MATERIAL SAFETY DATA SHEET

SGL CARBON GROUP

MSDS NO. 179

SECTION I - IDENTIFICATION

SGL Technic Inc.
Polycarbon Division
28176 North Avenue Stanford
Valencia, California 91355
Product Name: Calgraph, Sigraflex
Grade Names: Calgraph, Sigraflex G; Flexible Graphite; Graphite Foil; Calgraph, Sigraflex S, N; Calgraph, Sigraflex B, A; Calgraph; Calgraph, Sigraflex AP,BP, NP, SP; Sigraflex APX
Telephone: SGL Carbon: (704) 593-5100
CHEMTREC: (800) 424-9300

Hazard Rating System (0=Minimal – 4=Extreme)		
	HEALTH	**1**
	FIRE	**0**
	REACTIVITY	**0**

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	C.A.S. NO.
Expanded purified natural graphite	97-100	7782-42-5
Silica Sand (ash)	0-2	14808-60-7 (Quartz) 14464-46-1 (Cristobalite) 15468-32-3 (Tridymite)
Phosphoric Acid	0.0 – 0.5	7664-38-2
* Note: Calgraph, Sigraflex Grade APX2 contains a proprietary non-hazardous phosphorus compound.	--	Trade Secret

SECTION III - OCCUPATIONAL EXPOSURE LIMITS

	Graphite (natural)	Silica	Phosphoric Acid
OSHA PEL:	15mppfc	(30 mg/m^3)/SiO_2+2), TWA, total dust (10 mg/m^3)/SiO_2+2), TWA, respirable fraction where %SiO_2 is the percentage of crystalline silica determined by airborne samples, as defined by 29CFR 1910.1000, Z-3	1 mg/m^3
ACGIH TLV:	10mg/m^3 as total nuisance particulate; 2 mg/m^3 as respirable fraction	0.1 mg/m^3 (TWA)	1 mg/m^3 (TWA) 3 mg/m^3 (STEL)
NIOSH:	2.5 mg/m^3 as respirable fraction	0.05 mg/m^3 (TWA)	1 mg/m^3 (TWA) 3 mg/m^3 (STEL)

CARCINOGENICITY:			
	Graphite		
	NTP No	**IARC** No	**OSHA** No
	Silica		
	NTP Yes	**IARC** Yes	**OSHA** No
	Phosphoric Acid		
	NTP No	**IARC** No	**OSHA** No

Target Organs: Respiratory System, Cardiovascular System per NIOSH

SECTION IV - HEALTH HAZARDS

Effects of exposure:

Primary Route of Exposure

Inhalation of dusts generated during processing and handling, also dermal and ocular contact possible.

Effects of Overexposure

Acute: High concentrations of graphite dust may be irritating to eyes, skin, mucous membranes, and respiratory tract.

Chronic: Inhalation of high concentration of graphite dust over prolonged periods of time may cause a graphite pneumoconiosis. Symptoms can include cough, shortness of breath and decrease in pulmonary function.

Pre-existing pulmonary disorders such as emphysema may possibly be aggravated by prolonged exposure to high concentrations of graphite dust.

SECTION V - EMPLOYEE PROTECTION

Respiratory Protection:	NIOSH approved respirator when the occupational exposure limits are exceeded.
Eye Protection:	Safety glasses with side shields and/or goggles recommended.
Protective Gloves:	Sensitive individuals should wear protective gloves.
Other Protective Equipment:	Protective coveralls recommended in atmospheres with high dust concentrations.
Ventilation:	Local exhaust ventilation recommended to maintain dust concentrations below the occupational exposure limits.

SECTION VI - FIRST AID

Skin Contact:	Wash affected area with soap and water. If irritation develops, seek medical attention.
Eye Contact:	Flush eyes with plenty of water. If irritation develops, seek medical attention.
Inhalation:	Remove to fresh air. Seek medical attention.
Ingestion:	May cause nausea. If nausea develops seek medical attention.

SECTION VII - FIRE AND EXPLOSION DATA

Flash Point NA

Flammable Limits: N/A **LEL** _____ **UEL** _____

Extinguishing Media: Water, carbon dioxide, dry chemical, foam

Special Fire Fighting Procedures: Use self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: Accumulations of graphite dust may cause shorting of electrical circuits.

SECTION VIII - SPECIAL PRECAUTIONS

Precautions for Handling and Storing:

Calgraph, Sigraflex laminates may contain less than 1% adhesives. These adhesives, if uncured, may contain trace elements of solvents, such as MEK (methyl ethyl ketone), phenol, acetone, or ethanol.

Calgraph, Sigraflex grades do not contain, and are not manufactured with any Class I or Class II ozone depleting substances.

SECTION IX - ENVIRONMENTAL PROTECTION

Spill or Leak Procedures:

Graphite dusts should be vacuumed to prevent accumulation.

Waste Disposal Method:

Personnel performing clean-up of accumulated dusts should follow precautions listed in Section V. Natural graphite is not regulated by the Resource Conservation and Recovery Act (RCRA). State and local regulations should be verified prior to disposal of both the bulk material and graphite dust.

SECTION X - PHYSICAL DATA

Boiling Point: N/A	**Vapor Pressure (mm Hg)** N/A	**Spec. Gravity (H_2O = 1)** 2.0
Vapor Density (Air = 1) N/A	**Evaporation Rate (_____ = 1)** N/A	**Solubility in Water** Insoluble
Percent Volatile by Volume 0.5	**Appearance** Gray sheet	**Odor** None

SECTION XI - REACTIVITY DATA

☐ **Unstable** ☒ **Stable**	**Hazardous Polymerization** ☐ **May Occur** ☒ **Will not occur**

Conditions and Materials to Avoid:

Strong oxidizers.

Hazardous Decomposition Products:

Thermal decomposition may produce oxides of carbon.

SECTION XII - REFERENCES

OSHA:	29 CFR 1910.1000, Table Z-1-A
ACGIH:	Documentation of Threshold Limit Values - Current Edition
MSDS:	Polycarbon, Inc., MSDS no. 7001, Rev. B, 7/31/98

Prepared by: Corporate Safety

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