Thermon T-802 Component J Heat Transfer Compound

Safety Data Sheet

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

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SECTION 1: Identification

1.1. Identification

Product form : Mixture

Product name : Thermon T-802 Component J 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
Skin Sens. 1 H317
STOT SE 3 H335

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Warning

Hazard statements (GHS US) : H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.

Precautionary statements (GHS US) : P261 - Avoid breathing vapours, dust.
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, eye protection, face protection, protective clothing
P302+P352 - If on skin: Wash with plenty of soap and 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
P312 - Call a POISON CENTER, a doctor if you feel unwell
P321 - Specific treatment (see first aid instructions 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.
P337+P313 - If eye irritation persists: 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

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) when mixed with the T-802 component B. The reaction is exothermic and reaction does occur more rapidly upon exposure to heat. Product is packaged primarily in caulking tubes, but can be packaged in 1 gallon (3.8 L) or 5 gallon (18.9 L) quantities.

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

***Chemical name, CAS number and/or exact concentration have been withheld as a trade secret**

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 an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation.

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.

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 : Use in case of small fire: dry chemical powder. Large Fires: Water spray, fog or alcohol-resistant foam. Carbon dioxide (CO2).

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.

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 gloved hands or proper tools, collect and place as much of the compound into a closed container. Contain and collect additional spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in closed container. Compound will harden over a time period of weeks, if undiluted, in air. In the hardened state, scrape, chisel, or grind areas and collect the dry residue. For a large spill, put up barriers to prevent discharge to drains and waterways. 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 vapours, dust. 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

Epoxy Resin		
Exposure/Effect	**DNEL**	**Population**
Short Term (ST) Dermal/Systemic	8.3 mg/kg bw/day	Workers
ST Inhalation/Systemic	12.3 mg/m³	Workers
Long Term (LT) Dermal/Systemic	8.3 mg/kg bw/day	Workers
LT Inhalation/Systemic	12.3 mg/m³	Workers
Short Term (ST) Dermal/Systemic	3.6 mg/kg bw/day	General

Epoxy Resin		
ST Inhalation/Systemic	0.75 mg/m³	General
ST Oral/Systemic	0.75 mg/kg bw/day	General
Long Term (LT) Dermal/Systemic	3.6 mg/kg bw/day	General
LT Inhalation/Systemic	0.75 mg/m³	General
LT Oral/Systemic	0.75 mg/kg bw/day	General

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. Do not use solvents to remove epoxies from skin.

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 vapour, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment. If compound is removed after being hardened and dust concentrations exceed recommended TLV, use properly fitted, air-purifying or air-fed respirator that is NIOSH/MSHA approved.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Black paste.
Colour	:	Black
Odour	:	No data available
Odour 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 (butylacetate=1)	:	No data available

Flammability (solid, gas)	:	No data available
Vapour pressure	:	0.03 mbar [@77 °C]
Relative vapour 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
Explosive limits	:	No data available
Explosive properties	:	No data available
Oxidising 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. 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

Thermon T-802 Component J Heat Transfer Compound	
LD50 oral rat	11400 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation	Due to the very low vapor pressure, saturated atmosphere = 0.008ppb, meaningful acute inhalation studies could not be conducted.

Skin corrosion/irritation	:	In an OECD Test Guideline No. 404 study conducted on the rabbit with a 4 hr occlusive exposure scores for erythema and oedema were minimal. Therefore, DEGBA is not a skin irritant. In other studies conducted with the rabbit a 4 hr occlusive exposure was used. Maximum erythema and oedema scores observed under these extreme conditions were 1.5-2 and 1-1.5 respectively.
Serious eye damage/irritation	:	The results of an OECD Test Guidelines No. 405 GLP study conducted in 2007 reported a mean maximum irritation score of 1.7. Therefore DEGBA was not an eye irritant in this study. The results of multiple older non-guideline studies support this finding.

Respiratory or skin sensitisation	:	Based upon OECD Test Guideline No. 429 mouse LLNA study, DEGBA is considered a moderate skin sensitizer. Based upon OECD Test Guideline No. 406 guinea pig maximization study, DEGBA is considered an “extreme” skin sensitizer. Based upon OECD Test Guideline No. 405 Buehler method study, DEGBA was also positive for skin sensitization.
Germ cell mutagenicity	:	DEGBA induced gene-mutation in Ames/Salmonella tester strains TA1535 and TA100 in multiple studies. Generally, mutagenic activity was greater without liver S9 metabolic activation. Induced gene-mutation in L5178Y mouse lymphoma cells. Induced genemutation and chromosome damage in Chinese hamster V79 cells. Induced cell transformation in Syrian hamster BHK cells based on clonal growth in soft agar. Did not induce evidence of chromosome damage in a mouse dominant lethal oral gavage study conducted up to a high dose level of 10 grams/kg and in a mouse micronucleus test conducted up to a high dose of 5000 mg/kg. Negative in a male mouse spermatocyte cytogenetic assay with treatment for 5 days by oral gavage up to a high dose of 3000 mg/kg. Did not induce an increase in the frequency of chromosome damage in a Chinese hamster bone marrow cytogenetic test by oral gavage up to a high dose of 3300 mg/kg. Failed to induce an increase of DNA strand breaks in rat liver cells following oral gavage treatment with 500 mg/kg as measured by alkaline elution.
Carcinogenicity	:	In a rat oral gavage OECD Test Guideline No. 453 study there was no evidence of carcinogenicity up to the high dose level of 100 mg/kg/day. OECD Test Guideline No. 453 dermal exposure studies were conducted on male mice and female rats. No evidence of carcinogenicity was observed in male mice treated up to the high dose of 100 mg/kg/day and female rats exposed up to a high dose level of 1000 mg/kg/day.
Reproductive toxicity	:	No adverse reproductive effects were observed in an OECD Test Guideline No. 416 GLP two-generation rat oral gavage study conducted up to a high dose level of 750 mg/kg/day that resulted in adult body weight decrements.
STOT-single exposure	:	May cause respiratory irritation.
STOT-repeated exposure	:	In a rat OECD Test Guideline No. 408 sub chronic oral study the NOAEL was 50 mg/kg/day. Significant dose-related evidence of hematotoxicity was observed at doses of 250 & 1000 mg/kg/day. There was a significant increase of blood urea nitrogen at 250 & 1000 mg/kg/day and slight histopathological evidence of kidney involvement at the high dose of 1000 mg/kg/day. Histological examination identified slight to moderate degeneration of the 9 seminiferous tubules at 1000 mg/kg/day and possible uterine effects at the same dose. The NOAEL for a rat 90-day dermal (5 days/week) study was 100 mg/kg/day due to body weight decrements at 1000 mg/kg/day. Based on chronic dermatitis the LOAEL for adverse dermal effects in this study was 10 mg/kg/day. No evidence of neurotoxicity was observed in a rat 90-day dermal OECD Test Guideline No. 411 GLP study conducted up to a high dose level of 1000 mg/kg/day with FOB, motor activity and neurohistopathological assessments.
Aspiration hazard	:	Not classified
Viscosity, kinematic	:	No data available
Symptoms/effects	:	Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation.
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.
Symptoms/effects after ingestion	:	May cause gastrointestinal irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	:	Information based on bisphenol-A-(epichlorhydrin) / epoxy resin (number average molecular weight ≤ 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.

Epoxy Resin	
Compartment Detail	**PNEC**
Fresh Water	3 µg/l
Marine	0.3 µg/l
Sewage Treatment Plant	10 µg/l
Fresh Water Sediment	0.5 mg/kg dwt
Marine Water Sediment	0.5 mg/kg dwt
Sediment	0.05 mg/kg dwt
Intermittent Releases	0.013 mg/l

12.2. Persistence and degradability

Thermon T-802 Component J Heat Transfer Compound	
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.

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

Thermon T-802 Component J Heat Transfer Compound	
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

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 - lisam

SECTION 15: Regulatory information

15.1. US Federal regulations

Thermon T-802 Component J Heat Transfer Compound	
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.	
Thermon T-802 Component J Heat Transfer Compound	
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) Health hazard - Specific target organ toxicity (single or repeated exposure)

15.2. International regulations

No additional information available

15.3. US State regulations

WARNING: This product can expose you to Silica: Crystalline, quartz, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Component	Carcinogenicity	Developmental toxicity	Reproductive toxicity male	Reproductive toxicity female	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Silica: Crystalline, quartz(14808-60-7)	X					

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
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

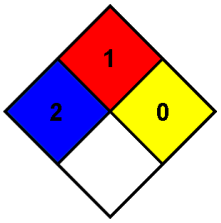
SECTION 16: Other information

Other information : Author: NMR.

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



HMIS Hazard Rating

Health : 2

Flammability : 1

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.