

## SAFETY DATA SHEET

**SDS NA-EC101**

### Section 1 – Product and Supplier Identification

<b>Product identifier used on the label:</b>	<b>Electrical Carbon Products</b>
<b>Other means of identification:</b>	See the list of products/grades in Section 16
<b>Uses (and restrictions):</b>	Customer applications of electrical carbon products; carbon brushes for electric motors, electrical contacts
<b>Supplier and contact information:</b>	
Morgan Advanced Materials 251 Forrester Drive Greenville, SC 29607 USA	+1(864)458-7777 <a href="http://www.morganelectricalmaterials.com">www.morganelectricalmaterials.com</a>
<b>Emergency phone number:</b>	+1(864)458-7777 08:00-17:00 local time M-F

### Section 2 – Hazard Identification

A solid electrical carbon part, as sold, presents minimal hazards; however, dust created in shipping, handling and use may exhibit the hazards of the materials as described below. Avoid creating and breathing airborne dust.

**Classification:**

The materials contained in this product are not classified as hazardous under the Globally Harmonized System of Classification and Labelling and the US OSHA Hazard Communication Standard.

<b>Signal word, symbols, hazard and precautionary statements:</b>	Not applicable (because not classified as hazardous)
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**Other information about health hazards:**

Dust from this material may cause minor irritation of skin and eyes, primarily through mechanical abrasion. Repeated or prolonged exposure to elevated concentrations of any airborne dust can irritate or harm the respiratory system, especially as an aggravation to a pre-existing condition. Avoid creating and breathing airborne dust. The materials in this product are not absorbed through the skin.

**Other information about physical hazards:**

Carbon/graphite dust is electrically conductive and dust accumulations on electrical equipment can cause short circuits resulting in electrical shock, fire or damage to equipment. Dust from this product contains graphite and may create slippery conditions. Carbon/graphite dust may present a combustible dust hazard. Maintain good housekeeping.

**Section 3 – Composition**

Component	CAS Registry Number	Concentration % by weight
Graphite	7782-42-5	0-100%
Carbon	7440-44-0	0-100%
Silicon Carbide	409-21-2	0-10%
Cured Resins	Not applicable	0-10%

**Section 4 – First Aid Measures**

**Inhalation:** Remove affected personnel to an exposure-free environment.  
**Skin and eye contact:** Flush eyes with water. Wash skin with soap and water.  
**Ingestion:** Not applicable, not expected  
**Indication of need for immediate medical attention and special treatment:** Not applicable, not expected

## Section 5 – Fire Fighting Measures

This product is not very combustible but may burn if exposed to high temperatures.

### **Suitable extinguishing media:**

Use an extinguisher that is suitable for the surrounding fire.

### **Combustion hazards:**

When burned, carbon/graphite releases carbon dioxide (and possibly carbon monoxide if there is not enough oxygen for complete combustion).

### **Special fire-fighting procedures:**

Use protective clothing and breathing equipment appropriate to the surrounding fire.

### **Unusual fire and explosion hazards:**

As is the case with any combustible dust, concentrations of airborne carbon/graphite dust can present a dust fire or explosion hazard. Practice good housekeeping to prevent dust accumulations and prevent situations where substantial amounts of dust can become airborne. Do not blow dust toward an ignition source.

**Flash point:** Not applicable

**Flammable limits:** Not applicable

## Section 6 – Accidental Release Measures

Sweep or vacuum spilled material and place into sealable containers. Avoid creating and breathing airborne dust. Dispose in accordance with applicable waste disposal regulations.

## Section 7 – Handling and Storage

Practice good housekeeping to avoid the accumulation of dust in the workplace. Avoid creating and breathing airborne dust. Practice good hygiene. As a good practice, wash hands before eating, drinking or smoking and do not store food, or eat or drink, in areas where chemicals are handled.

## Section 8 – Exposure Controls and Personal Protection

### Exposure limits and guidelines:

Material	OSHA PEL 8-Hr TWA	ACGIH TLV 8-Hr TWA
Graphite	15 mg/m <sup>3</sup> (total) 5 mg/m <sup>3</sup> (respirable)	2.0 mg/m <sup>3</sup> (respirable)
Carbon	15 mg/m <sup>3</sup> (total) 5 mg/m <sup>3</sup> (respirable)	10 mg/m <sup>3</sup> (total) 3 mg/m <sup>3</sup> (respirable)
Silicon Carbide	15 mg/m <sup>3</sup> (total) 5 mg/m <sup>3</sup> (respirable)	10 mg/m <sup>3</sup> (total) 3 mg/m <sup>3</sup> (respirable)

Other jurisdictions may have different exposure limits and control guidelines. Users are advised to consult and comply with local regulations.

### Engineering controls:

Use good housekeeping practices.

### Personal protective equipment:

Use NIOSH-approved respiratory protective equipment (for example, an N-95 dust mask) if exposures exceed established limits.

### General hygiene considerations:

As a good practice, wash hands before eating, drinking or smoking and do not store food, or eat or drink, in areas where chemicals are handled.

## Section 9 – Physical and Chemical Properties

<b>Appearance:</b>	Black solid	<b>Odor:</b>	No odor
<b>Odor threshold:</b>	Not applicable	<b>pH:</b>	Not applicable
<b>Melting point:</b>	Not applicable	<b>Boiling point:</b>	Not applicable
<b>Flash point:</b>	Not applicable	<b>Evaporation rate:</b>	Not applicable
<b>Flammability:</b>	Not applicable	<b>LEL/UEL:</b>	Not applicable
<b>Vapor pressure:</b>	Not applicable	<b>Vapor density:</b>	Not applicable
<b>Relative density:</b>	Not applicable	<b>Water solubility:</b>	Insoluble
<b>Partition coefficient (n-octanol/water):</b>	Not applicable	<b>Autoignition temperature</b>	Not applicable
<b>Decomposition temperature:</b>	Not applicable	<b>Viscosity:</b>	Not applicable

## Section 10 – Stability and Reactivity

This material is stable and non-reactive.

## Section 11 – Toxicological Information

None of the materials in this product are listed as a carcinogen by the International Agency for Research on Cancer (IARC), US OSHA or the US Department of Health and Human Services National Toxicology Program (NTP).

Additional toxicological information is available through the U.S. National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS). See website: <http://www.cdc.gov/niosh/ipcsneng/nengrtec.html>.

Graphite RTECS # MD9659600  
Carbon RTECS # FF5250100  
Silicon Carbide RTECS # VW0450000

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## Section 12 – Ecological Information

Carbon/graphite and other ingredients are relatively inert and would be expected to be of negligible consequence in the environment.

## Section 13 – Disposal Considerations

This electrical component is typically part of an assembly that can be recycled for metal content. This product does not contain substances that could cause it to be hazardous waste, if disposed. Dispose in accordance with applicable waste disposal regulations.

## Section 14 – Transport Information

This product is not regulated as a hazardous material for transportation purposes by any known authority.

## Section 15 – Regulatory Information

All materials in this product are listed on the US EPA Toxic Substances Control Act (TSCA) inventory.

## Section 16 – Other Information

	<b>HMIS Ratings</b>
<b>Health</b>	<b>1*</b>
<b>Flammability</b>	<b>1</b>
<b>Physical Hazard</b>	<b>0</b>

\* indicates possible chronic health effects from continuing exposures

**National ® product grades associated with this SDS:**

33, 234, 240, 250, 255, 258, 259, 268, 306, 377, 400, 401, 402, 405, 441, 497, 551, 561, 569, 571, 580, 581, 582, 591, 610, 619, 621, 623, 628, 634, 644, 702, 808, 840, 888, 2345, 3061, 3499, 4029, 4674, 5410, 7126, 9412, 9613, 63410, 1EG, 1G, 2085T, 258Z, 2EG, 2G, 2H100-1, 31GR, 61C, 63A, 676N, 6H6, 80F, 840C, 840F, 9234R, A12, A15, A301, A351, A451, A86, A877, ABB, ABBOEM, AC155, ACY, AE151, AEG1, AGLR, AGSR, AGSX, AGX, AM40, AM41, AM42, AM43, AM50, AM51, ANV, ANY, ATJ, AUT, AX5, AY, AY13, AYR, AYS, AZY, B105, B107, B16, B17, B18, B2, B253, B2949, B2997A, B344, B36, B844, BCW, BG530, BGX, BHG, BHH, BHJA, BHJC, BHJE, BU, C13, C2, C4, CBN72, CBY, CE7, CE7000, CH194, CM3H-1, CM6030, CN48, CS, D, DE10, DE12, DE14, DE15, DE16, DE17, DE18, DE19, DE2, DE21, DE22, DE23, DE25, DE3, DE5, DE50, DE7, DE7000, DE7-3, DE8, DE869, DE9000, DM5A, DMF310, DN2000, DN2001, DW1, DW2, DW3, DW4, DW5, DW6, DW7, DW8, DW9, DW10, DW11, DW12, DW13, DW14, DW16, DW17, DW19, DW20, DW21, DW22, DW24, E, E101, E22, E24, E25, E27, E28, E3, E31, E34, E35, E37, E38, E41, E44, E45, E48, E49, E50, E50M, E51, E57, E60, E61, E77, ECR, EDN1633, EG10, EG105S, EG105S-1, EG11, EG11/8Y, EG11-1, EG116, EG116-1, EG116S, EG12, EG12-1, EG12M, EG14, EG14-1, EG14D, EG14D-1, EG14N, EG16, EG16K, EG16S, EG224, EG224-1, EG225, EG236, EG236J, EG236J-1, EG236S, EG236S-1, EG236S-2, EG236Z, EG251, EG259, EG260, EG260-1, EG260-2, EG268, EG268-1, EG269, EG277A, EG283, EG277A, EG284, EG291, EG295AC, EG3, EG3-1, EG3860, EG3D, EG3X, EG4, EG43, EG540, EG571, EG6345, EG6345-1, EG6632, EG6749, EG72, EG7788, EG7788-1, EG7788P1, EG801, EG801-1, EG801-2, EG805, EG809, EG809-1, EG8101, EG818, EG818-1, EG818-2, EG826, EG830, EG830-1, EG833, EG835, EG840, EG844, EG845, EG845-1, EG845-2, EG845-3, EG848, EG855, EG8565, EG886, EG8866, EG8866S, EG898, EG898-1, EG898A, EG898B, EG974, EGB4, EGB4D, EGB4D-1, EGO, EGO/8S, EGO-1, EGO-2, EGOR, EGOR-1, EROG-2, EGX882, EM30, EY308, F27, F30, F31, F32, F35, F36, F38, F39, F50, F51M, F64, F72, F757, F799, F857, F83, F86, F87, F89, FF3, FF8, FM6, G, G16AM, G17, G22, G2998A, G70, GVL2, GVL3, GVL4, GVL5, GVL6, GVL7, GVL8, GVL9, GVL10, GVL11, GVL12, GVL13, GVL14, GVL15, GVL16, GVL17, GVL18, GVL19, H, H26A, H100, H100-1, H100-2, H100J50, H100R, H100R-1, H100R-2, H1000, H22, H25, H26, H27, H29, H3C, H801, H801-1, H809, H817, H819, H833R, HM100, HM21, HM24, HM5, HM6, HM6782, HM6R, HM802, HM803, HRG, IM19, IM23, IM26, IM26-2, IM31, IM3S, IM6, IM6782, IM810, IM812, IM824, IM832, IM9101, IMX31, J600, JE7, K816, L171, L188, L204, L351, L352, L356, L357, L359, L366, L931, L932, L932E, L944, L963, L964, L966, L967, L983, M1, M291, M2958A, M2958B, M3, M303, M403, MD14, MD14-1, MD308, MD4, ME11, ME357, ME377, ME393, MK086, ME393, MK1, MK2, MK3, MK4, MK5, MK6, MK7, MK8, MK9, MK10, MK11, MK13, MK14, MK18, MK20, MK22, MK24, MK26, MK27, MK28, MK29, MK31, MK32, MK33, MK35, MK36, MK37, MK086, MY258P, N1, N10, N11, N12, N14, N16, N17, N18, N19, N19X, N2, N20, N2000, N2000A, N22, N25, N26, N260, N273, N3,

N30, N37, N38, N39, N4, N40, N421, N43, N44, N45, N4500, N46, N47, N48, N48X, N49, N4X, N50, N5000, N5050, N52, N54, N6, N6000, N6001, N6002, N66, N66X, N7000, N8, N8101, N826, N838, N845, N848, N910, N964, N968, NO1, NP420, OTISEG236S, OTISEG801, OTISEG809, OTISEG8101, OTISEG818, PH, PHB, PM50, PM60, PM75, PM805, PM805A, PM805J, PM818J, PM825, PM9, QH213G, QH391G, QH520G, QH524G, QH683G, QH8183G, QH8390G, QH90, R, R1308, R1309, R20X1, R2959A, R2959B, R2960A, R2960B, R310, R312, R313, R314, R317, R318, R318+#1, R318A, R319, R320, R329, R332, R362, R420, R429, R64, R776, R780, R781, R782, R783, R802, R884, R885, R989, RC53, RH438, RH8136, RH8143, RH8168, RH8185, RX90, RX91, S79/634, SA25, SA2522, SA30, SA35, SA35/258, SA3513, SA3552, SA3538, SA3538-13, SA35U, SA40, SA40U, SA45, SA4513, SA4542, SA4548, SA45R, SA45U, SA50, SA50U, SCB1, SCB2, SCB3, SCB4, SCB5, SCB6, SCB7, SCB9, SCB10, SCB11, SCB12, SCB13, SCB14, SCB15, SCB16, SCB17, SCB18, SCB19, SCB20, SCB21, SCB22, SCB23, SCB24, SCB25, SCB26, SCB27, SCB28, SCB29, SCB30, SCB31, SCB32, SCB33, SCB34, SCB35, SCB37, SCB38, SCB39, SCB40, SCB41, SCB42, SCB43, SCB44, SCB45, SCB46, SCB47, SCB48, SCB50, SCB51, SCB52, SCB54, SCB55, SCB56, SCB57, SCB58, SCB60, SCB63, SCB64, SCB65, SCB66, SCB69, SCB70, SCB71, SCB74, SCB75, SCB77, SCB78, SCS1, SCS2, SCS3, SCS4, SCS5, SCS6, SCS7, SCS9, SCS10, SCS11, SCS12, SCS13, SCS14, SCS15, SCS16, SCS17, SCS18, SCS19, SCS20, SCS21, SCS22, SCS23, SCS24, SCS25, SCS26, SCS27, SCS28, SCS29, SCS30, SCS31, SCS32, SCS33, SCS34, SCS35, SCS37, SCS38, SCS39, SCS40, SCS41, SCS42, SCS43, SCS44, SCS45, SCS46, SCS47, SCS48, SCS50, SCS51, SCS52, SCS54, SCS55, SCS56, SCS57, SCS58, SCS60, SCS63, SCS64, SCS65, SCS66, SCS69, SCS70, SCS71, SCS74, SCS74, SCS77, SCS78, SLT234, SLT40, SMO, SRB10, SRB11, SRB13, SRB14, SRB15, SRB17, SRB18, SRB19, SRB20, SRB21, SRB22, SRB23, SRB24, SRB25, SRB28, SRB29, SRB30, SRB31, SRB32, SRB33, SRB34, SRB35, SRB36, SRB37, SRB38, SRB39, SRB40, SRB41, SRB42, SRB43, SRB44, SRB45, SRB46, SRB47, SRB48, SRB49, SRB50, SRB52, SRB54, SRB55, SRB56, SRB57, SRB58, SRB59, SRB60, SRB61, SRB62, SRB63, SRB64, SRB66, SRB67, SRB68, SRB69, SRB70, SRB71, SRB72, SRB73, SRB74, SRB75, SRB76, SRB77, SRB78, SRB79, SRB80, SRB81, SRB82, SRB83, SRB86, SRB87, SRB88, SRB89, SRB90, SRB91, SRB92, SRB93, SRB94, SRB95, SRB96, SRB97, SRB99, SRB100, SRB101, SRB102, SRB103, SRB104, SRB105, SRB106, SRB107, SRB108, SRB109, SRB110, SRB111, SRB112, SRB113, SRB114, SRB115, SRB116, SRB117, SRB118, SRB119, SRB120, SRB121, SRB122, SRB123, SRB124, SRB125, SRB126, SRB127, SRB128, SRB129, SRB130, SRB131, SRB132, SRB133, SRB134, SRB135, SRB137, SRB138, SRB139, SRB140, SRB141, SRB142, SRB143, SRB144, SRB145, SRB146, SRB147, SRB148, SRB149, SRB150, SRB151, SRB152, SRB153, SRB154, SRB155, SRB157, SRB158, SRB159, SRB161, SRB162, SRB163, SRB164, SRB165, SRB166, SRB167, SRB169, SRB170, SRB171, SRB172, SRB173, SRB174, SRB175, SRB176, SRB177, SRB178, SRB179, SRB180, SRB181, SRB182, SRB183, SRB185, SRB186, SRB187, SRB190, SRB191, SRB192, SRB193, SRB195, SRB197, SRB199, SRB201, SRB202, SRB203, SRS10, SRS11, SRS13, SRS14, SRS15, SRS17, SRS18, SRS19, SRS20, SRS21, SRS22, SRS23,



SRS24, SRS25, SRS28, SRS29, SRS30, SRS31, SRS32, SRS34, SRS35, SRS36, SRS37, SRS38, SRS39, SRS40, SRS41, SRS42, SRS43, SRS44, SRS45, SRS46, SRS49, SRS50, SRS54, SRS55, SRS56, SRS57, SRS58, SRS59, SRS60, SRS61, SRS62, SRS63, SRS64, SRS66, SRS67, SRS68, SRS69, SRS71, SRS72, SRS73, SRS74, SRS75, SRS76, SRS78, SRS80, SRS81, SRS82, SRS83, SRS86, SRS87, SRS88, SRS89, SRS90, SRS91, SRS92, SRS93, SRS94, SRS95, SRS96, SRS97, SRS99, SRS100, SRS101, SRS102, SRS103, SRS104, SRS105, SRS106, SRS107, SRS108, SRS109, SRS110, SRS111, SRS113, SRS114, SRS115, SRS116, SRS118, SRS119, SRS120, SRS121, SRS122, SRS123, SRS124, SRS126, SRS127, SRS128, SRS 129, SRS130, SRS131, SRS132, SRS133, SRS134, SRS135, SRS137, SRS138, SRS139, SRS140, SRS141, SRS142, SRS143, SRS144, SRS145, SRS146, SRS147, SRS148, SRS149, SRS150, SRS151, SRS153, SRS154, SRS155, SRS157, SRS158, SRS159, SRS161, SRS162, SRS164, SRS165, SRS166, SRS169, SRS170, SRS171, SRS172, SRS173, SRS174, SRS175, SRS177, SRS178, SRS179, SRS180, SRS181, SRS182, SRS183, SRS185, SRS186, SRS187, SRS190, SRS191, SRS192, SRS193, SRS195, SRS197, SRS199, SRS201, SRS202, SRS203, SUZOEM, T109, T300, T302, T309, T311, T315, T322, T331, T341, T341J, T399, T4000, T416, T417, T491, T500, T506, T507, T508, T512, T5200, T550, T552, T559, T5600, T563, T564, T566, T573, T574, T575, T576, T578, T580, T583, T585, T586, T593, T595, T596, T604, T606, T610, T611, T621, T642, T652, T652-1, T655, T659, T661, T662, T668, T669, T670, T670-2, T672, T700, T758, T762, T800, T801, T821, T825, T846, T853, T858, T862, T869, T869V, T888, T900, T5610, T5633, T567, T798, TA45, T900-1, T925, T948, T959, T962, T969, T990, T991, T999, TA35, TA3532, TA45R, TA4542, TA4548, TA50, TB419, TB747, TB766, TB772, TB819, TB835, TB836, TB869, TB899, TB910, TB964, TB967, TB968, TB977, TB979, TB988, TB989, TB992, TBC, TC53, TW1, TW2, TW3, TW5, TW6, VE3255, VE3256, VH8104, W106, W2185, W510, W535, W5461, WA10U, WOOD, WP11, WW11, Y0616, Y0617, Z100, Z200

This SDS may also apply to other grades. Refer to the label on the product. The label will refer you to the SDS associated with that product.

This MSDS can be used for the base materials (blocks and pellets) used to fabricate finished carbon parts.

Reasonable care has been taken in the preparation of information contained in this Safety Data Sheet and the information is provided in good faith. Morgan Advanced Materials/National Electrical Carbon Products, Inc assumes no responsibility as to the accuracy of information drawn from other sources. No warranty, expressed or implied, is made. Information provided in this SDS has been prepared by competent and appropriately qualified and trained persons according to the US OSHA Hazard Communication Standard and Canada Controlled Products Regulations (WHMIS).

The information contained in this Safety Data Sheet relates to the electrical carbon parts manufactured and sold by Morgan Advanced Materials/National Electrical Carbon Products, Inc and to the dust that may be generated from those parts in shipping, handling and use. It does not cover dust or odors that may be generated from other parts in an electric motor or assembly.

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Prepared by: Ed Ollom, EHS Manager