



TERRAFUSE INC.

Safety Data Sheet TF Structural Part A

SECTION 1: Identification

1.1 Product identifier

Product name TF Structural Part A

1.3 Recommended use of the chemical and restrictions on use

Used for repair of concrete substrates.

1.4 Supplier's details

Name Terrafuse Inc.
Address 1325 Hastings Cres. SE
Calgary AB T2G 4C8
Canada

Telephone 403-243-3000
Fax 403-243-3050
email info@terrafuse.ca

1.5 Emergency phone number(s)

CANUTEC 1-888-CANUTEC (226-8832)
CHEMTREC USA 800-424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200)

- Carcinogenicity, Cat. 1A
- Specific target organ toxicity (repeated exposure), Cat. 1
- Eye damage/irritation, Cat. 2A
- Specific target organ toxicity (single exposure), Cat. 3

2.2 GHS label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H319

Causes serious eye irritation if dust or particles get in eye

Safety Data Sheet

TF Structural Deep Part A

| | |
|------|--|
| H335 | May cause respiratory irritation |
| H336 | May cause drowsiness or dizziness |
| H350 | May cause cancer through chronic inhalation |
| H372 | Causes damage to lungs through prolonged or repeated inhalation. |

Precautionary statement(s)

| | |
|----------------|---|
| P202 | Do not handle until all safety precautions have been read and understood. |
| P260 | Do not breathe dust |
| P264 | Wash hands/forearms and exposed areas thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. |
| P308+P313 | If exposed or concerned: Get medical advice/attention. |
| P314 | Get medical advice/attention if you feel unwell. |
| P337+P313 | If eye irritation persists: Get medical advice/attention. |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P501 | Dispose of contents according to local regulations |

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. Silica, crystalline

| | |
|---------------|----------------------------------|
| Concentration | 45 - 70 % (weight), Trade secret |
| EC no. | 238-878-4 |
| CAS no. | 14808-60-7 |

- Carcinogenicity, Cat. 1A
- Specific target organ toxicity (repeated exposure), Cat. 1

2. Ashes (residues)

| | |
|---------------|----------------------------------|
| Concentration | 10 - 30 % (weight), Trade secret |
| CAS no. | 68131-74-8 |

- Eye damage/irritation, Cat. 2B
- Carcinogenicity, Cat. 1A
- Specific target organ toxicity (repeated exposure), Cat. 1

Trade secret statement (OSHA 1910.1200(i))

The exact percentages of composition have been withheld as a trade secret.

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

Safety Data Sheet

TF Structural Deep Part A

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| General advice | Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice, and bring a copy of this SDS. |
| If inhaled | If exposed to dust through inhalation, get into open, fresh air and ventilate suspected area. Obtain medical attention if breathing is difficult, or if you feel unwell. Bring a copy of this SDS. |
| In case of skin contact | Remove contaminated clothing. Rinse affected area with water for 15 minutes. Obtain medical attention if irritation develops or persists. |
| In case of eye contact | If eyes are affected, remove contact lenses, if present and easy to do, and carefully rinse eyes for 15 minutes. Obtain medical attention. |
| If swallowed | Rinse mouth. Do NOT induce vomiting. Obtain medical attention. |
| Personal protective equipment for first-aid responders | Avoid inhalation of dust. Use gloves, respiration, and eye protection, and suitable PPE for situational requirements. |

4.2 Most important symptoms/effects, acute and delayed

General: May cause cancer. Causes damage to organs through prolonged or repeated exposure. Causes eye irritation.

Inhalation: The three types of silicosis include: 1) Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD); 2) Accelerated silicosis – occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years); 3) Acute silicosis – results from short-term exposure to very large amounts of respirable crystalline silica. The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels. Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis. Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures.

Skin contact: Causes mechanical skin irritation.

Eye Contact: Causes eye irritation if particles or dust get in eye.

Ingestion: Ingestion of large quantities may cause discomfort and/or distress, nausea or vomiting.

Chronic Symptoms: May cause cancer. Causes damage to organs through prolonged or repeated exposure

4.3 Indication of immediate medical attention and special treatment needed, if necessary

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product SDS on hand.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Water spray, dry chemical, foam, carbon dioxide.

5.2 Specific hazards arising from the chemical

If heated to decomposition (>1700 °C), oxide fumes may be generated. Phosphorus oxides may be released. Silicon oxides may be released.

5.3 Special protective actions for fire-fighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Silicon oxides, oxide fumes, phosphorus oxides.

Safety Data Sheet

TF Structural Deep Part A

Further information

No components of this material are classified as flammable or explosive.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

General Measures: Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not handle until all safety precautions have been read and understood.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2 Environmental precautions

Prevent entry to sewers and public waters.

6.3 Methods and materials for containment and cleaning up

For Containment: Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Recover the product by vacuuming, shoveling or sweeping. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

Reference to other sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Mixing of product with Part B will create dust. Ensure good ventilation/exhaustion at the workplace. **DO NOT BREATHE DUST.** In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is essential to avoid exposure. Wear appropriate PPE (See section 8). Do not mix with other chemical products, except as indicated by the manufacturer. Do not get in eyes, on skin or clothing. Good housekeeping is important to prevent accumulation of dust.

Mixing and placing large volumes of product, creates a highly exothermic reaction, and may generate a large amount of heat. Never seal mixed product into and container or vessel, until well after the reaction has finished.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions: Store away from incompatible materials. Store in a dry area. Keep lid tightly sealed to avoid release of dust.

Incompatible Materials: Strong acids, strong bases, strong oxidizers. Dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Water will cause powder to harden.

Specific end use(s)

TF Structural Deep is a rapid curing repair mortar, meant for repairs of deteriorated concrete.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Silica, crystalline (CAS: 14808-60-7 EC: 238-878-4)

PEL-TWA (Inhalation): 10 mg/m³ / (% Silica + 2) respirable 30 mg/m³ / (% Silica + 2) total (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

PEL (Inhalation): 0.05 mg/m³ (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

REL (Inhalation): Ca 0.05 mg/m³ (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov

TLV® (Inhalation): 0.025 mg/m³ (resp.) for α-quartz and cristobalite (ACGIH)

8.2 Appropriate engineering controls

Emergency eye wash fountains/bottles should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation or air purification, especially in confined areas. Ensure all national/local regulations are observed.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms



Eye/face protection

Chemical safety goggles.

Skin protection

Wear suitable protective clothing.

Body protection

Wear suitable protective clothing.

Respiratory protection

Always use approved respiratory protection when working with this material. If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. Wherever dust is created from use of this product, or in case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

| | |
|---|-------------------|
| Appearance/form (physical state, color, etc.) | Light grey powder |
| Odor | None |
| Odor threshold | Not applicable |
| pH | 6-8 |
| Melting point/freezing point | Not applicable |
| Initial boiling point and boiling range | Not applicable |
| Flash point | Not applicable |
| Evaporation rate | Not applicable |
| Flammability (solid, gas) | None |

Safety Data Sheet

TF Structural Deep Part A

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|--|-----------------------|
| Upper/lower flammability limits | Not applicable |
| Upper/lower explosive limits | Not applicable |
| Vapor pressure | Not applicable |
| Vapor density | Not applicable |
| Relative density | 2.1 |
| Solubility(ies) | Not available |
| Partition coefficient: n-octanol/water | Not applicable |
| Auto-ignition temperature | Not available |
| Decomposition temperature | Not available |
| Viscosity | Not applicable |
| Explosive properties | None. Non-combustible |
| Oxidizing properties | None |

SECTION 10: Stability and reactivity

10.1 Reactivity

Reacts with acids. Reacts with water.

10.2 Chemical stability

Stable with normal handling and use.

10.3 Possibility of hazardous reactions

May react with metals in the presence of moisture to form hydrogen.

10.4 Conditions to avoid

Avoid contact with water and incompatible materials.

10.5 Incompatible materials

Strong acids, strong bases, strong oxidizers. Dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas.

May react violently with:., phosphorous pentachloride, Strong acids

Chlorine Trifluoride reacts violently, producing flame

Water. May cause delayed hydration, creating heat.

10.6 Hazardous decomposition products

Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride.

Phosphorus oxides (e.g. P₂O₅)

Various metal oxides can be produced if heated beyond 1500 degrees C.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Quartz (14808-60-7)

LD50 Oral Rat > 5000 mg/kg

LD50 Dermal Rat > 5000 mg/kg

Ashes, residues (68131-74-8)

LD50 Oral Rat > 2000 mg/kg

Quartz (14808-60-7)

IARC Group 1

National Toxicology Program (NTP) Status Known Human Carcinogens.

OSHA Hazard Communication Carcinogen List In OSHA Hazard Communication Carcinogen list.

Safety Data Sheet

TF Structural Deep Part A

Skin corrosion/irritation

Not classified. (Based on available data, the classification criteria are not met)

Serious eye damage/irritation

Causes serious eye irritation

Respiratory or skin sensitization

May cause mechanical skin irritation.

Germ cell mutagenicity

Not classified. (Based on available data, the classification criteria are not met)

Carcinogenicity

May cause cancer through chronic inhalation.

Reproductive toxicity

Not classified. (Based on available data, the classification criteria are not met)

STOT-single exposure

(Category 3) May cause respiratory irritation

STOT-repeated exposure

(Category 1) Causes damage to lungs through prolonged/repeated exposure (inhalation)

Aspiration hazard

Not classified

SECTION 12: Ecological information

Toxicity

No further relevant information available.

Persistence and degradability

No further relevant information available.

Bioaccumulative potential

No further relevant information available.

Mobility in soil

No further relevant information available.

Other adverse effects

Other Information: Avoid release to the environment.

SECTION 13: Disposal considerations

Disposal of the product

The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust.

Disposal must be made in accordance with local, state and federal regulations.

Disposal of contaminated packaging

Safety Data Sheet

TF Structural Deep Part A

Disposal must be made in accordance with local, state and federal regulations.

SECTION 14: Transport information

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Fly Ash: SARA Section 311/312 Hazard Classes

Health hazard - Specific target organ toxicity (single or repeated exposure) Health hazard - Carcinogenicity Health hazard - Serious eye damage or eye irritation

Quartz: U.S. - California - Proposition 65 - Carcinogens List

WARNING: This product contains chemicals known to the State of California to cause cancer.

U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

This is the first revision of this SDS, 3/27/2019

Updates were made to the components section regarding trade secret disclaimer

16.1 Further information/disclaimer

NOTE: The information and recommendations contained herein are based upon data believed to be correct.

However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to chemicals contained in our products.

16.2 Preparation information

Prepared by:

Terrafuse Inc.

www.terrafuse.ca

1-855-243-8080

6/23//2020