data available
Vapor pressure:	negligible
Vapor density:	No data available
Density:	0.76 g/mL
Solubility:	No data available
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Thermal decomposition:	No data available
Additional information:	No data available

## 10. Stability and reactivity

Reactivity:	May be corrosive to metals.
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions	Exothermic reactions with incompatible materials.
Conditions to avoid:	Protect from excessive heat. Avoid open flames. Avoid the formation of aerosol/vapors.
Incompatible materials:	Nitrous acid, Sodium hypochlorite, peroxides, strong acids, mineral acids, strong oxidizing agents, metals.

Hazardous decomposition products:

aldehydes, acids, nitrogen oxides (NOx), phenols, Nitrosamine, carbon monoxide and carbon dioxide.

Formation of numerous unknown compounds is possible.

Thermal decomposition: No data available

## 11. Toxicological information

### Toxicological tests

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Acute Toxicity - oral - Category 3 = Toxic if swallowed.

ATEmix (calculated):  $50 < ATE < 300$ .

Acute toxicity (dermal): Based on available data, the classification criteria are not met.

Acute toxicity (inhalative): Based on available data, the classification criteria are not met.

Skin corrosion/irritation: Skin Corrosion -

Category 1A = Causes severe skin burns and eye damage.

Serious eye damage/irritation: Eye Damage - Category 1 = Causes serious eye damage.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Sensitization - skin - Category 1 = May cause an allergic skin reaction.

Germ cell mutagenicity/Genotoxicity: Lack of data.

Carcinogenicity: Lack of data.

Reproductive toxicity: Lack of data.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.

Specific target organ toxicity (repeated exposure): Specific Target Organ Toxicity (Repeated Exposure) -

Category 2 = May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Lack of data.

Other information: Amines (vapors): May cause damage to liver and kidneys through prolonged or repeated exposure. Pre-existing skin and respiratory conditions including dermatitis, asthma and chronic lung disease might be aggravated by exposure.

### Symptoms

In case of inhalation:

Strongly irritant. The following symptoms may occur: Sore throat, headache, fatigue, dizziness, cough, nausea, vomiting.

In case of ingestion:

Toxic if swallowed. Burns in the mouth, pharynx, oesophagus, and gastrointestinal tract.

Other symptoms: Danger of stomach perforation. Abdominal pain, nausea, sore throat, vomiting, thirst and coma.

After contact with skin: Burns, causes poorly healing wounds.

After eye contact: Redness, pain, Danger of loss of sight.

## 12. Ecological information

### Ecotoxicity

Aquatic toxicity: Toxic to aquatic life with long lasting effects.

**Mobility in soil**

No data available

**Persistence and degradability**

Further details: No data available

**Additional ecological information**

General information: Do not allow to enter into ground-water, surface water or drains.

**13. Disposal considerations****Product**

Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations.

**Contaminated packaging**

Recommendation: Dispose of waste according to applicable legislation. Handle contaminated packages in the same way as the substance itself. Non-contaminated packages may be recycled. Do not remove label until container is thoroughly cleaned.

**14. Transport information****USA: Department of Transportation (DOT)**

Identification number: UN2922  
Proper shipping name: UN 2922, CORROSIVE LIQUIDS, TOXIC, N.O.S.  
(4,4'-Methylenebis(cyclohexylamine) and alpha-(4-Aminocyclohexyl)-p-toluidine)

Hazard class or Division: 8  
Packing Group: II  
Labels: 8, 6.1  
Symbols: G  
Special provisions: B3, IB2, T7, TP2  
Packaging – Exceptions: 154  
Packaging – Non-bulk: 202  
Packaging – Bulk: 243  
Quantity limitations – Passenger aircraft / rail: 1 L  
Quantity limitations – Cargo only: 30 L  
Vessel stowage – Location: B  
Vessel stowage – Other: 40



### Sea transport (IMDG)

UN number:	UN 2922
Proper shipping name:	UN 2922, CORROSIVE LIQUID, TOXIC, N.O.S. (4,4'-Methylenebis(cyclohexylamine) and alpha-(4-Aminocyclohexyl)-p-toluidine)
Class or division, Subsidiary risk:	Class 8, Subrisk 6.1
Packing Group:	II
EmS:	F-A, S-B
Special provisions:	274
Limited quantities:	1 L
Excepted quantities:	E2
Contaminated packaging - Instructions:	P001
Contaminated packaging - Provisions:	-
IBC - Instructions:	IBC02
IBC - Provisions:	-
Tank instructions - IMO:	-
Tank instructions - UN:	T7
Tank instructions - Provisions:	TP2
Stowage and handling:	Category B. SW2
Properties and observations:	Causes burns to skin, eyes and mucous membranes. Toxic if swallowed, by skin contact or by inhalation.
Marine pollutant:	yes
Segregation group:	none

### Air transport (IATA)

UN/ID number:	UN 2922
Proper shipping name:	UN 2922, CORROSIVE LIQUID, TOXIC, N.O.S. (4,4'-Methylenebis(cyclohexylamine) and alpha-(4-Aminocyclohexyl)-p-toluidine)
Class or division, Subsidiary risk:	Class 8, Subrisk 6.1
Packing Group:	II
Hazard label:	Corrosive & Toxic
Excepted Quantity Code:	E2
Passenger and Cargo Aircraft: Ltd.Qty.:	Pack.Instr. Y840 - Max. Net Qty/Pkg. 0.5 L
Passenger and Cargo Aircraft:	Pack.Instr. 851 - Max. Net Qty/Pkg. 1 L
Cargo Aircraft only:	Pack.Instr. 855 - Max. Net Qty/Pkg. 30 L
Special provisions:	A3 A803
Emergency Response Guide-Code (ERG):	8P

## 15. Regulatory information

### National regulations - U.S. Federal Regulations

All ingredients of this product are listed on the TSCA inventory.

### National regulations - Great Britain

Hazchem-Code: 2X

## 16. Other information

Text for labeling: Contains < 65 % alpha-(4-Aminocyclohexyl)-p-toluidine. Safety data sheet available on request.



**SAFETY DATA SHEET**

in accordance with 29 CFR 1910.1200 and ANSI standard Z400.1-2010

**TMH 5005B**

Material number 1061

Revision date: 9/4/2018  
Version: 15  
Language: en-US  
Date of first version: 10/15/2008

Page: 9 of 9

Hazard rating systems:



**NFPA Hazard Rating:**

Health: 3 (Serious)

Fire: 1 (Slight)

Reactivity: 1 (Slight)

**HMIS Version III Rating:**

Health: 3 (Serious)

Flammability: 1 (Slight)

Physical Hazard: 1 (Slight)

Personal Protection: X = Consult your supervisor

HEALTH	3
FLAMMABILITY	1
PHYSICAL HAZARD	1
	X

Reason of change:

Changes in section 1: Company/undertaking identification

**Department issuing data sheet**

Contact person:

see section 1: Dept. responsible for information

This data sheet cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, and which additional precautions may be necessary. All health and safety information contained in this data sheet should be provided to your employees and customers. It is your responsibility to develop appropriate workplace instructions and training programs for employees.

As the conditions and methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and EU regulations. All statements or suggestions are made without warranty, expressed or implied, regarding accuracy of information, the hazards connected with the use of the product or the results to be obtained from the use thereof.

## 1. Product and company identification

### Product identifier

Trade name: TMSF 5005A

### Relevant identified uses of the substance or mixture and uses advised against

General use: Epoxy resin.  
Reserved for industrial and professional use.

### Details of the supplier of the safety data sheet

Company name:

Airtech International, Inc.  
5700 Skylab Road  
Huntington Beach, CA 92647  
E-mail: [airtech@airtechintl.com](mailto:airtech@airtechintl.com)  
Website: [www.airtechonline.com](http://www.airtechonline.com)  
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Telephone: +44 161.947.1610  
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Telephone: +44 161.947.1610  
E-mail: [sales@tygavac.co.uk](mailto:sales@tygavac.co.uk)

Airtech Asia Ltd.  
No. 161 of Anyuan Rd  
Chagugang County  
Wuqing District  
301721, Tianjin, P.R. China  
Website: [www.airtech.asia](http://www.airtech.asia)  
Telephone: +86 22 8862 9800  
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Dept. responsible for information:  
Telephone: +86 22 8862 9800  
E-mail: [airtech.asia@airtechasia.com.cn](mailto:airtech.asia@airtechasia.com.cn)

### Emergency phone number

**CHEMTREC EMERGENCY PHONE:**  
**Within USA/Canada: 1-(800)424-9300**  
**International: +1 703-741-5970**

## 2. Hazards identification

### Emergency overview

Appearance: Form: pasty  
Color: black  
Odor: characteristic  
Classification: Skin Irritation - Category 2; Eye Irritation - Category 2A; Sensitization - skin - Category 1; Aquatic toxicity - chronic - Category 2;

Hazard symbols:



Signal word: **Warning**

Hazard statements: Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye irritation.  
Toxic to aquatic life with long lasting effects.

Precautionary statements: Avoid breathing vapors/spray.  
Wash hands and face thoroughly after handling.  
Contaminated work clothing should not be allowed out of the workplace.  
Avoid release to the environment.  
Wear protective gloves/protective clothing/eye protection.  
IF ON SKIN: Wash with plenty of water/soap.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Specific treatment (see ' First aid ' on this label).  
If skin irritation or rash occurs: Get medical advice/attention.  
If eye irritation persists: Get medical advice/attention.  
Take off contaminated clothing and wash it before reuse.  
Collect spillage.  
Dispose of contents/container to hazardous or special waste collection point.

### Regulatory status

This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and SIMDUT in Canada.

### Hazards not otherwise classified

May cause respiratory irritation. May be harmful if swallowed. Special danger of slipping by leaking/spilling product.

Contains materials regulated as dust hazards, dispersed in a non-hazardous form. If dust is recreated, appropriate respiratory and/or explosion precautions must still be used.  
see section 11: Toxicological information

## 3. Composition / Information on ingredients

Chemical characterization:

epoxy resin.

Relevant ingredients:

CAS No.	Designation	Content	Classification
CAS 25085-99-8	Bisphenol A epoxy resin	< 50 %	Skin Irritation - Category 2. Eye Irritation - Category 2A. Sensitization - skin - Category 1. Aquatic toxicity - chronic - Category 2.
CAS 28064-14-4	Bisphenol-F-epichlorhydrine resin	< 25 %	Skin Irritation - Category 2. Eye Irritation - Category 2A. Sensitization - skin - Category 1. Aquatic toxicity - chronic - Category 2.
CAS 3101-60-8	p-tert-Butylphenyl-1-(2,3-epoxy)propylether	< 5 %	Skin Irritation - Category 2. Eye Irritation - Category 2A. Sensitization - skin - Category 1. Aquatic toxicity - chronic - Category 3.
CAS 2425-79-8	1,4-bis(2,3-Epoxypropoxy)butane	< 5 %	Acute Toxicity - dermal - Category 4. Acute Toxicity - inhalative - Category 4. Skin Irritation - Category 2. Eye Irritation - Category 2A. Sensitization - skin - Category 1. Aquatic toxicity - chronic - Category 3.
CAS 15625-89-5	Trimethylolpropane triacrylate	< 1 %	Skin Irritation - Category 2. Eye Irritation - Category 2A. Sensitization - skin - Category 1.

Additional information: Under HCS 2012, §1910.1200(i) the precise composition of the product is withheld as trade secret. A more complete disclosure can be provided to a health, or safety professional when necessary.

## 4. First aid measures

In case of inhalation: Move victim to fresh air, put at rest and loosen restrictive clothing. If breathing has stopped, give artificial respiration immediately. In case of breathing difficulties administer oxygen. Seek medical attention.

Following skin contact: After contact with skin, wash immediately with soap and plenty of water. Change contaminated clothing. Seek medical attention if irritation persists.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

After swallowing: Immediately get medical attention. Never give anything by mouth to an unconscious person. Rinse mouth immediately and drink plenty of water. Do not induce vomiting without medical assistance.

### Most important symptoms/effects, acute and delayed

In case of inhalation:  
Following symptoms can occur depending on degree of seriousness: irritation, Breathing difficulty, drowsiness, cough.

In case of ingestion: May be harmful if swallowed.

After contact with skin: Sensitisation, irritation, redness, pain.

After eye contact: Irritation, redness, pain.

### Information to physician

Treat symptomatically.

## 5. Fire fighting measures

Flash point/flash point range:

> 208.4 °F

Auto-ignition temperature:

No data available

Suitable extinguishing media:

Dry chemical powder, foam, water spray jet, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Full water jet.

### Specific hazards arising from the chemical

This material is combustible, but will not ignite readily. Harmful and/or toxic vapors may be produced in the event of thermal decomposition. In case of fire may be liberated: Silicon compounds, phenols, aldehydes, acids, carbon monoxide and carbon dioxide. Formation of numerous unknown compounds is possible.

Protective equipment and precautions for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information:

Seal off endangered area. Heating causes rise in pressure with risk of bursting. Cool endangered containers with water spray and, if possible, remove from danger zone. Fight fire from a safe distance. Stay upwind/keep distance from source. Use a water fog to control vapors. Do not allow fire water to penetrate into surface or ground water.

## 6. Accidental release measures

Personal precautions:

Avoid the formation of aerosol/vapors. Avoid inhalation and contact with skin and eyes. Wear appropriate protective equipment. Ensure adequate ventilation, especially in confined areas. Keep unprotected people away.

Environmental precautions:

Do not allow to enter into ground-water, surface water or drains. If necessary notify appropriate authorities.

Methods for clean-up:

Soak up with absorbent materials such as sand, siliceous earth, acid- or universal binder. Store in special closed containers and dispose of according to ordinance. Thoroughly clean surrounding area. Dispose of waste according to applicable legislation.

Additional information:

Special danger of slipping by leaking/spilling product.

## 7. Handling and storage

### Handling

Advices on safe handling:

Provide adequate ventilation, and local exhaust as needed. Avoid contact with the substance. Avoid the formation of aerosol. Do not breathe vapor/aerosol/fog. Do not ingest. Wear appropriate protective equipment. When using do not eat, drink or smoke. Wash hands before breaks and after work.

Precautions against fire and explosion:

Take standard precautions to prevent fire.

### Storage

Requirements for storerooms and containers:

Store container tightly closed in a dry and cool place. Do not drop, drag or bang the container. Store containers in upright position. Store in a well-ventilated place. Keep away from sources of ignition. Keep away from incompatible materials.

Hints on joint storage: Incompatible materials: strong acids, mineral acids, strong bases, strong oxidizing agents. Keep away from food and drinks.

## 8. Exposure controls / personal protection

### Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
409-21-2	Silicon carbide	USA: ACGIH: TWA	0.1 fibers/cm <sup>3</sup> (fibers, inhalable fraction)
		USA: ACGIH: TWA	10 mg/m <sup>3</sup> (inhalable fraction)
		USA: ACGIH: TWA	3 mg/m <sup>3</sup> (respirable fraction)
		USA: NIOSH: TWA	10 mg/m <sup>3</sup> (inhalable fraction)
		USA: NIOSH: TWA	5 mg/m <sup>3</sup> (respirable fraction)
		USA: OSHA: TWA	15 mg/m <sup>3</sup> (inhalable fraction)
		USA: OSHA: TWA	5 mg/m <sup>3</sup> (respirable fraction)

Additional information: Contains materials regulated as dust hazards, dispersed in a non-hazardous form. If dust is recreated, appropriate respiratory and/or explosion precautions must still be used.

### Engineering controls

Provide good ventilation and/or an exhaust system in the work area.  
See also information in chapter 7, section storage.

### Personal protection equipment (PPE)

- Eye/face protection: Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.
- Skin protection: Wear suitable protective clothing.  
Protective gloves according to EN 374.  
Glove material: Neoprene or rubber  
Layer thickness (recommended): >0.5 mm.  
Breakthrough time: not tested  
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.
- Respiratory protection: When vapors form, use respiratory protection.  
Recommended: Use filter type A (= against vapors of organic substances) according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.  
The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product.
- General hygiene considerations: Avoid contact with skin, eyes, and clothing. Change contaminated clothing. Wash contaminated clothing prior to re-use. Work place should be equipped with a shower and an eye rinsing apparatus. Wash hands before breaks and after work. When using do not eat, drink or smoke.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

- Appearance: Form: pasty  
Color: black
- Odor: characteristic
- Odor threshold: No data available

pH value:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flash point/flash point range:	> 208.4 °F
Evaporation rate:	No data available
Flammability:	This material is combustible, but will not ignite readily.
Explosion limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Density:	No data available
Solubility:	No data available
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Thermal decomposition:	No data available
Additional information:	No data available

## 10. Stability and reactivity

Reactivity:	Refer to section: Possibility of hazardous reactions.
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions	Exothermic reactions with incompatible materials.
Conditions to avoid:	Excessive heating. Avoid the formation of aerosol/vapors. Keep away from sources of ignition.
Incompatible materials:	Strong acids, mineral acids, strong bases, strong oxidizing agents.
Hazardous decomposition products:	In case of fire may be liberated: Silicon compounds, phenols, aldehydes, acids, carbon monoxide and carbon dioxide. Formation of numerous unknown compounds is possible.
Thermal decomposition:	No data available

## 11. Toxicological information

### Toxicological tests

- Toxicological effects:
- Acute toxicity (oral): Lack of data.
  - Acute toxicity (dermal): Lack of data.
  - Acute toxicity (inhalative): Lack of data.
  - Skin corrosion/irritation: Skin Irritation - Category 2 = Causes skin irritation.  
The product has not been tested. The statement is derived from the properties of the single components.
  - Serious eye damage/irritation: Eye Irritation - Category 2A = Causes serious eye irritation.  
The product has not been tested. The statement is derived from the properties of the single components.
  - Sensitisation to the respiratory tract: Lack of data.
  - Skin sensitisation: Sensitization - skin - Category 1 = May cause an allergic skin reaction.  
The product has not been tested. The statement is derived from the properties of the single components.
  - Germ cell mutagenicity/Genotoxicity: Lack of data.
  - Carcinogenicity: Lack of data.
  - Reproductive toxicity: Lack of data.
  - Effects on or via lactation: Lack of data.
  - Specific target organ toxicity (single exposure): Lack of data.
  - Specific target organ toxicity (repeated exposure): Lack of data.
  - Aspiration hazard: Lack of data.
- Other information:
- Pre-existing skin and respiratory conditions including dermatitis, asthma and chronic lung disease might be aggravated by exposure.
  - IARC rating:  
Contains materials assigned to Group 2B.  
Under HCS 2012, §1910.1200(i) the precise composition of the product is withheld as trade secret. A more complete disclosure can be provided to a health, or safety professional when necessary.

### Symptoms

- In case of inhalation:  
Following symptoms can occur depending on degree of seriousness: irritation, Breathing difficulty, drowsiness, cough.
- In case of ingestion: May be harmful if swallowed.
- After contact with skin: Sensitisation, irritation, redness, pain.
- After eye contact: Irritation, redness, pain.

## 12. Ecological information

### Ecotoxicity

- Aquatic toxicity: Toxic to aquatic life with long lasting effects.  
The product has not been tested. The statement is derived from the properties of the single components.

### Mobility in soil

No data available



**Persistence and degradability**

Further details: No data available

**Additional ecological information**

General information: Do not allow to enter into ground-water, surface water or drains.

**13. Disposal considerations**

**Product**

Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations.

**Contaminated packaging**

Recommendation: Dispose of waste according to applicable legislation. Handle contaminated packages in the same way as the substance itself. Non-contaminated packages may be recycled. Do not remove label until container is thoroughly cleaned.

**14. Transport information**

**USA: Department of Transportation (DOT)**

Identification number: UN3077  
Proper shipping name: UN 3077, ENVIRONMENTALLY HAZARDOUS  
SUBSTANCES, SOLID, N.O.S.  
Hazard class or Division: 9  
Packing Group: III  
Labels: 9  
Special provisions: 8, 146, 335, A112, B54, B120, IB8, IP3, N20, N91, T1, TP33  
Packaging – Exceptions: 155  
Packaging – Non-bulk: 213  
Packaging – Bulk: 240  
Quantity limitations – Passenger aircraft / rail: No limit  
Quantity limitations – Cargo only: No limit  
Vessel stowage – Location: A





# SAFETY DATA SHEET

in accordance with 29 CFR 1910.1200 and ANSI standard Z400.1-2010

Revision date: 9/4/2018  
Version: 13  
Language: en-US  
Date of first version: 11/24/2014

## TMSF 5005A

Material number 1065

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### Sea transport (IMDG)

UN number: UN 3077  
Proper shipping name: UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bisphenol A epoxy resin and Bisphenol F Epoxy Resin)  
Class or division, Subsidiary risk: Class 9, Subrisk -  
Packing Group: III  
EmS: F-A, S-F  
Special provisions: 274, 335, 966, 967, 969  
Limited quantities: 5 kg  
Excepted quantities: E1  
Contaminated packaging - Instructions: P002, LP02  
Contaminated packaging - Provisions: PP12  
IBC - Instructions: IBC08  
IBC - Provisions: B3  
Tank instructions - IMO: -  
Tank instructions - UN: T1, BK2, BK2, BK3  
Tank instructions - Provisions: TP33  
Stowage and handling: Category A. SW23  
Properties and observations: -  
Marine pollutant: yes  
Segregation group: none

### Air transport (IATA)

UN/ID number: UN 3077  
Proper shipping name: UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bisphenol A epoxy resin and Bisphenol F Epoxy Resin)  
Class or division, Subsidiary risk: Class 9  
Packing Group: III  
Hazard label: Miscellaneous  
Excepted Quantity Code: E1  
Passenger and Cargo Aircraft: Ltd.Qty.: Pack.Instr. Y956 - Max. Net Qty/Pkg. 30 kg G  
Passenger and Cargo Aircraft: Pack.Instr. 956 - Max. Net Qty/Pkg. 400 kg  
Cargo Aircraft only: Pack.Instr. 956 - Max. Net Qty/Pkg. 400 kg  
Special provisions: A97 A158 A179 A197  
Emergency Response Guide-Code (ERG): 9L

## 15. Regulatory information

### National regulations - U.S. Federal Regulations

Product: All ingredients of this product are listed on the TSCA inventory.  
Silicon carbide: NIOSH Recommendations:  
Occupational Health Guideline: 0555  
1,4-bis(2,3-Epoxypropoxy)butane: TSCA: listed

### National regulations - U.S. State Regulations

Trimethylolpropane triacrylate: California Proposition 65 not listed  
Minnesota Haz. Substance:  
Codes: I - Ratings: --

### National regulations - Great Britain

Hazchem-Code: 2Z

**16. Other information**

Text for labeling: Contains < 50 % Bisphenol A epoxy resin, < 25 % Bisphenol-F-epichlorhydrine resin, < 5 % p-tert-Butylphenyl-1-(2,3-epoxy)propylether, < 5 % 1,4-bis(2,3-Epoxypropoxy)butane, < 1 % Trimethylolpropane triacrylate. Safety data sheet available on request.

Hazard rating systems:



NFPA Hazard Rating:  
Health: 2 (Moderate)  
Fire: 1 (Slight)  
Reactivity: 0 (Minimal)

HMIS Version III Rating:  
Health: 2 (Moderate)  
Flammability: 1 (Slight)  
Physical Hazard: 0 (Minimal)  
Personal Protection: X = Consult your supervisor

HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	0
	X

Reason of change: Changes in section 1: Company/undertaking identification

**Department issuing data sheet**

Contact person: see section 1: Dept. responsible for information

This data sheet cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, and which additional precautions may be necessary. All health and safety information contained in this data sheet should be provided to your employees and customers. It is your responsibility to develop appropriate workplace instructions and training programs for employees.

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