

## 1. Identification

**Product identifier** eGRAF® HITHERM HT-C Thermal Interface Material

**Other means of identification**

**SDS number** 0104

**Recommended use** Thermal interface.

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer/Supplier** NeoGraf Solutions, LLC  
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Lakewood, OH 44107  
+1 216-529-3777

**Contact person** Product Responsibility Manager +1 216-529-3724

**E-mail** info@neograf.com

**Emergency telephone number** For Chemical Emergency ONLY, call 3E at:

+1-866-519-4752, +1-760-476-3962

Access Code: 333366

## 2. Hazard identification

**Physical hazards** Not classified.

**Health hazards** Not classified.

**Environmental hazards** Not classified.

**Label elements**

**Hazard symbol** None.

**Signal word** None.

**Hazard statement** The substance does not meet the criteria for classification.

**Precautionary statements**

**Prevention** Observe good industrial hygiene practices.

**Response** Wash hands after handling.

**Storage** Store away from incompatible materials.

**Disposal** Dispose of waste and residues in accordance with local authority requirements.

**Other hazards** None known.

**Supplemental information** None.

## 3. Composition/information on ingredients

**Substances**

Chemical name	Common name and synonyms	CAS number	%
Graphite		7782-42-5	> 99

**Composition comments** All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## 4. First-aid measures

**Inhalation** Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact** Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact** Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion** Rinse mouth. Get medical attention if symptoms occur.

<b>Most important symptoms/effects, acute and delayed</b>	Direct contact with eyes may cause temporary irritation.
<b>Indication of immediate medical attention and special treatment needed</b>	Treat symptomatically.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Use water spray to cool unopened containers.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	The product is immiscible with water and will spread on the water surface. Stop the flow of material, if this is without risk. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

<b>Precautions for safe handling</b>	Avoid prolonged exposure. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in tightly closed container. Store away from incompatible materials (see section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Graphite (CAS 7782-42-5)	TWA	2 mg/m <sup>3</sup>	Respirable fraction.

#### Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Graphite (CAS 7782-42-5)	TWA	2 mg/m <sup>3</sup>	Respirable.

#### Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Graphite (CAS 7782-42-5)	TWA	2 mg/m <sup>3</sup>	Respirable.

#### Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Graphite (CAS 7782-42-5)	TWA	2 mg/m <sup>3</sup>	Respirable fraction.

#### Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Graphite (CAS 7782-42-5)	TWA	2 mg/m <sup>3</sup>	Respirable fraction.

Components	Type	Value	Form
Graphite (CAS 7782-42-5)	TWA	2 mg/m <sup>3</sup>	Respirable dust.
<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).		
<b>Appropriate engineering controls</b>	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.		
<b>Individual protection measures, such as personal protective equipment</b>			
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).		
<b>Skin protection</b>			
<b>Hand protection</b>	Wear appropriate chemical resistant gloves.		
<b>Other</b>	Wear suitable protective clothing.		
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.		
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.		
<b>General hygiene considerations</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.		

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Sheet (Flexible)
<b>Colour</b>	Black.

**Odour** None.

**Odour threshold** Not available.

**pH** Not applicable.

**Melting point/freezing point** > 2760 °C (> 5000 °F) / Not applicable.

**Initial boiling point and boiling range** Not applicable.

**Flash point** Not applicable.

**Evaporation rate** Not applicable.

**Flammability (solid, gas)** Not applicable.

### Upper/lower flammability or explosive limits

**Flammability limit - lower (%)** Not applicable.

**Flammability limit - upper (%)** Not applicable.

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapour pressure** Not applicable.

**Vapour density** Not applicable.

**Relative density** Not available.

### Solubility(ies)

**Solubility (water)** < 0.1 % Insoluble.

**Partition coefficient (n-octanol/water)** Not applicable.

**Auto-ignition temperature** Not applicable.

**Decomposition temperature** Not applicable.

**Viscosity** Not applicable.

### Other information

**Explosive properties** Not explosive.

**Oxidising properties** Not oxidising.  
**Percent volatile** Not applicable.

## 10. Stability and reactivity

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.  
**Chemical stability** Material is stable under normal conditions.  
**Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.  
**Conditions to avoid** Contact with incompatible materials.  
**Incompatible materials** Chlorine.  
**Hazardous decomposition products** No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

**Inhalation** Prolonged inhalation may be harmful.  
**Skin contact** No adverse effects due to skin contact are expected.  
**Eye contact** Direct contact with eyes may cause temporary irritation.  
**Ingestion** Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics** Direct contact with eyes may cause temporary irritation.

### Information on toxicological effects

#### Acute toxicity

Components	Species	Test Results
Graphite (CAS 7782-42-5)		
<u>Acute</u>		
<b>Oral</b>		
LD50	Rat	> 10000 mg/kg

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation** Direct contact with eyes may cause temporary irritation.

#### Respiratory or skin sensitisation

**Respiratory sensitisation** Not a respiratory sensitiser.  
**Skin sensitisation** This product is not expected to cause skin sensitisation.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Not available.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects** Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Persistence and degradability** No data is available on the degradability of this substance.

**Bioaccumulative potential** No data available.

**Mobility in soil** The product is insoluble in water.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport information

#### **TDG**

Not regulated as dangerous goods.

#### **IATA**

Not regulated as dangerous goods.

#### **IMDG**

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

### 15. Regulatory information

**Canadian regulations** This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

#### **Controlled Drugs and Substances Act**

Not regulated.

#### **Export Control List (CEPA 1999, Schedule 3)**

Not listed.

#### **Greenhouse Gases**

Not listed.

#### **Precursor Control Regulations**

Not regulated.

#### **International regulations**

##### **Stockholm Convention**

Not applicable.

##### **Rotterdam Convention**

Not applicable.

##### **Kyoto Protocol**

Not applicable.

##### **Montreal Protocol**

Not applicable.

##### **Basel Convention**

Not applicable.

#### **International Inventories**

<b>Country(s) or region</b>	<b>Inventory name</b>	<b>On inventory (yes/no)*</b>
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes

<b>Country(s) or region</b>	<b>Inventory name</b>	<b>On inventory (yes/no)*</b>
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information

**Issue date** 01-June-2018

**Revision date** -

**Version No.** 01

**Disclaimer** NeoGraf Solutions cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.