



SAFETY DATA SHEET

Creation Date 1/3/2025

Revision Date 5/21/2025

Revision Number 3

1. Identification

Product Name	Graphene, Maleic Anhydride Functionalized
CAS Number	Graphene: 1034343-98-0 and Maleic Anhydride: 108-31-6
Recommended Use	Building Material, Electronics, Advanced Composites
Uses Advised Against	Food

Research and Development ONLY

Company

TMTP Labs Inc. 2000 Lakeshore Drive, Science Building New Orleans, LA 70148 Emergency Phone: 504-460-4881 Phone: 504-422-2807 Email: SDS@tmtplabs.com	Mailing Address: 7041 Canal Boulevard Suite 139 New Orleans, LA 70124
--	--

2. Hazard(s) Identification

Classification

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

- Skin Irritant (Category 2)
- Eye Irritant (Category 2A)
- Respiratory Sensitizer (Category 1)

Label Elements

Signal Word: Danger

Hazard Statements:



- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary Statements:

- P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
- P280: Wear protective gloves/eye protection/face protection.
- P302+P352: IF ON SKIN: Wash with plenty of soap and water.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P304+P341: IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

Component	CAS Number	Weight %
Graphene	1034343-98-0	>85
Maleic Anhydride	108-31-6	<15

4. First-aid Measures

General Advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of the dangerous area.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Immediately wash off with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
Inhalation	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Get medical attention immediately if symptoms occur.
Ingestion	Never give anything by mouth to an unconscious person. Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur. Most



	important symptoms and effects None reasonably foreseeable.
Notes to Physician	Treat symptomatically

5. Fire-fighting Measures

Suitable Extinguishing Media	Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam.
Unsuitable Extinguishing Media	No information available
Flash Point	No information available
Method –	No information available
Autoignition Temperature	No information available
Explosion Limits	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available
Specific Hazards Arising from the Chemical	Maleic anhydride fumes can form under high heat. Combustion products may include carbon oxides.
Hazardous Combustion Products	None known.
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
	No information available
	No information available
	No information available
Further Information	No information available

NFPA



Health: 2
Flammability: 1
Instability: 0
Physical Hazards: N/A

6. Accidental Release Measures

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.
-----------------------------	---



Environmental Precautions	Should not be released into the environment.
Methods for Containment and Clean Up	Spray down with water and sweep up and shovel into suitable containers for disposal. Avoid dust formation.
Reference to Other Sections	For disposal see section 13.

7. Handling and Storage

Handling	Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Avoid dust formation.
Storage	Store in a tightly sealed container in a cool, dry, and well-ventilated location away from oxidizers. Containers which are open must be carefully resealed and kept upright to prevent leakage.

8. Exposure Controls/ Personal Protection

Exposure Guidelines	This product does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.
Engineering Measures	Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.
Personal Protective Equipment	
Eye/Face Protection	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin and Body Protection	Wear appropriate chemical-resistant protective gloves and clothing to prevent skin exposure.
Respiratory Protection	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirators if



	exposure limits are exceeded or if irritation or other symptoms are experienced.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Physical State	Solid, Powder
Appearance	Black
Odor	Slightly pungent
Odor Threshold	No information available
pH	No information available
Melting Point/Range	No data available
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	Not applicable
Flammability (solid, gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	No data available
Specific Gravity	No information available
Solubility	Insoluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	Not applicable
Molecular Formula	C _x (C ₂ H ₂ (CO) ₂ O)

10. Stability and Reactivity

Reactive Hazard	None known, based on information available.
Stability	Stable under normal conditions.
Conditions to Avoid	Incompatible products. Excess heat. Avoid dust formation.
Incompatible Materials	Strong oxidizing agents.
Hazardous Decomposition Products	None under normal use conditions.
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.



11. Toxicological Information

Acute Toxicity	
Product Information	No acute toxicity information is available for this product.
Component Information Toxicologically Synergistic Products	No information available
Delayed and immediate effects as well as chronic effects from short and long-term exposure.	
Irritation	No information available
Sensitization	No information available
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS Number	IARC	NTP	ACGIH	OSHA	Mexico
Graphene	1034343-98-0	Not listed	Not listed	Not listed	Not listed	Not listed
Maleic Anhydride	108-31-6	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects	No information available.
Reproductive Effects	No information available.
Developmental Effects	No information available.
Teratogenicity	No information available.
STOT - single exposure	None known.
STOT - repeated exposure	None known.
Aspiration hazard	No information available.
Symptoms / Effects, both acute and delayed	No information available.
Endocrine Disruptor Information	No information available.
Other Adverse Effects	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological Information

Ecotoxicity	No known significant effects or critical hazards.
Persistence and Degradability	No information available.



Bioaccumulation/ Accumulation	No information available.
Mobility	No information available.
Results of PBT and vPvB Assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Other Adverse Effects	No data available

13. Disposal Considerations

Waste Disposal Methods	Dispose of waste in accordance with local, state, and federal regulations. Avoid contamination of water systems.
-------------------------------	--

14. Transport Information

DOT	Not regulated
TDG	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated

15. Regulatory Information

United States of America Inventory

Component	CAS Number	TSCA	TSCA Inventory notification Active-Inactive	TSCA - EPA Regulatory Flags
Graphene, Pristine	1034343-98-0	-	-	-
Maleic Anhydride	108-31-6	X	X	X

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories



Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS Number	DSL	NDSL	EINECS	PICCS	ENC S	ISHL	AICS	IECS C	KECL
Graphene, Pristine	103434 3-98-0	-	-	-	-	-	-	-	-	-

U.S. Federal Regulations

SARA 313 SARA 311/312 Hazard Categories	Not applicable See section 2 for more information.
CWA (Clean Water Act)	Not applicable
Clean Air Act	Not applicable
OSHA - Occupational Safety and Health Administration	Not applicable
CERCLA	Not applicable
California Proposition 65	This product does not contain any Proposition 65 chemicals.
U.S. State Right-to-Know Regulations	Not applicable
U.S. Department of Transportation Reportable Quantity (RQ)	No
DOT Marine Pollutant	No
DOT Severe Marine Pollutant	No
U.S. Department of Homeland Security	This product does not contain any DHS chemicals.

Other International Regulations

Mexico – Grade	No information available
-----------------------	--------------------------

Authorization/Restrictions according to EU REACH

Safety, health and environmental regulations/legislation specific for the substance or mixture.

Component	CAS Number	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Graphene, Pristine	1034343-98-0	Not applicable	Not applicable	Not applicable	Not applicable



Component	CAS Number	Seveso III Directive (2012/18/EC) Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Graphene, Pristine	1034343-98-0	Not applicable	Not applicable	Not applicable	Not applicable

Safety, health and environmental regulations/legislation specific for the substance or Mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.



16. Other Information

Prepared By

The Office of Compliance and Sustainability,
TMTP Labs Inc.
Email: SDS@tmtplabs.com
Phone: (504) 285-3658
Fax: (504) 285-3673

Disclaimer - The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

END OF SDS