SAFETY DATA SHEET

Section 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Graphite Dry Powder
Other Identifiers: G Plus, G-1, graphite
Product Codes: CH 543, CH532
Model Code(s) for Fire Extinguishers: None
Recommended Use: Fire extinguishant for metal fires, not for human or animal drug use.
Manufacturer: AMEREX CORPORATION
Internet Address: www.amerex-fire.com
Address: 7595 Gadsden Highway, P.O. Box 81
Trussville, AL 35173-0081
Company Telephone: (205) 655-3271
E-mail Address: info@amerex-fire.com
Emergency Contacts: Chemtrec 1(800) 424-9300 or (703) 527–3887
Revised: March 20, 2018

Section 2. HAZARDS IDENTIFICATION

GHS – Classification

<table>
<thead>
<tr>
<th>Health</th>
<th>Environmental</th>
<th>Physical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity: Category 5</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation:</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Skin Sensitization:</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Eye: Category 2A</td>
<td>None</td>
<td>Warning</td>
</tr>
<tr>
<td>STOT – Category 3 (Single Exposure- Resp)</td>
<td>None</td>
<td>Warning</td>
</tr>
<tr>
<td>Carcinogen: Category None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

GHS – Label Symbol(s):

If Pressurized: Gas Under Pressure

GHS – Signal Word(s): Warning

Other Hazards Not Resulting in Classification: May create hazardous dust during shipping, handling, and use. May form combustible dust concentrations in air. The dust is a conductor of electricity. This dust may cause slippery conditions if on floor.
GHS – Hazard Phrases

<table>
<thead>
<tr>
<th>GHS Hazard</th>
<th>GHS Codes(s)</th>
<th>Code Phrase(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>H229</td>
<td>*- Pressurized container: may burst if heated</td>
</tr>
<tr>
<td>Health</td>
<td>H315</td>
<td>May be harmful if swallowed</td>
</tr>
<tr>
<td></td>
<td>319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td></td>
<td>335</td>
<td>May cause respiratory irritation</td>
</tr>
<tr>
<td>Environmental</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Precautionary:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>P101</td>
<td>If medical advice is needed, have product container or label at hand</td>
</tr>
<tr>
<td>Prevention</td>
<td>P251</td>
<td>Do not pierce or burn, even after use.</td>
</tr>
<tr>
<td></td>
<td>261</td>
<td>Avoid breathing dust/fumes/gas/mists/vapours/spray.</td>
</tr>
<tr>
<td></td>
<td>264</td>
<td>Wash exposed skin thoroughly after handling.</td>
</tr>
<tr>
<td></td>
<td>280</td>
<td>Wear protective gloves/protective clothing/eye protection/face protection.</td>
</tr>
<tr>
<td>Response</td>
<td>P312</td>
<td>Call a doctor if you feel unwell.</td>
</tr>
<tr>
<td></td>
<td>321</td>
<td>Specific treatment (see Section 4. First Aid Measures)</td>
</tr>
<tr>
<td></td>
<td>373</td>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td></td>
<td>302+352</td>
<td>IF ON SKIN: Wash with plenty of water.</td>
</tr>
<tr>
<td></td>
<td>304+340</td>
<td>IF INHALED: Remove person to fresh air and keep comfortable for breathing.</td>
</tr>
<tr>
<td></td>
<td>305+351+338</td>
<td>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.</td>
</tr>
<tr>
<td></td>
<td>332+313</td>
<td>If skin irritation occurs: Get medical advice/attention.</td>
</tr>
<tr>
<td></td>
<td>337+313</td>
<td>If eye irritation persist get medical advice/attention.</td>
</tr>
<tr>
<td></td>
<td>342+311</td>
<td>If experiencing respiratory symptoms: Call a doctor.</td>
</tr>
<tr>
<td>Storage</td>
<td>P410+403</td>
<td>*- Protect from sunlight. Store in a well-ventilated place.</td>
</tr>
<tr>
<td>Disposal</td>
<td>P501</td>
<td>Dispose of contents through a licensed disposal company. Contaminated container should be disposed of as unused product.</td>
</tr>
</tbody>
</table>

*- If under pressure

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC No.</th>
<th>REACH Reg. No.</th>
<th>CAS-No.</th>
<th>Weight %</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite</td>
<td>231-955-3</td>
<td>NA</td>
<td>7782-42-5</td>
<td>&gt;99</td>
<td>NA</td>
</tr>
</tbody>
</table>

Adverse health effects and symptoms: Serious irritant to the eyes; may cause respiratory irritation; mild irritant to mucous membranes and skin. Symptoms of inhalation include coughing, shortness of breath, and production of black sputum. Chronic exposure may cause pneumoconiosis, fibrotic disease, or aggravate existing pulmonary disease.

Section 4. FIRST AID MEASURES

Eye Exposure: Causes irritation. Irrigate eyes with water and repeat until pain free. Remove contact lenses if present and easy to do – continue rinsing. Seek medical attention if irritation persists, or if visual changes occur.
### Skin Exposure:
May cause skin irritation. In case of contact, wash with plenty of soap and water. Seek medical attention if irritation persists.

### Inhalation:
May cause irritation, along with coughing and appearance of black sputum. If respiratory irritation or distress occurs, remove victim to fresh air. Seek medical attention if irritation persists.

### Ingestion:
Overdose symptoms may include breathing difficulty and coughing up black sputum. If victim is conscious and alert, give 2-3 glasses of water or milk to drink. Do not induce vomiting. Seek immediate medical attention. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist.

### Medical conditions possibly aggravated by exposure:
Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema, or bronchitis. Skin contact may aggravate existing skin disease. Chronic overexposure may cause pneumoconiosis (“dusty lung” disease).

#### Section 5. FIRE-FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Flammable Properties:</th>
<th>Not flammable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Suitable Extinguishing Media:</td>
<td>CO2, water spray, dry chemical powder or foam. Do not use water jet if dust is present</td>
</tr>
<tr>
<td>Hazardous Combustion Products:</td>
<td>May release CO or CO2.</td>
</tr>
<tr>
<td>Explosion Data:</td>
<td>Not sensitive</td>
</tr>
<tr>
<td>Sensitivity to Mechanical Impact:</td>
<td>Can conduct electricity or static charge</td>
</tr>
<tr>
<td>Sensitivity to Static Discharge:</td>
<td>Airborne dust could be explosive at high concentrations. Fire can produce irritating and toxic gases which can cause burns to the skin and eyes.</td>
</tr>
<tr>
<td>Unusual fire/explosion hazards:</td>
<td></td>
</tr>
<tr>
<td>Protective Equipment and Precautions for Firefighters:</td>
<td>As in any fire, wear self-contained breathing apparatus pressure-demand. NIOSH (approved or equivalent) and full protective gear.</td>
</tr>
</tbody>
</table>
Section 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid contact with skin, eyes, and clothing. This is a slip hazard; do not walk through spilled material. Graphite can become a combustible dust if allowed to become airborne. Minimize airborne dust.

Personal Protective Equipment: Wear PPE as specified in Section 8. Sweep up and containerize for disposal or reclamation. Vacuuming or wet sweeping is suggested to avoid dust dispersion.

Emergency Procedures: Graphite can become a combustible dust if allowed to become airborne.

Methods for Containment: Prevent further leakage or spillage if safe to do so. Material should be collected mechanically and disposed of in suitable containers.

Methods for Clean Up: Avoid dust formation. Clean up released material using vacuum or wet sweep and shovel to minimize generation of dust. Bag and drum for disposal in properly label containers.

Environmental Precautions: Prevent material from entering storm sewers or conveyances to waterways.

Other: If product is contaminated, use PPE and containment appropriate to the nature of the most toxic chemical/material in the mixture.

Section 7. HANDLING AND STORAGE

Personal Precautions: Use appropriate PPE when handling or maintaining equipment, and wash thoroughly after handling (see Section 8).

Conditions for Safe Storage/Handling: Keep product in original container. Prevent falling. Do not allow near heat sources.

Incompatible Products: Do not mix with other extinguishing agents. Store away from ignition sources and direct sunlight.

Hazardous Decomposition Products: Carbon oxides, Potassium oxides

Hazardous Polymerization: Will not occur

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>DFG MAK *</th>
<th>EU BLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite</td>
<td>15 mg/m³ (total)</td>
<td>2 mg/m³ (respirable)</td>
<td>4 mg/m³ (inhalable)</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>5 mg/m³ (respirable)</td>
<td></td>
<td>1.5 mg/m³ (respirable)</td>
<td></td>
</tr>
</tbody>
</table>
Engineering Controls:
Showers
Eyewash stations
Ventilation systems

Personal Protective Equipment – PPE Code E:
The need for respiratory protection is not probable during short-term exposure. PPE use during production process must be independently evaluated.

Eye/Face Protection: Chemical goggles
Skin and Body Protection: Wear nitrile or similar gloves/coveralls
Respiratory Protection: If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn. Use P100 respirators for limited exposure, use air-purifying respirator (APR) with high efficiency particulate air (HEPA) filters for prolonged exposure. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current safety and health requirements. The need for respiratory protection is not likely for short-term use in well ventilated areas. Good personal hygiene practice is essential, such as avoiding food, tobacco products, or other hand-to-mouth contact when handling. Wash thoroughly after handling.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Dark gray to black, odorless, fine powder. Feels slippery.
Molecular Weight: 12.01gm
Odor: Odorless
Odor Threshold: No information available
Decomposition Temperature °C: No information available
Freezing Point °C: Not applicable
Initial Boiling Point °C: > 4000
Physical State: Crystalline powder
pH: Not applicable
Flash Point °C: Information not available
Autoignition Temperature °C: 452 – 518
Boiling Point/Range °C: Not Applicable
Melting Point/Range °C: Approximately 3600 °C
Flammability: No, unless as combustible airborne dust
Flammability Limits in Air °C: Upper – Not Flammable; Lower-Not Flammable
Explosive Properties: Explosive as a dust
Oxidizing Properties: None
Volatile Component (%vol): Not Applicable
Evaporation Rate: Not Applicable
Vapor Density: Not Applicable
Vapor Pressure: 1 mm HG at 3586 °C
Specific gravity: Approximately 2.26 at 25 °C
Solubility: Insoluble in water
Partition coefficient, Kow: Unknown
Viscosity: Not Applicable

Section 10. STABILITY AND REACTIVITY

Stability: Stable
Incompatibles: Strong oxidizers such as chlorates and nitrates, liquid potassium, peroxides, fluorine, and chlorine trifluoride.
Conditions to Avoid:
Storage or handling near incompatibles. Graphite is a good conductor of electricity; do not allow situations where electrical accidents can occur. Minimize airborne dust generation.

Hazardous Decomposition Products: None known
Possibility of Hazardous Reactions: Reacts violently with oxides
Hazardous Polymerization Does not occur

Section 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation and eye contact.
Symptoms:
  Immediate:
    Inhalation: Irritation, coughing.
    Eyes: Possibly serious irritation.
    Skin: Mild irritation.
  Delayed: Symptoms appear to be relatively immediate
Acute Toxicity: Relatively non-toxic.
Chronic Toxicity:
  Short-term Exposure: None known.
  Long-term Exposure: As with all dusts, pneumoconiosis, or “dusty lung” disease, may result from chronic exposure.

### Acute Toxicity Values - Health

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50</th>
<th>LC50 (Inhalation)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oral</td>
<td>Dermal</td>
</tr>
<tr>
<td>Graphite</td>
<td>&gt;2g/kg (rat)</td>
<td>Non-irritant, rabbit, 4 hour exposure</td>
</tr>
</tbody>
</table>

Reproductive Toxicity: This product’s ingredients are not known to have reproductive or teratogenic effects.

Target Organs and Effects (TOST): Respiratory system (mild irritant). This product is a mild irritant to epithelial tissue, (eyes, mucous membranes, skin) and may aggravate dermatitis. No information was found indicating the product causes sensitization.

### Other Toxicity Categories

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Germ Cell Mutagenicity</th>
<th>Carcinogenicity</th>
<th>Reproductive</th>
<th>TOST Single Exp</th>
<th>TOST Repeated Exp</th>
<th>Aspiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Category 3</td>
<td>Category 2</td>
<td>None</td>
</tr>
</tbody>
</table>

### Section 12. ECOLOGICAL INFORMATION

Ecotoxicity: Non-toxic; however, as a silt it may degrade aquatic habitat.
Persistence/Degradability: Insoluble in water
Probability of rapid biodegradation: Est: 0.74 (Rapid)
Anaerobic biodegradation probability: Est: 0.76 (Rapid)
Bioaccumulation potential: Low.
Bioconcentration factor: Est: 2.43 (wet weight)
Mobility in soil: Poor
Log Koc: Est: 0.946
Log Koa: Est: -0.45
Log Kaw: Est: 1.43

Other Adverse Ecological Effects: No other known effects at this time

### Aquatic Toxicity Values – Environment – Research

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Acute (LC50)</th>
<th>Chronic (LC50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Aquatic Toxicity Values – Environment – Estimates

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Acute (LC50)</th>
<th>Chronic (LC50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite</td>
<td>165.54 mg/L Fish 96 hr; 83.95 mg/l Daphnid 48 hr;</td>
<td>39.20 mg/L Gr. Algae 96 hr</td>
</tr>
</tbody>
</table>

Section 13. DISPOSAL CONSIDERATIONS

Safe Handling
Use appropriate PPE when handling, and wash thoroughly after handling (see Section 8).

Waste Disposal Considerations
Dispose in accordance with federal, state, and local regulations.

Contaminated Packaging
Dispose in accordance with federal, state, and local regulations.

NOTES:
This product is not a RCRA characteristically hazardous or listed hazardous waste. Dispose of according to state or local laws, which may be more restrictive than federal laws or regulations. Used product may be altered or contaminated, creating different disposal considerations.

Section 14. TRANSPORT INFORMATION

UN Number: NA
UN Proper Shipping Name: NA
Transport Hazard Class: NA
Packing Group: NA
Marine Pollutant?: NO
IATA Not regulated
DOT Not regulated

NOTES:
This product is not defined as a hazardous material under U.S. Department of Transportation (DOT) 49 CFR 172, or by Transport Canada “Transportation of Dangerous Goods” regulations.

Special Precautions for Shipping:
The transportation information above covers the Graphite Dry Powder extinguisher agent as shipped in bulk containers and not when contained in fire extinguishers or fire extinguisher systems. If shipped in a stored pressure-type fire extinguisher, and pressurized with a non-flammable, non-toxic inert expellant gas, the fire extinguisher is considered a hazardous material by the US Department of Transportation and Transport Canada. The proper shipping name shall be FIRE EXTINGUISHER and the UN designation is UN 1044. The DOT hazard class/division is LIMITED QUANTITY when
pressurized to less than 241 psig and when shipped via highway or rail. UN Class 2.2. Non-Flammable Gas, when shipping via air. Packing Group – N/A

### Section 15. REGULATORY INFORMATION

#### International Inventory Status:

<table>
<thead>
<tr>
<th>Country(ies)</th>
<th>Agency</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States of America</td>
<td>TSCA</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>DSL</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>EINECS/ELINCS</td>
<td>Yes</td>
</tr>
<tr>
<td>Japan</td>
<td>MITI</td>
<td>No</td>
</tr>
<tr>
<td>South Korea</td>
<td>KECL</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### REACH Title VII Restrictions:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Dangerous Substances</th>
<th>Organic Solvents</th>
<th>Harmful Substances Whose Names Are to be Indicated on Label</th>
<th>Pollution Release and Transfer Registry (Class II)</th>
<th>Pollution Release and Transfer Registry (Class I)</th>
<th>Poison and Deleterious Substances Control Law</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

#### Component

<table>
<thead>
<tr>
<th>Component</th>
<th>ISHA – Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying</th>
<th>ISHA – Harmful Substances Requiring Permission</th>
<th>Toxic Chemical Classification Listing (TCCL) – Toxic Chemicals</th>
<th>Toxic Release Inventory (TRI) – Group I</th>
<th>Toxic Release Inventory (TRI) – Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

#### European Risk and Safety phrases:

**EU Classification:**

- R Phrases:
  - XN Irritant
  - 20 Harmful by inhalation.
  - 36/37 Irritating to eyes, respiratory system.
- S Phrases:
  - 22 Do not breath dust.
  - 23/24/25 Avoid inhalation and contact with skin and eyes
  - 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  - 36 Wear suitable protective clothing.
  - 38 Where ventilation is insufficient, wear suitable respiratory equipment.
U.S. Federal Regulatory Information:

**SARA 313:**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) - This product does not contain and chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372. None of the chemicals in this product are under SARA reporting requirements or have SARA threshold planning quantities (TPQs) or CERCLA reportable quantities (RQs), or are regulated under TSCA 8(d).

**SARA 311/312 Hazard Categories:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>No</td>
</tr>
<tr>
<td>*-Sudden Release of Pressure Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

* - Only applicable if material is in a pressurized extinguisher.

Clean Water/Clean Air Acts:
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) or Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61) and Section 112 of the Clean Air Act Amendments of 1990.

U.S. State Regulatory Information:

Chemicals in this product are covered under specific State regulations, as denoted below:

**Alaska** - Designated Toxic and Hazardous Substances: None
**California** – Permissible Exposure Limits for Chemical Contaminants: None
**Florida** – Substance List: None
**Illinois** – Toxic Substance List: None
**Kansas** – Section 302/303 List: None
**Massachusetts** – Substance List: None
**Minnesota** – List of Hazardous Substances: None
**Missouri** – Employer Information/Toxic Substance List: None
**New Jersey** – Right to Know Hazardous Substance List: None
**North Dakota** – List of Hazardous Chemicals, Reportable Quantities: None
**Pennsylvania** – Hazardous Substance List: None
**Rhode Island** – Hazardous Substance List: None
**Texas** – Hazardous Substance List: None
**West Virginia** – Hazardous Substance List: None
**Wisconsin** – Toxic and Hazardous Substances: None

California Proposition 65: No component is listed on the California Proposition 65 list.
Other:
Mexico – Grade  No component listed
Canada – WHMIS Hazard Class  No component listed

Section 16. OTHER INFORMATION

This SDS conforms to requirements under U.S., U.K., Canadian, Australian, and EU regulations or standards, and conforms to the proposed 2003 ANSI Z400.1 format.

Issuing Date  17-June-2012
Revision Date  20-March-2018
Revision Notes  None

The information herein is given in good faith but no warranty, expressed or implied, is made. Updated by William F. Garvin, CIH.