



Revision Number: 004.0

Issue date: 12/10/2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	LOCTITE TCF 1000 TC known as Thermstrate 1.75 x 1.25	IDH number:	852815
Product type:	Phase Change Thermal Interface Material (PCTIM)	Item number:	TC-175-125
Restriction of Use:	None identified	Region:	United States
Company address:	Henkel Electronic Materials LLC 14000 Jamboree Road Irvine, CA 92606	Contact information:	Telephone: 1.888.9.HENKEL (1.888.943.6535) MEDICAL EMERGENCY Phone: Poison Control Center 1-877-671-4608 (toll free) or 1-303-592-1711 TRANSPORT EMERGENCY Phone: CHEMTREC 1-800-424-9300 (toll free) or 1-703-527-3887 Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER: CAUSES SKIN IRRITATION.
CAUSES SERIOUS EYE IRRITATION.
MAY CAUSE RESPIRATORY IRRITATION.
SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD.
CAUSES DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE.

HAZARD CLASS	HAZARD CATEGORY
SKIN IRRITATION	2
EYE IRRITATION	2A
REPRODUCTIVE TOXICITY	2
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	3
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	1

PICTOGRAM(S)



Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust or fumes. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear eye and face protection. Wear protective gloves. Use personal protective equipment as required.

Response: IF ON SKIN: Wash with plenty of soap and water. 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. IF exposed or concerned: Get medical attention. If skin irritation occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing and wash before reuse.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local

governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Paraffin	Proprietary	30 - 60
Petrolatum	8009-03-8	30 - 60
Zinc oxide	1314-13-2	10 - 30

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If symptoms develop and persist, get medical attention.
Skin contact:	Remove contaminated clothing and footwear. Immediately flush skin with plenty of water (using soap, if available). If symptoms develop and persist, get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Ingestion:	DO NOT induce vomiting unless directed to do so by medical personnel. Give a conscious person several glasses of water. Never give anything by mouth to an unconscious person. If symptoms develop and persist, get medical attention.
Symptoms:	See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media:	Water spray (fog), foam, dry chemical or carbon dioxide.
Special firefighting procedures:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.
Unusual fire or explosion hazards:	Fumes and vapors from thermal decompositions vary in composition and toxicity.
Hazardous combustion products:	Oxides of carbon. Oxides of nitrogen. Hydrocarbons.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:	Do not allow product to enter sewer or waterways.
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Clean-up methods:

Wear suitable protective clothing, gloves and eye/face protection. If product is spilled in the solid state, pick up and place in an appropriate waste disposal container. If product is spilled in the molten state, allow product to solidify before scraping up and disposing of in an appropriate waste disposal container.

7. HANDLING AND STORAGE

Handling:

Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Do not taste or swallow. Avoid breathing vapors or mists of this product. Wash thoroughly after handling.

Storage:

For safe storage, store at or below 35 °C (95°F)
Keep in a cool, well ventilated area away from heat, sparks and open flame.
Keep container tightly closed until ready for use.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Paraffin	None	None	None	None
Petrolatum	5 mg/m ³ TWA Inhalable fraction. Exposure by all routes should be carefully controlled to levels as low as possible. Included in the regulation but with no data values. See regulation for further details	5 mg/m ³ PEL Mist.	None	None
Zinc oxide	2 mg/m ³ TWA Respirable fraction. 10 mg/m ³ STEL Respirable fraction.	5 mg/m ³ PEL Fume. 5 mg/m ³ PEL Respirable fraction. 15 mg/m ³ PEL Total dust.	None	None

Engineering controls:

Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination.

Respiratory protection:

Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Eye/face protection:

Safety goggles or safety glasses with side shields.

Skin protection:

Use impermeable gloves and protective clothing as necessary to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:

Waxy, Solid

Color:

White, Gray

Odor:

None

Odor threshold:

Not available.

pH:

Not available.

Vapor pressure:

Not available.

Boiling point/range:

Not available.

Melting point/ range:

60 °C (140°F)

Specific gravity: 0.92
Vapor density: Not available.
Flash point: 221 °C (429.8 °F) Cleveland open cup
Flammable/Explosive limits - lower: Not available.
Flammable/Explosive limits - upper: Not available.
Autoignition temperature: Not available.
Evaporation rate: Not available.
Solubility in water: Insoluble
Partition coefficient (n-octanol/water): Not available.
VOC content: 0 %
Viscosity: Not available.
Decomposition temperature: Not available.

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions.
Hazardous reactions: None under normal processing.
Hazardous decomposition products: Oxides of carbon. Oxides of nitrogen. Hydrocarbons.
Incompatible materials: Strong oxidizing agents.
Reactivity: Not available.
Conditions to avoid: Store away from incompatible materials. Heat, flames, sparks and other sources of ignition.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects/Symptoms

Inhalation: Harmful: danger of serious damage to health by prolonged exposure through inhalation. May cause respiratory tract irritation.
Skin contact: Causes skin irritation.
Eye contact: Causes serious eye irritation.
Ingestion: Not expected to be harmful by ingestion.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Paraffin	None	No Records
Petrolatum	None	Irritant
Zinc oxide	Oral LD50 (RAT) > 5 g/kg	Blood, Gastrointestinal, Immune system, Irritant, Kidney, Metabolic, Nervous System, Pancreas, Respiratory, Skin

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Paraffin	No	No	No
Petrolatum	No	No	No
Zinc oxide	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.
Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None above reporting de minimis
CERCLA/SARA Section 302 EHS: None above reporting de minimis
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Zinc oxide (CAS# 1314-13-2).
California Proposition 65: This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDSL Status: Contains one or more components listed on the Non-Domestic Substances List. All other components are listed on or are exempt from listing on the Domestic Substances List. Components listed on the NDSL must be tracked by all Canadian Importers of Record as required by Environment Canada. They may be imported into Canada in limited quantities. Please contact Regulatory Affairs for additional details.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

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Issue date: 12/10/2013

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