

SAFETY DATA SHEET

Product: 623-L
Revision Date: 6/01/2015

1. MATERIAL IDENTIFICATION

Product Name: Graphi-Coat 623-L Liquid
Product Description: Slightly Cloudy, Odorless Liquid
Product Use: High Temperature Binder System
Manufacturer: Aremco Products, Inc.
707-B Executive Blvd.
Valley Cottage, NY 10989
Telephone: 845-268-0039
Emergency Phone: 845-268-0039 or Infotrac (24/7) 800-535-5053

2. HAZARDS IDENTIFICATION

GHS Classification:
This product is not classified according to the Globally Harmonized System (GHS).

GHS Symbol:
None

GHS Signal Word:
None

GHS Hazard Determining Component:
None

GHS Hazard Statements for Health Hazards:
None

3. COMPOSITION

Chemical Name	CAS No.	EC No.	Concentration	GHS Product Identifier
Silicon Dioxide, Amorphous	7631-86-9	262-373-8	40.0-60.0%	None
Water	7732-18-5	NA	40.0-60.0%	None

Note: This product is a water colloidal suspension of amorphous silica.

4. FIRST AID MEASURES

After eye contact: Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention, preferably with an ophthalmologist.

After skin contact: Immediately wipe excess material off skin with a dry cloth then wash with soap and water for at least 5 minutes.

After inhalation: In case of inhalation due to spray mist, remove source of exposure and assure that victim is breathing. If not breathing, administer cardio-pulmonary resuscitation (CPR).

After ingestion: If swallowed, do not induce vomiting. If victim is conscious and alert, give 1-2 glasses of water to drink. Do not give anything by mouth to an unconscious person. Seek medical attention immediately.

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.

5. FIRE FIGHTING MEASURES

- Extinguishing Media:** This material is compatible with all extinguishing media.
- Special Fire Fighting Procedures:** Firefighters should wear NIOSH/MSHA approved positive pressure breathing apparatus with full face-piece and full chemical resistant protective clothing. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.
- Unusual Fire and Explosion Hazards:** This material is non-combustible.

6. ACCIDENTAL RELEASE MEASURES

- Personal Protection:** Wear chemical goggles, body-covering protective clothing, chemical resistant gloves, and rubber boots. Use NIOSH approved respirator where mist occurs.
- Spill Cleanup:** Absorb with liquid-binding materials such as sand, diatomite, acid binders, universal binders, or sawdust. Do not allow liquid to enter sewers, or surface or ground water.

7. HANDLING AND STORAGE

- Handling:** Avoid contact with eyes, skin and clothing. Avoid breathing spray mist. Keep container closed. Promptly clean residue from closures with cloth dampened with water. Promptly clean up spills.
- Storage:** Store above 2 °C. Freezing temperatures can cause irreversible precipitation of silica; therefore the product should be located in heated buildings. Avoid routine storage temperatures above 43 °C. Keep containers closed. Store in clean plastic or stainless steel containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	CAS No.	EC No.	PEL (mg/m ³)	TLV (mg/m ³)
Silicon Dioxide, Amorphous	7631-86-9	231-545-4	10	10
Water	7732-18-5	NA	Non established	Non established

- Engineering Controls:** Use with adequate ventilation. Keep containers closed. Safety shower and eyewash fountain should be within direct access.
- Respiratory Protection:** This product is not considered respirable in either the liquid or cured forms. However, if the cured product is polished, ground or chipped during processing, handling or use, powders may be released as airborne respirable particles. In these instances, appropriate personal protection equipment and local ventilation controls must be employed. If exposure limits are exceeded and local ventilation is unavailable, a supplied-air respirator or a self-contained NIOSH-approved dust and mist respirator is required.
- Skin Protection:** Wear body-covering protective clothing and gloves.
- Eye Protection:** Wear chemical goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical here represent typical properties of this product. Contact Technical Sales for exact specifications.

- Appearance:** Liquid
- Color:** Slightly Cloudy
- Odor threshold:** No available information
- Odor:** Odorless
- pH:** 9.0-10.5
- Specific Gravity, g/cc** 1.30-1.40
- Melting Point Range:** 0 °C (32 °F)
- Boiling Point Range:** 100 °C (212 °F)
- Vapor Pressure at 25 °C:** 32 hPa (24 mm Hg)
- Vapor Density (air=1):** No available information
- Flash point:** Not applicable
- Flammability:** Product is not flammable
- Decomposition Temperature:** Not determined
- Auto-Ignition Temperature:** Product is not self-igniting
- Danger of Explosion:** Product does not present an explosion hazard
- Partition coefficient:** No available information
- Water Solubility:** Soluble
- Evaporation rate:** No available information
- VOC Content, g/l:** 0.00
- Viscosity, Dynamic 25 °C:** Maximum, 9 mPas

10. STABILITY AND REACTIVITY

Chemical Stability:	This material is stable under all conditions of use and storage.
Conditions to Avoid:	None.
Materials to Avoid:	None.
Hazardous Decomposition Products:	None.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	CAS No. 7631-86-9, Amorphous Silicon Dioxide, Chemically Prepared Oral: LD50, >5000 mg/kg (rat) Dermal: LD50, >5000 mg/kg (rabbit) Inhalative: LC0, >140-2000 mg/m ³ /4h (rat)
Primary Irritant:	Skin: Not irritating Eye: Not irritating
Respiratory Sensitization:	No further relevant information available
Skin Sensitization:	No further relevant information available
Carcinogenic Categories:	IARC CAS No. 7631-86-9, Amorphous Silicon Dioxide, Chemically Prepared, 3 NTP None of the ingredients is listed OSHA None of the ingredients is listed
Repeated Dose Toxicity:	CAS No. 7631-86-9, Amorphous Silicon Dioxide, Chemically Prepared Oral: NOAEL (90 d) 9000 mg/kg bw/day (rat) (OECD 408) Inhalative: NOAEC (90 d) 1 mg/m ³ (rat) (OECD 413)
Germ Cell Mutagenicity:	CAS No. 7631-86-9, Amorphous Silicon Dioxide, Chemically Prepared AMES Test <5 mg/plate (in-vitro) (OECD 471) Negative, with and without metabolic activation, ECHA 2012
Reproductive Toxicity:	CAS No. 7631-86-9, Amorphous Silicon Dioxide, Chemically Prepared Oral: NOAEL (maternal toxicity) 1350 mg/kg bw/day (rat) (OECD 414) NOAEL (Teratogenicity) 1350 mg/kg bw/day (rat) (OECD 414)
Specific Target Organ Toxicity (SE):	No further relevant information available.
Specific Target Organ Toxicity (RE):	No further relevant information available.
Aspiration Hazard:	No further relevant information available.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity:	CAS No. 7631-86-9, Amorphous Silicon Dioxide, Chemically Prepared Fish: LC0 (96h) (static) 10000 mg/l (zebra fish) (OECD 203) Water Flea: EC50 (24h) 1000 mg/l (Daphnia Magna) (OECD 202) Algae: EC50 (72h) >10000 mg/l (Scenedesmus Subspicatus) (OECD 201)
Persistence & Degradability:	No further relevant information available.
Other Information:	Amorphous silica dioxide is chemically and biologically inert.
Bioaccumulative Potential:	No further relevant information available.
Mobility in Soil:	No further relevant information available.
General Notes:	Do not allow product to reach ground water, water course or sewage system.
PBT & vPvB Assessment:	
PBT:	Not applicable.
VPvB:	Not applicable
Other Adverse Effects:	No further relevant information available.

13. DISPOSAL CONSIDERATIONS

Disposal Method:	Dispose in accordance with federal, state and local regulations and permits.
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14. TRANSPORTATION INFORMATION

DOT UN Status: The material is not a regulated hazardous material for transportation.

15. REGULATORY INFORMATION

U.S. Federal Regulations

CERCLA: No CERCLA reportable quantity has been established for this material.

TSCA: All ingredients of this material are listed on the TSCA inventory.

SARA Title III



Sections 302, 304, 313: This product does not contain any substances reportable under these sections.

Sections 311, 312:

<u>Hazard Classes</u>	<u>Yes/No</u>
Fire Hazard	No
Reactivity Hazard	No
Pressure Hazard	No
Immediate Hazard	Yes
Delayed Hazard	No

<u>International Inventory</u>	<u>Status</u>
Canada (DSL)	Yes
Europe (EINECS/ELINCS)	Yes
Australia (AICS)	Yes
Japan (MITI)	Yes
South Korea (KECL)	Yes

16. OTHER INFORMATION

NFPA Ratings (scale 0 – 4)	Health, 1 Flammability, 0 Reactivity, 0 Personal Protection, C	
HMIS Ratings (scale 0 – 4)	Health, 1 Flammability, 0 Reactivity, 0 Personal Protection, C	

Key Legend Information

ACGIH	American Conference of Governmental Industrial Hygienists
ARD	International Agency for Research on Cancer
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
DSL	Domestic Substance List
EC	European Commission
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
ND	Not Determined
NE	Not Established
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety & Health
NTP	National Toxicology Program

OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RE	Repeat Exposure
RTECS	Registry of Toxic Effects of Chemical Substances
SARA	Superfund Amendments & Reauthorization Act
SARA Title III	Emergency Planning & Community Right to Know Act
SARA Section 302	Extremely Hazardous Substances
SARA Section 304	Emergency Release
SARA Section 311	MSDS/List of Chemicals & Hazardous Inventory
SARA Section 312	Emergency & Hazardous Inventory
SARA Section 313	Toxic Chemicals & Release Reporting
SE	Single Exposure
STEL	Short Term Exposure Limit
STOT	Specific Target Organ Toxicity
TLV	Threshold Limit Value
TWA	Time Weighted Average

Disclaimer: The information contained herein is based on data taken from sources believed to be both current and reliable at the time of publication. Aremc0 Products, Inc. makes no warranty, expressed or implied, as to the accuracy of this MSDS and assumes no liability arising from its use by others. Compliance with all applicable Federal, State and Local laws and regulations remains the responsibility of the user.

SAFETY DATA SHEET

Product: 623-P
Revision Date: 6/01/2015

1. MATERIAL IDENTIFICATION

Product Name: Graphi-Coat 623-P
Product Description: Black-Grey Odorless Powder
Product Use: High Temperature Oxidation Protective Coating for Graphite
Manufacturer: Aremco Products, Inc.
707-B Executive Blvd.
Valley Cottage, NY 10989
Telephone: 845-268-0039
Emergency Phone: 845-268-0039 or Infotrac (24/7) 800-535-5053

2. HAZARDS IDENTIFICATION

GHS Classification:
Skin Corrosion/Irritation Category 2
Eye Damage/Irritation Category 2
STOT, SE; Respiratory Category 3

GHS Symbol:



GHS Signal Word:
Danger

GHS Hazard Determining Components:
Titanium Diboride
Silicon Carbide

GHS Hazard Statements for Health Hazards:
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

GHS Precautionary Statements - Prevention:
P261 Avoid breathing dust.
P264 Wash hands thoroughly after handling.
P270 Do not eat or drink when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 Wear respiratory protection.

GHS Precautionary Statements – Response:
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Remove contact lenses, if present and easy to do. Rinse cautiously with water for several minutes.

GHS Storage/Disposal:
P501 Dispose in accordance with local, regional, national or international regulations.

3. COMPOSITION

Chemical	CAS No.	EC No.	Concentration	GHS Product Identifier
Titanium Dioxide	12045-63-5	234-961-4	40.0-60.0%	None
Silicon Carbide	409-21-2	206-991-8	40.0-60.0 %	H315 Skin Corrosion/Irritation, Cat 2 H319 Serious Eye Damage/Eye Irritation, Cat 2 H335 STOT, SE; Respiratory Tract Irritation, Cat 3

Note

Silicon carbide contains < 0.5% crystalline silica.

4. FIRST AID MEASURES

Eye Exposure:

Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention, preferably with an ophthalmologist. If a physician is not immediately available, eye irrigation should be continued for an additional 15 minutes.

Skin Exposure:

Immediately wipe excess material off skin with a dry cloth then wash with plenty of soap and water for at least 5 minutes. See medical attention if irritation develops or persists. Remove contaminated clothing and shoes and clean thoroughly before re-use.

Inhalation:

Remove from immediate source of exposure and assure that victim is breathing. If not breathing, administer cardio-pulmonary resuscitation (CPR). If breathing is difficult, administer oxygen if available. Seek medical attention.

Ingestion:

If swallowed, do not induce vomiting. If victim is conscious and alert, give 1-2 glasses of water to drink. Do not give anything by mouth to an unconscious person. Seek medical attention immediately. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Vomiting may occur spontaneously. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

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.

5. FIRE FIGHTING MEASURES

Flash Point: Not applicable.
Flammable Limits: This material is non-combustible.
Extinguishing Media: Not applicable.
Special Fire Fighting Procedures: Not applicable.
Unusual Fire and Explosion Hazards: This material is non-combustible.

6. ACCIDENTAL RELEASE MEASURES

Personal Protection: Wear goggles, protective clothing, chemical resistant gloves, and rubber boots. Use NIOSH approved respirator to prevent inhalation of dust.
Spill Cleanup: Collect material with precaution against breathing dust and dispose in accordance with federal, state and local regulations.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing dust. Keep container closed. Promptly clean residue from closures with cloth dampened with water. Promptly clean up spills.
Storage: Store in an area that is cool, dry, and well ventilated. Keep containers closed. Store in clean plastic or metal containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical	CAS No.	EC No.	TLV (mg/m ³)	PEL (mg/m ³)
Titanium Diboride	12045-63-5	234-961-4	10	10
Silicon Carbide	409-21-2	206-991-8	10	15

Engineering Controls:	Use with adequate ventilation; mechanical dust collector is recommended. Keep containers closed. Safety shower and eyewash fountain should be within direct access.
Respiratory Protection:	If exposure limits are exceeded and local ventilation is unavailable, a supplied-air respirator or a self-contained NIOSH-approved dust respirator is recommended.
Skin Protection:	Wear protective clothing and gloves.
Eye Protection:	Wear chemical goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical here represent typical properties of this product. Contact Technical Sales for exact specifications.

Appearance:	Powder
Color:	Black-Grey
Odor:	Odorless
Specific Gravity, g/cc	Not Determine
Water Solubility:	Insoluble
Melting Point:	Not available
Boiling Point:	Not applicable
Vapor Pressure:	Not applicable
Vapor Density (air=1):	Not applicable

10. STABILITY AND REACTIVITY

Chemical Stability:	This material is stable under all conditions of use and storage.
Conditions to Avoid:	Keep exposure to dust levels below TLV. Avoid rapid heating of the cement that may cause spalling or eruption due to vaporization of water.
Materials to Avoid:	BrCL3 and BrF3.
Hazardous Decomposition Products:	None.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Component: CAS No. 14808-60-7 (Crystalline Silica)

This product contains fused silica, which consists of < 1.0% crystalline silica.

Inhalation:	Acute silicosis has been reported for exposure to extremely high crystalline silica concentrations particularly when the particle size of the dust is very small. Acute silicosis is rapidly progressive with diffuse pulmonary involvement and does not form classical silicotic nodules. The disease is often complicated by tuberculosis and can develop only months after the initial exposure with the possibility of death within 1 or 2 years. This product contains < 0.50% crystalline silica. Acute silicosis may not occur at the concentrations present.
Chronic:	Classic silicosis is characterized by the formation of scattered silica containing nodules of scar tissue in the lungs ranging in size from microscopic to greater than 1 cm. Simple silicosis (nodules < 1 cm) is generally asymptomatic but may progress to debilitating complicated silicosis (nodules > 1 cm) with or without continued exposure. Historically, workers who developed silicosis had greatly increased risks of developing an accompanying tuberculosis infection (silicotuberculosis). IARC has found inadequate evidence to link exposure to amorphous silica to cancer in animals. Limited data is available concerning the health effects of fused silica in animals or humans; however, animal studies indicate a fibrogenic potential less than that of quartz. IARC has found inadequate evidence to link exposure to amorphous silica to cancer in animals.
Subchronic:	No data.
Other:	Silica particles <10 microns are considered respirable; however, particles retained in the lungs are generally much smaller. Silica particles retained in the human lung have median diameters of 0.5-0.7 microns.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Not tested
Environmental Fate: Not tested
Physical/Chemical: Sinks and mixes with water.

13. DISPOSAL CONSIDERATIONS

Disposal Method: Dispose in accordance with federal, state and local rules, regulations and laws.

14. TRANSPORTATION INFORMATION

DOT UN Status: The material is not a regulated hazardous material for transportation.

15. REGULATORY INFORMATION

U.S. Federal Regulations

CERCLA: No CERCLA reportable quantity has been established for this material.

TSCA: All ingredients of this material are listed on the TSCA inventory.

SARA Title III



Sections 302, 304, 313: This product does not contain any substances reportable under these sections.

Sections 311, 312:

<u>Hazard Classes</u>	<u>Yes/No</u>
Fire Hazard	No
Reactivity Hazard	No
Pressure Hazard	No
Immediate Hazard	Yes
Delayed Hazard	No

<u>International Inventory</u>	<u>Status</u>
Canada (DSL)	Yes
Europe (EINECS/ELINCS)	Yes
Australia (AICS)	Yes
Japan (MITI)	Yes
South Korea (KECL)	Yes

16. OTHER INFORMATION

NFPA Ratings (scale 0 – 4)	Health, 1 Flammability, 0 Reactivity, 0 Personal Protection, F	
HMIS Ratings (scale 0 – 4)	Health, 1 Flammability, 0 Reactivity, 0 Personal Protection, F	

Key Legend Information

ACGIH	American Conference of Governmental Industrial Hygienists
ARD	International Agency for Research on Cancer
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
DSL	Domestic Substance List
HMIS	Hazardous Materials Identification System
ND	Not Determined
NE	Not Established
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety & Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RTECS	Registry of Toxic Effects of Chemical Substances
SARA	Superfund Amendments & Reauthorization Act
SARA Title III	Emergency Planning & Community Right to Know Act
SARA Section 302	Extremely Hazardous Substances
SARA Section 304	Emergency Release
SARA Section 311	MSDS/List of Chemicals & Hazardous Inventory
SARA Section 312	Emergency & Hazardous Inventory
SARA Section 313	Toxic Chemicals & Release Reporting
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weighted Average

Disclaimer: The information contained herein is based on data taken from sources believed to be both current and reliable at the time of publication. Arengo Products, Inc. makes no warranty, expressed or implied, as to the accuracy of this MSDS and assumes no liability arising from its use by others. Compliance with all applicable Federal, State and Local laws and regulations remains the responsibility of the user.