



MATERIAL SAFETY DATA SHEET

MSDS NO. 225

SHOWA DENKO CARBON, INC.

478 Ridge Road
P.O. Box 2947201
Ridgeville, South Carolina 29472
(843) 875-3200

Revision Date: May 2005

PRODUCT: Graphite Electrode with Connecting Pin

I IDENTIFICATION

CHEMICAL FAMILY: Carbon

II INGREDIENTS (INERT & HAZARDOUS)

NUISANCE DUST, TOTAL DUST & RESPIRABLE DUST, IF GENERATED:

<u>Exposure Limit</u>	<u>Units</u>	<u>Agency</u>	<u>Type</u>
10.00	mg/m ³	ACGIH	TWA-TOTAL DUST
3.00	mg/m ³	ACGIH	TWA-RESPIRABLE DUST
15.00	mg/m ³	OSHA	TWA-TOTAL DUST
5.00	mg/m ³	OSHA	TWA-RESPIRABLE DUST

INGREDIENTS/COMPOSITION	CAS#	PERCENT	PEL	TLV	PEL
Synthetic Graphite	7482-42-5	> 99	10mg/m ³ Total Dust	10mg/m ³ Total Dust	5mg/m ³ Resp. Dust

III PHYSICAL DATA

MELTING POINT: Graphite does not melt	VOLATILE BY WEIGHT: <0.1%
SUBLIMATION POINT: Graphite solid 5500°F	Specific Gravity: 1.4 – 1.9
EVAPORATION RATE: Negligible	VAPOR DENSITY: NA
SOLUBILITY IN WATER: Insoluble	VAPOR PRESSURE: <0.01 mm Hg
APPEARANCE: Grey/black solid, particulate composite	ODOR: None

IV FIRE AND EXPLOSION DATA

FLASH POINT: Synthetic Graphite does not flash
LOWER/UPPER EXPLOSIVE LIMIT: NA
EXTINGUISHING MEDIA: Water, CO₂, Sand
HAZARDOUS DECOMPOSITION PRODUCTS: In ordinary combustion, carbon monoxide and carbon dioxide can be formed.
SPECIAL FIREFIGHTING PROCEDURES: Use self-contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION DATA: Graphite dust is normally not explosive, but it may contribute if ever initiated by another explosive dust or gas. Graphite is electrically conductive and dust accumulations may cause electrical short circuits or other electrical malfunctions.

V HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LIMIT(PEL): SEE SECTION II

PRIMARY ROUTE(S) OF EXPOSURE: Inhalation of dust

EFFECTS OF OVEREXPOSURE:

EYES: At high dust levels, mechanical irritation

BREATHING: Prolonged and repeated over exposure may lead to benign pneumoconiosis

SKIN OR SWALLOWING: No effect

FIRST AID:

EYES: Flush with water if irritated

SKIN or SWALLOWING: No effect

MEDICAL CONDITIONS RECOGNIZED AS POSSIBLY AGGRAVATED BY EXPOSURE:

Individuals with pre-existing chronic respiratory impairments or with serum deficiency may be at increased risk of pneumoconiosis if prolonged and repeated over-exposures to dust occur.

VI REACTIVITY DATA

HAZARDOUS POLYMERIZATION: Will not occur

STABILITY: Stable

INCOMPATIBILITY: (MATERIALS TO AVOID) None known

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED.

Vacuum up dust as for normal housekeeping requirements.

WASTE DISPOSAL METHOD: Dispose in an approved landfill or reclaim.

DISPOSAL MUST BE IN COMPLETE COMPLIANCE WITH FEDERAL, STATE & LOCAL LAWS AND REGULATIONS.

VIII PROTECTIVE EQUIPMENT TO BE USED

VENTILATION: If ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required.

RESPIRATORY PROTECTION: If airborne concentrations exceed established exposure limits, a suitable filter type respirator should be worn.

PROTECTIVE GLOVES: Not normally required.

EYE PROTECTION: Use approved protection to safeguard against potential eye contact, irritation or injury

IX SPECIAL PRECAUTIONS OR OTHER COMMENTS

None

X REFERENCES

ACGIH	Threshold Limit Values, Current Edition
NIOSH	Occupational Health Guidelines
OSHA	29 CFR 1910.1000

This MATERIAL SAFETY DATA SHEET is provided solely for your information, consideration and investigation. Any use of this data and information must be determined by the user to be in compliance with applicable federal, state and local laws and regulations.