



SAFETY DATA SHEET

Product Name: THERMAL HERO GRAPHENEX SHEET
HIGH-PERFORMANCE Applications TH-790045-US

Revision number: 001 Date: 30/10/2024

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Trade name: THERMAL HERO GRAPHENEX SHEET for HIGH-PERFORMANCE Applications TH-790045-US
Brand: THERMAL HERO

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Thermal compound application.
Uses advised against: All other uses.

1.3 Details of the supplier of the Safety Data Sheet

I PROJEX GmbH.
Hohe Bleichen 12 / 20354 Hamburg,
Germany

Phone: +49 40 4230 76 77
E-mail: support@thermalhero.com

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

This product is classified as non-hazardous according to OSHA Hazardous Communication Standard 29 CFR 1910.1200.

2.2 Label elements

This product does not require specific labelling according to OSHA Hazardous Communication Standard 29 CFR 1910.1200.

2.3 Other hazards

None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product does not contain hazardous chemicals according to the OSHA Hazardous Communication Standard 29 CFR 1910.1200.

Name	CAS No.	GHS classification	% (w/v)
Synthetic Graphene	1034343-98-0	Not classified.	Proprietary
Additives	984-487-31	Not classified.	Proprietary

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

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- Following inhalation:** Remove to fresh air, keep warm and quiet, give oxygen if breathing is difficult. Seek immediate medical attention.
- Following skin contact:** Remove contaminated clothing, brush material off skin, wash affected area with soap and water. Seek medical attention if irritation develops or persists.
- Following eye contact:** Flush eyes with lukewarm water, including under upper and lower eyelids, for at least 15 minutes. Seek medical attention if irritation develops or persists.
- Following ingestion:** Rinse mouth immediately and drink plenty of water. Call a physician immediately. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).
- Protection of first aider:** Not applicable.

4.2 Most important symptoms and effects

Symptoms: The known symptoms and effects are described in section 2.2 of this SDS.

Risks: Untreated symptoms may result in additional health risks.

4.3 Indication of any immediate medical and special treatment

The physician may contact the national poison centre for advice.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Dry chemical, CO₂, water spray or alcohol-resistant foam.

Unsuitable extinguishing media: No data available.

5.2 Specific hazards arising from mixture

If gases/oxides form, use protective equipment/breathing apparatus.

5.3 Advice for fire fighters

Special protective equipment for firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

5.4 Other information

No other information available.

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SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 NOTES FOR NON-EMERGENCY PERSONNEL: Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources.

6.2 ENVIRONMENTAL PRECAUTIONS: Keep away from drains, surface and ground water. Danger of explosion.

Notes for those trained to participate in an emergency:

6.3 ACCIDENTAL RELEASE MEASURES: Covering of drains. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Accord with the putting and clicking of standard management of the storage. Avoid spillage. Prevent any unnecessary contact with other chemicals. Handling unpacked THERMAL HERO GRAPHENEX may alter its quality and degree of purity.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions: Avoid High Temperature at place of storage. Not in glass containers, as with solidifying the liquid has an enlargement of the volume of around approx. 0,3%, which may cause an inner pressure within the glass. Plastics (PE, PP) are well suitable as container material.

Incompatible materials: See section 10.

7.3 Specific end uses

See section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

No data available.

8.2 Exposure controls

Engineering controls:

None under normal use conditions. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective equipment:

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<u>Hand:</u>	Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.
<u>Body protection:</u>	Appropriate protective clothing should be worn to prevent skin contact.
<u>Eye:</u>	Use safety goggle with side protection.
<u>Respiratory:</u>	P3 respiratory protection in an emergency producing oxide fumes.
<u>Other measures:</u>	No statement available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	THIN SHEET
Color:	Grey - Black
Odor:	Odorless
Operating Temperature:	~ 400 °C
Electrical Conductive:	HIGH
Evaporation rate:	No data available
Flammability:	None
Density:	2,25g/cm ³
LAYER THICKNESS:	0.025mm

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

The product is chemically inert under normal conditions of use and does not react with most common materials, including metals and plastics. If necessary, compatibility with specific materials and substances should be tested before use.

10.2 Chemical Stability

The product is stable under normal ambient conditions of temperature and pressure.

10.3 Possibility of Hazardous Reactions

None under normal conditions of use and storage.

10.4 Conditions to Avoid

Avoid exposure to extreme heat (>150°C) for prolonged periods, as this could lead to thermal degradation. Do not allow contact with strong oxidizing agents.

10.5 Incompatible Materials

Avoid strong oxidizers and strong acids, as these may degrade the product or its performance.

10.6 Hazardous Decomposition Products

Thermal decomposition at very high temperatures (>250°C) may release small amounts of carbon monoxide, carbon dioxide, and other organic compounds.



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SECTION 11: TOXICOLOGICAL INFORMATION

General information:

This product does not contain known human carcinogens.

11.1 Information on toxicological effects

Acute Toxicity:

The PHASE CHANGER THERMAL PAD has not been tested as a mixture. Based on available data for its components, the product is not classified as acutely toxic, even under conditions of full absorption.

Skin corrosion/irritation:

Prolonged or frequent skin contact may cause mild irritation or defatting. Wash skin thoroughly after handling.

Serious eye damage/irritation:

Contact with eyes may cause mild to moderate irritation. Avoid direct eye exposure.

Respiratory or skin sensitization:

Based on the components, the product is not expected to cause respiratory or skin sensitization..

Germ cell mutagenicity:

There is no evidence of mutagenic effects based on the components.

Carcinogenicity:

This product does not contain substances classified as carcinogenic to humans.

Reproductive toxicity:

There is no evidence of reproductive toxicity based on the components.

STOT – single exposure:

No adverse effects are anticipated from single exposure to the components.

STOT – repeated exposure:

No adverse effects are anticipated from repeated exposure under normal conditions of use.

Aspiration hazard:

The product does not present an aspiration hazard under normal conditions of use.

Likely route(s) of exposure:

The primary routes of exposure are skin and eye contact. Accidental ingestion is unlikely but possible. Inhalation exposure is not expected under normal use conditions.

SECTION 12: ECOLOGICAL INFORMATION

General information:

The product is not classified as hazardous to the environment. No specific data are available for the mixture.

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12.1 Toxicity

Based on available data for its components, the product is not expected to pose significant toxicity to aquatic or terrestrial organisms under normal conditions of use and disposal.

12.2 Persistence and degradability

Physical- and photochemical elimination:

he product is not readily photodegradable due to its physical properties.

Biodegradation:

The product contains components that are not readily biodegradable. Long-term persistence in the environment is unlikely due to dilution and dispersion under normal conditions.

12.3 Bioaccumulative potential

The components of the product are not expected to bioaccumulate significantly due to their chemical structure and physical properties.

12.4 Mobility in soil

Known/Predicted environmental distribution:

The product is expected to have low mobility in soil due to its viscous nature.

Surface tension:

No data available; however, surface tension effects are not anticipated due to the product's composition.

Adsorption/Desorption:

The product is expected to adsorb weakly to soil or sediment particles under typical environmental conditions.

12.5 Results of PBT and vPvB assessment

This product does not contain components which are considered to be persistent, bioaccumulative, and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No adverse effects on the environment are anticipated when the product is used and disposed of as intended.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product:

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

Waste material:

Dispose according to Federal, State, Provincial and Local regulations.



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SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR/RID/IDMG/IATA: Non-regulated

14.2 UN proper shipping name

ADR/RID/IDMG/IATA: Non-regulated

14.3 Transport hazard class(es)

ADR/RID/IDMG/IATA: Non-regulated

14.4 Packing group

ADR/RID/IDMG/IATA: Non-regulated

14.5 Environmental hazards

ADR/RID/IDMG/IATA: Non-regulated

14.6 Special precautions for user

No statements available.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable, as product is not shipped in bulk.

SECTION 15: REGULATORY INFORMATION

International Inventories

TSCA: Complies

DSL: All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List.

US Federal Regulations

SARA 313: Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard: No

Chronic Health Hazard:

No Fire hazard: No

Sudden release of pressure hazard: No

Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).



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CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Canada

WHMIS Hazard Class

Not determined.

SECTION 16: OTHER INFORMATION

Further information

The information presented in this Safety Data Sheet (SDS) is accurate to the best of our knowledge at the date of publication. The information given within the SDS is meant solely as a guide for safe handling, use, transportation, processing, storage, release and disposal. In no means can the information within the SDS be considered as a warranty or specification for quality.