



T-85 Heat Transfer Compound

Safety Data Sheet

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

Document: HTC-04-01 Date of issue: 07/01/2019 Supersedes Release Date: 05/30/2015 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : T-85 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 Dam. 1 H318
Skin Sens. 1 H317
STOT SE 3 H335

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H335 - May cause respiratory irritation

Precautionary statements (GHS US) :

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing must not be allowed out of the workplace
P280 - Wear protective gloves, protective clothing, chemical goggles, & face protection

P302+P352 - If on skin: Wash with plenty of water
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
P310 - Immediately call poison center/doctor/...
P312 - Call a poison center or doctor if you feel unwell
P321 - Specific treatment (see supplemental first aid instruction on this label)
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P363 - Wash contaminated clothing before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

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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 composed of epoxy resin, hardener, and fillers (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), 5 gallon (18.9 L) containers, or caulking tubes.

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	%
Bisphenol A-epichlorohydrin polymer	(CAS-No.) 25068-38-6	30 - 60
Boron Trifluoride Complex	Trade Secret	1 - 5

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. Get medical attention immediately. 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. May cause respiratory irritation. May cause an allergic skin reaction. Causes serious eye damage.

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : Causes skin irritation. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Causes serious eye irritation. Causes serious eye damage.

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.

Unsuitable extinguishing media : Water jet.

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. In a fire or if heated, (within the uncured product in the original packaging) a pressure increase within the container may result and the container may burst.

5.3. Special protective equipment and precautions for fire-fighters

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.

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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.

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. Do not touch or walk on the spilled product.

Methods for cleaning up : Wear suitable protective clothing. In the uncured state the material is a viscous paste. Using appropriate tools and PPE collect uncured material and place into a closed container. Compound will harden over a time period of weeks, 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. 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. Avoid breathing dust//mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Remove contaminated clothing immediately. 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.

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. Protect from sunlight. Store in original container.

Storage temperature : Room Temperature

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Bisphenol A-epichlorohydrin polymer (25068-38-6)		
OSHA	Remark (OSHA)	OELs not established
ACGIH	Remark (ACGIH)	OELs not established

Boron, (ethanamine)trifluoro-, (T-4)- (75-23-0)		
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.

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8.3. Individual protection measures/Personal protective equipment

Personal protective equipment symbol(s):



Personal protective equipment:

Gloves. Protective goggles. Insufficient ventilation: wear respiratory protection.

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:

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	: Black paste.
Color	: Black
Odor	: No data available:
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: > 260 °F @ 14.7 psi (760 mmHg)
Flash point	: 251 °C [PMCC ASTM D93]
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: 0.03 mbar [@77 °C]
Relative vapor density at 20 °C	: No data available
Relative density	: 1.44 [Specific Gravity @ 20 °C]
Solubility	: Insoluble 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

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9.2. Other information

VOC content : 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use. In a fire or if heated, (within the uncured product in the original packaging) a pressure increase within the container may result and the container may burst.

10.2. Chemical stability

Compound is stable when used in its recommended temperature range.

10.3. Possibility of hazardous reactions

Compound may react with other curing agents and generate a considerable heat release.

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. Exposure to moisture may affect the curing process. Keep away from open flames.

10.5. Incompatible materials

Compound can react with strong oxidizing agents, strong Lewis or mineral acids, and strong alkalis. Polymerizes exothermically with amines, mercaptans, and Lewis acids at ambient temperature and above. Caustic soda (sodium hydroxide) can induce vigorous polymerization at temperatures around 200°C (392°F).

10.6. Hazardous decomposition products

Compound may form carbon dioxide, carbon monoxide, other carbon oxides and various hydrocarbons if burned. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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

Bisphenol A-epichlorohydrin polymer (25068-38-6)

LD50 oral rat : 11400 mg/kg

Boron, (ethanamine)trifluoro-, (T-4)- (75-23-0)

LC50 inhalation rat (ppm) : 387 ppm/1h

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Not classified
Specific target organ toxicity – single exposure : May cause respiratory irritation.
Specific target organ toxicity – repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : No data available
Symptoms/effects : Causes skin irritation. May cause respiratory irritation. May cause an allergic skin reaction. Causes serious eye damage.
Symptoms/effects after inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : Causes skin irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact : Causes serious eye irritation. Causes serious eye damage.
Symptoms/effects after ingestion : May cause gastrointestinal irritation.

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general

: Information based on bisphenol-A-(epichlorhydrin) / epoxy resin (number average molecular weight \leq 700) (compound contains up to 60% epoxy resin)

Aquatic Toxicity:

FISH - The acute 96 hr static exposure LC50 for trout based on the results of OECD Test Guideline No. 203 studies is 1.3 mg/L.

Daphnia - The acute 48 hr acute static exposure EC50 value for Daphnia based on the outcome of OECD Test Guideline No. 202 studies is 2.1 mg/L. A NOEC of 0.3 mg/L was observed in a Daphnia 21-day semi-static OECD Test Guideline No. 211 Reproduction study. Daphnia survival, growth and reproduction were significantly reduced at concentrations of 1 mg/L and higher.

Algae- The 72 hr algal LC50 value is > 11 mg/L. The activated sewage sludge respiration inhibition 3 hr EC50 value based on an EC test method was > 100 mg/L. The growth inhibitory concentration for Pseudomonas in an 18 hr static exposure study was > 42.6 mg/L.

12.2. Persistence and degradability

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Persistence and degradability

The level of biodegradation in an "enhanced" OECD Test Guideline 301F study was 5% within the 28 day contact period. Biodegradation reached 6 - 12 % after 28 days of contact in an OECD Test Guideline No. 301B study. Therefore, DEGBA is not readily biodegradable under the conditions of the studies. The OASIS CATALOGIC QSAR estimated Bioconcentration Factor of 3- 31 and Log Pow of 3.24 @ 25 C suggests low potential to bioaccumulate in aquatic organisms.

Graphite (7782-42-5)

Persistence and degradability

Not established.

12.3. Bioaccumulative potential

Graphite (7782-42-5)

Bioaccumulative potential

Not established.

12.4. Mobility in soil

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Log Koc

2.65 The KOCWIN QSAR estimated adsorption/desorption coefficient Log Koc = 2.65 suggesting moderated sorption to organic matter and limited soil mobility.

12.5. Other adverse effects

No additional information available

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.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description

: UN3082 Environmentally hazardous substances, liquid, n.o.s. (Liquid Epoxy Resin), 9, III

UN-No.(DOT)

: UN3082

Proper Shipping Name (DOT)

: Environmentally hazardous substances, liquid, n.o.s.
(Liquid Epoxy Resin)

Class (DOT)

: 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140

Packing group (DOT)

: III - Minor Danger

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Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)



DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : No limit

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : No limit

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Emergency Response Guide (ERG) Number : 171

Other information : No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea (IMDG)

Transport document description (IMDG) : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((Liquid Epoxy Resin)), 9, III

UN-No. (IMDG) : 3082

Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Class (IMDG) : 9 - Miscellaneous dangerous substances and articles

Packing group (IMDG) : III - substances presenting low danger

Limited quantities (IMDG) : 5 L

Air transport (IATA)

Transport document description (IATA) : UN 3082 Environmentally hazardous substance, liquid, n.o.s. ((Liquid Epoxy Resin)), 9, III

UN-No. (IATA) : 3082

Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s.

Class (IATA) : 9 - Miscellaneous Dangerous Goods

Packing group (IATA) : III - Minor Danger

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
Physical hazard - Hazard Not Otherwise Classified (HNOC)
Health hazard - Specific target organ toxicity (single or repeated exposure)

15.2. US State regulations



WARNING:

This product can expose you to Phenyl glycidyl ether, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

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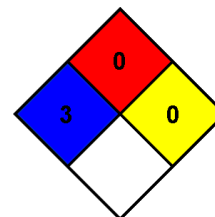
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Component	Carcinogenicity	Developmental toxicity	Reproductive toxicity male	Reproductive toxicity female	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Phenyl glycidyl ether(122-60-1)	X				5 µg/day	
Silica: Crystalline, quartz(14808-60-7)	X					

Component	State or local regulations
Phenyl glycidyl ether(122-60-1)	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
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
Silica: Crystalline, quartz(14808-60-7)	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: JJJ.
NFPA health hazard	: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.
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	: 3
Flammability	: 0
Physical	: 0



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.