



T-3 Heat Transfer Compound

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 03/31/2020 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : T-3 Heat Transfer Compound

1.2. Recommended use and restrictions on use

Use of the substance/mixture : For use in heat tracing and various other applications to aid in the transfer of heat

1.3. Supplier

Thermon Manufacturing Company
100 Thermon Drive
San Marcos, TX 78667 - USA
T 1(800) 820-4328 or 1 (512) 396-5801

1.4. Emergency telephone number

Emergency number : 1 (713) 205-2690 (24 hours) Alternate: National Poison Control Center: 1 (800) 222-1222

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Irrit. 2 H315
Eye Irrit. 2A H319

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning
Hazard statements (GHS US) : H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary statements (GHS US) : P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear protective gloves, protective clothing, chemical goggles, & face protection
P302+P352 - If on skin: Wash with plenty of water
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P321 - Specific treatment (see supplemental first aid instruction on this label)
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : Hazards arising from this product are primarily present when product is in the uncured state. Once hardened, the compound is non-hazardous; however dust that may result from mechanical disturbance can be hazardous. Uncured product is a viscous paste (see detailed composition in Section 3). Product cures (hardens) slowly upon exposure to air or more rapidly upon exposure to heat. Product is packaged in 1 gallon (3.8 L), 2 gallon (7.6 L), or 5 gallon (18.9 L) containers.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Sodium silicate	(CAS-No.) 1344-09-8	10 - 30

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The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of § 1910.1200

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.
- First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if breathing is affected. If breathing is difficult, supply oxygen.
- First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.
- First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing if pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.
- First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Get medical attention if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects : Causes skin irritation. Causes serious eye irritation.
- Symptoms/effects after inhalation : May cause respiratory irritation.
- Symptoms/effects after skin contact : Causes skin irritation.
- Symptoms/effects after eye contact : Causes serious eye irritation.
- Symptoms/effects after ingestion : May cause gastrointestinal irritation.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂). Water spray.

5.2. Specific hazards arising from the chemical

- Fire hazard : Product is not combustible.
- Explosion hazard : Product is not explosive.
- Reactivity : No dangerous reactions known under normal conditions of use.

5.3. Special protective equipment and precautions for fire-fighters

- Precautionary measures fire : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Evacuate area. Ventilate area. Keep upwind. Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection.

6.1.1. For non-emergency personnel

- Protective equipment : Wear Protective equipment as described in Section 8.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

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6.3. Methods and material for containment and cleaning up

- For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
- Methods for cleaning up : Wear suitable protective clothing. In the uncured state the material is a viscous paste. Compound is water soluble and may be diluted with water. Compound will harden, if undiluted, in air. Hardening is accelerated with the application of heat. In the hardened state, scrape, chisel, or grind areas and collect the dry residue. Collect into a closed container. This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

See Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Use only in well-ventilated areas. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not breathe dust, mist.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a dry, cool and well-ventilated place. Keep the container tightly closed. Store separately from acids, reactive metals, and ammonium salts. Store in clean steel or plastic containers. Do not store in aluminum, fiberglass, copper, brass, zinc or galvanized steel containers.
- Storage temperature : Room Temperature

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Sodium silicate (1344-09-8)		
OSHA	Remark (OSHA)	OELs not established
ACGIH	Remark (ACGIH)	OELs not established

8.2. Appropriate engineering controls

- Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment symbol(s):



Personal protective equipment:

Gloves. Protective goggles.

Hand protection:

Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Change contaminated gloves immediately. Suitable gloves for this specific application can be recommended by the glove supplier.

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

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Long sleeved protective clothing

Respiratory protection:

Use NIOSH (or other equivalent national standard) -approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Charcoal gray paste.
Color	: Charcoal gray
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
pH solution	: 10 - 12
Melting point	: No data available
Freezing point	: 32 °F
Boiling point	: 214 - 216 °F @ 14.7 psi
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: 156 mmHg @ 61.5 °C
Relative vapor density at 20 °C	: No data available
Relative density	: 1.6 Specific Gravity
Solubility	: 50% soluble in water.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

VOC content : 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Compound is stable when used in its recommended temperature range.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

High temperature will cause a hardening effect that is intended per the use of product. There is no known effect on the material with exposure to light or shock.

10.5. Incompatible materials

The uncured compound turns to a gel and generates heat when mixed with acid. The compound may react with ammonium salts resulting in evolution of ammonia gas. The compound can react with sugar residues to form carbon monoxide.

10.6. Hazardous decomposition products

Compound may decompose when mixed with acids releasing silicic acid.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Sodium silicate (1344-09-8)

LD50 oral rat	1960 mg/kg
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified.
Specific target organ toxicity – repeated exposure	: Not classified.
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects	: Causes skin irritation. Causes serious eye irritation.
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: May cause gastrointestinal irritation.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

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Persistence and degradability	This material is not persistent in aquatic systems. It is high in pH (when undiluted and/or not neutralized) which is acutely harmful to aquatic life. Diluted material rapidly de-polymerizes to yield dissolved silica (not distinguishable from natural dissolved silica). It does not contribute to BOD. This material does not bio-accumulate except in species that use silica as a structural material such as siliceous sponges and diatoms. The addition of excess dissolved silica over the limiting concentrations will not stimulate the growth of diatom populations. Neither silica nor sodium will appreciably bio-concentrate up the food chain.
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Graphite (7782-42-5)

Persistence and degradability	Not established.
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12.3. Bioaccumulative potential

Graphite (7782-42-5)

Bioaccumulative potential	Not established.
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other adverse effects	: The alkalinity of this material will have a local effect on ecosystems sensitive to changes in pH.
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SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Dispose of hardened (cured) compound in an industrial waste facility or landfill having appropriate permits. Alternately, hardened (cured) compound may be disposed of in a waste incineration facility having proper permitting. Prevent discharges to streams or sewer systems.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

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SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport

Transportation of Dangerous Goods

Not regulated for transport

Transport by sea (IMDG)

Not regulated for transport

Air transport (IATA)

Not regulated for transport

SECTION 15: Regulatory information

15.1. US Federal regulations

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All chemical substances in this product are listed as "Active" in the EPA (Environmental Protection Agency) "TSCA Inventory Notification (Active-Inactive) Requirements Rule" ("the Final Rule"). as of Feb. 2019 or are otherwise exempt.

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SARA Section 311/312 Hazard Classes

Health hazard - Skin corrosion or Irritation
Health hazard - Serious eye damage or eye irritation
Health hazard - Hazard Not Otherwise Classified (HNOC)

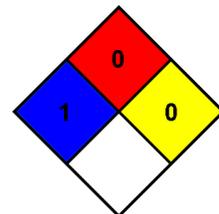
15.2. US State regulations

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

Component	State or local regulations
Graphite(7782-42-5)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List

SECTION 16: Other information

- Other information : Author: JLJ.
- NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.
- NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.
- HMIS Hazard Rating
- Health : 1
- Flammability : 0
- Physical : 0



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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.