

MA 18P 18091100000000000028
MODIFICATION

State of Maine



Master Agreement

Effective Date: 10/04/18

Expiration Date: 09/30/21

Master Agreement Description: Sand Blasting Sand (Garnet)

Buyer Information

William Allen 207-624-7871 ext. NULL WJE.Allen@maine.gov

Issuer Information

Sharon Krechkin 207-624-3038 ext. sharon.krechkin@maine.gov

Requestor Information

Sharon Krechkin 207-624-3038 ext. sharon.krechkin@maine.gov

Agreement Reporting Categories

Reason For Modification: Extend for final one-year period at current prices

Authorized Departments

17A TRANSPORTATION

Vendor Information

Vendor Line #: 1

Vendor ID

VS0000003679

Vendor Name

Greenhill Supply, LLC

Alias/DBA

Greenhill Supply, LLC

Vendor Address Information

P.O. Box 46926

Philadelphia, PA 19160

US

Vendor Contact Information

Dawn Schwab
215-455-5110 ext.
sales@greenhillsupply.com

Commodity Information

Vendor Line #: 1

Vendor Name: Greenhill Supply, LLC

Commodity Line #: 1

Commodity Code: 00528

Commodity Description: Sand Blasting Sand (Garnet) 30x40 Med. Coarse

Commodity Specifications:

Commodity Extended Description: Pricing is by the bag when ordered by the pallet of 40 bags delivered to the MDOT facility in Carmel.

Quantity	UOM	Unit Price
0.00000		0.000000
Delivery Days	Free On Board	
5		
Contract Amount	Service Start Date	Service End Date
0.00		
Catalog Name	Discount	
2018 Greenhill Garnet	0.0000 %	
	Discount Start Date	Discount End Date
	10/04/18	09/30/21

Please see authorized signatures displayed on the next page

Each signatory below represents that the person has the requisite authority to enter into this Contract. The parties sign and cause this Contract to be executed.

State of Maine - Department of Administrative and Financial Services

DocuSigned by:
Jaime C. Schorr 9/21/2020
6D6437754DD0459

Signature Date

Jaime C. Schorr, Chief Procurement Officer

and

Greenhill Supply, LLC

DocuSigned by:
Dawn Schwab 9/23/2020
3AA4C4E67B60478...

Signature Date

Dawn Schwab Owner

Bureau of Business Management – Division of Procurement Services
State of Maine – Department of Administrative and Financial Services
9 State House Station
Augusta, Maine 04333-0009

Contract Number
MA 180911*028

Tel. (207) 624-7340
Fax.# (207) 287-6578

EXTENSION OF MASTER AGREEMENT CONTRACT

Commodity Item: Sand Blasting Sand (Garnet)

Contractor: Greenhill Supply, LLC

Mater Agreement Competitive Bid RFQ: 17A 180823-064

Contract Period Extended To: 09/30/2021

Extended Contract Pricing: Current prices

Extension Clause: The State reserves the right to extend this contract for a period of one year, with the consent of the contractor.

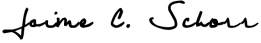
Agreement to Extend Contract:

In accordance with the above referenced Extension Clause, the undersigned agrees to continue in effect said Contract No # MA 180911*028 through September 30, 2021 with all terms, conditions remaining as shown in the original contract.

Dollar value the vendor has recorded that State of Maine has spent on this contract from 10/01/19 to present:
\$ 4488.00

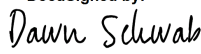
Agreement to extend Master Agreement 18P – 1809110000000000028 authorized by:

State of Maine – Department of Administrative and Financial Services
9/21/2020

DocuSigned by:

6D6437754DD0459...
Jaime C. Schorr, Chief Procurement Officer

And

Greenhill Supply, LLC
9/23/2020

DocuSigned by:

3AA4C4E67B60478...
Dawn Schwab

RIDERS

<input checked="" type="checkbox"/>	The following riders are hereby incorporated into this Contract and made part of it by reference: (check all that apply)
<input checked="" type="checkbox"/>	Rider A – Scope of Work and/or Specifications
<input checked="" type="checkbox"/>	Rider B – Terms and Conditions
<input type="checkbox"/>	Rider C - Exceptions
<input checked="" type="checkbox"/>	Bid Cover Page and Debarment Form – Appendix A from RFQ
<input type="checkbox"/>	Municipality Political Subdivision and School District Participation Certification – Appendix D from RFQ
<input checked="" type="checkbox"/>	Price sheet
<input checked="" type="checkbox"/>	Other – SDS

RIDER A
Scope of Work and/or Specifications
MA 180911-028

Commodity: Sand Blasting Sand (Garnet)

Master Agreement Competitive Bid RFQ: 17A 180823-064

Contract Period: Through September 30, 2019. The State of Maine with vendor approval can opt to issue up to two (2) one (1) year extensions. *Final extension through September 30, 2021*

Vendor Contact Person: The vendor contact person will help consumers place orders, inquire about orders that have not been delivered, all shipping issues, quality issues and any issues pertaining to the Master Agreement (MA) contract. All orders not submitted through a Delivery Order will be sent through the vendor contact person. The vendor contact person for this MA is:

Name: Dawn Schwab **Phone:** 215-455-5110 **Email:** sales@greenhillssupply.com

Prices: Prices are with shipping terms of “Free on Board (FOB) – Destination”. The State intends for this to mean that all goods shall be priced to include shipping charges, if any, to the State’s desired location. The “FOB – Destination” shipping term is also intended to mean that the State shall not bear any responsibility for the goods in question until the State takes possession of them at the destination point of delivery.

Quantities: It is understood and agreed that the MA will cover the actual quantities required by the State over the length of the contract.

Ordering Procedures: Delivery Orders (DO) will be created in AdvantageME for all orders over \$5000.00. If a DO is used, the DO will be emailed to the email address referenced on the MA as a .pdf file. Orders less than \$5000.00 can be placed using a State of Maine issued P-Card (credit card).

Delivery: The vendor is responsible for the delivery of material in first class condition at the point of delivery, and in accordance with good commercial practice.

Specifications

Size 30/40 (Intermediate Coarse): Part # 4753040, 55 lb. bags, 40 bags/Pallet \$18.70/per bag

***Size 30/60 (Medium Coarse)** Finer than 30/40: Part # GX1, 55 lb. bags, 40 bags/Pallet
\$18.70/per bag

* Item generally used by MaineDOT.

RIDER B
TERMS AND CONDITIONS

- 1. DEFINITIONS:** The following definitions are applicable to these standard terms and conditions:
 - a. The term “Buyer” or “State” shall refer to the Government of the State of Maine or a person representing the Government of the State of Maine.
 - b. The term “Department” or “DAFS” shall refer to the State of Maine Department of Administrative and Financial Services.
 - c. The term “Bureau” or “BGS” shall refer to the State of Maine Bureau of General Services.
 - d. The term “Division” shall refer to the State of Maine Division of Purchases.
 - e. The term “Contractor”, “Vendor”, or “Provider” shall refer to the organization that is providing goods and/or services through the contract to which these standard terms and conditions have been attached and incorporated.
 - f. The term “Contract” or “Agreement” shall refer to the contract document to which these standard terms and conditions apply, taking the format of a Buyer Purchase Order (BPO) or Master Agreement (MA) or other contractual document that is mutually agreed upon between the State and the Contractor.

- 2. WARRANTY:** The Contractor warrants the following:
 - a. That all goods and services to be supplied by it under this Contract are fit and sufficient for the purpose intended, and
 - b. That all goods and services covered by this Contract will conform to the specifications, drawing samples, symbols or other description specified by the Division, and
 - c. That such articles are merchantable, good quality, and free from defects whether patent or latent in material and workmanship, and
 - d. That all workmanship, materials, and articles to be provided are of the best grade and quality, and
 - e. That it has good and clear title to all articles to be supplied by it and the same are free and clear from all liens, encumbrances and security interest.

Neither the final certificate of payment nor any provision herein, nor partial nor entire use of the articles provided shall constitute an acceptance of work not done in accordance with this agreement or relieve the Contractor liability in respect of any warranties or responsibility for faulty material or workmanship. The Contractor shall remedy any defects in the work and pay any damage to other work resulting therefrom, which shall appear within one year from the date of final acceptance of the work provided hereunder. The Division of Purchases shall give written notice of observed defects with reasonable promptness.

3. TAXES: Contractor agrees that, unless otherwise indicated in the order, the prices herein do not include federal, state, or local sales or use tax from which an exemption is available for purposes of this order. Contractor agrees to accept and use tax exemption certificates when supplied by the Division as applicable. In case it shall ever be determined that any tax included in the prices herein was not required to be paid by Contractor, Contractor agrees to notify the Division and to make prompt application for the refund thereof, to take all proper steps to procure the same and when received to pay the same to the Division.

4. PACKING AND SHIPMENT: Deliveries shall be made as specified without charge for boxing, carting, or storage, unless otherwise specified. Articles shall be suitably packed to secure lowest transportation cost and to conform to the requirements of common carriers and any

applicable specifications. Order numbers and symbols must be plainly marked on all invoices, packages, bills of lading, and shipping orders. Bill of lading should accompany each invoice. Count or weight shall be final and conclusive on shipments not accompanied by packing lists.

5. DELIVERY: Delivery should be strictly in accordance with delivery schedule. If Contractor's deliveries fail to meet such schedule, the Division, without limiting its other remedies, may direct expedited routing and the difference between the expedited routing and the order routing costs shall be paid by the Contractor. Articles fabricated beyond the Division's releases are at Contractor's risk. Contractor shall not make material commitments or production arrangements in excess of the amount or in advance of the time necessary to meet delivery schedule, and, unless otherwise specified herein, no deliveries shall be made in advance of the Division's delivery schedule. Neither party shall be liable for excess costs of deliveries or defaults due to the causes beyond its control and without its fault or negligence, provided, however, that when the Contractor has reason to believe that the deliveries will not be made as scheduled, written notice setting forth the cause of the anticipated delay will be given immediately to the Division. If the Contractor's delay or default is caused by the delay or default of a subcontractor, such delay or default shall be excusable only if it arose out of causes beyond the control of both Contractor and subcontractor and without fault of negligence or either of them and the articles or services to be furnished were not obtainable from other sources in sufficient time to permit Contractor to meet the required delivery schedule.

6. FORCE MAJEURE: The State may, at its discretion, excuse the performance of an obligation by a party under this Agreement in the event that performance of that obligation by that party is prevented by an act of God, act of war, riot, fire, explosion, flood or other catastrophe, sabotage, severe shortage of fuel, power or raw materials, change in law, court order, national defense requirement, or strike or labor dispute, provided that any such event and the delay caused thereby is beyond the control of, and could not reasonably be avoided by, that party. The State may, at its discretion, extend the time period for performance of the obligation excused under this section by the period of the excused delay together with a reasonable period to reinstate compliance with the terms of this Agreement.

7. INSPECTION: All articles and work will be subject to final inspection and approval after delivery, notwithstanding prior payment, it being expressly agreed that payment will not constitute final acceptance. The Division of Purchases, at its option, may either reject any article or work not in conformity with the requirements and terms of this order, or re-work the same at Contractor's expense. The Division may reject the entire shipment where it consists of a quantity of similar articles and sample inspection discloses that ten (10%) percent of the articles inspected are defective, unless Contractor agrees to reimburse the Division for the cost of a complete inspection of the articles included in such shipment. Rejected material may be returned at Contractor's risk and expense at the full invoice price plus applicable incoming transportation charges, if any. No replacement of defective articles of work shall be made unless specified by the Division.

8. INVOICE: The original and duplicate invoices covering each and every shipment made against this order showing Contract number, Vendor number, and other essential particulars, must be forwarded promptly to the ordering agency concerned by the Vendor to whom the order is issued. Delays in receiving invoice and also errors and omissions on statements will be considered just cause for withholding settlement without losing discount privileges. All accounts are to be carried in the name of the agency or institution receiving the goods, and not in the name of the Division of Purchases.

9. ALTERATIONS: The Division reserves the right to increase or decrease all or any portion of the work and the articles required by the bidding documents or this agreement, or to eliminate all or any portion of such work or articles or to change delivery date hereon without invalidating this Agreement. All such alterations shall be in writing. If any such alterations are made, the contract amount or amounts shall be adjusted accordingly. In no event shall Contractor fail or refuse to continue the performance of the work in providing of articles under this Agreement because of the inability of the parties to agree on an adjustment or adjustments.

10. TERMINATION: The Division may terminate the whole or any part of this Agreement in any one of the following circumstances:

- a. The Contractor fails to make delivery of articles, or to perform services within the time or times specified herein, or
- b. If Contractor fails to deliver specified materials or services, or
- c. If Contractor fails to perform any of the provisions of this Agreement, or
- d. If Contractor so fails to make progress as to endanger the performance of this Agreement in accordance with its terms, or
- e. If Contractor is adjudged bankrupt, or if it makes a general assignment for the benefit of its creditors or if a receiver is appointed because of its insolvency, or
- f. Whenever for any reason the State shall determine that such termination is in the best interest of the State to do so.

In the event that the Division terminates this Agreement in whole or in part, pursuant to this paragraph with the exception of 8(f), the Division may procure (articles and services similar to those so terminated) upon such terms and in such manner as the Division deems appropriate, and Contractor shall be liable to the Division for any excess cost of such similar articles or services.

11. NON-APPROPRIATION: Notwithstanding any other provision of this Agreement, if the State does not receive sufficient funds to fund this Agreement and other obligations of the State, if funds are de-appropriated, or if the State does not receive legal authority to expend funds from the Maine State Legislature or Maine courts, then the State is not obligated to make payment under this Agreement.

12. COMPLIANCE WITH APPLICABLE LAWS: Contractor agrees that, in the performance hereof, it will comply with applicable laws, including, but not limited to statutes, rules, regulations or orders of the United States Government or of any state or political subdivision(s) thereof, and the same shall be deemed incorporated herein by reference. Awarding agency requirements and regulations pertaining to copyrights and rights in data. Access by the grantee, the subgrantee, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers and records of the Contractor which are directly pertinent to that specific contract for the purpose of making audit, examination, excerpts, and transcriptions. Retention of all required records for three years after grantees or subgrantees make final payments and all other pending matters are closed. Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h), section 508 of the Clean Water Act, (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15). (Contracts, subcontracts, and subgrants of amounts in excess of \$100,000). Mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with Energy Policy and Conservation Act (Pub. L. 94-163, 89 Stat. 871).

13. INTERPRETATION: This Agreement shall be governed by the laws of the State of Maine as to interpretation and performance.

14. DISPUTES: The Division will decide any and all questions which may arise as to the quality and acceptability of articles provided and installation of such articles, and as to the manner of performance and rate of progress under this Contract. The Division will decide all questions, which may arise as to the interpretation of the terms of this Agreement and the fulfillment of this Agreement on the part of the Contractor.

15. ASSIGNMENT: None of the sums due or to become due nor any of the work to be performed under this order shall be assigned nor shall Contractor subcontract for completed or substantially completed articles called for by this order without the Division's prior written consent. No subcontract or transfer of agreement shall in any case release the Contractor of its obligations and liabilities under this Agreement.

16. STATE HELD HARMLESS: The Contractor agrees to indemnify, defend, and save harmless the State, its officers, agents, and employees from any and all claims and losses accruing or resulting to any and all contractors, subcontractors, material men, laborers and other persons, firm or corporation furnishing or supplying work, services, articles, or supplies in connection with the performance of this Agreement, and from any and all claims and losses accruing or resulting to any person, firm or corporation who may be injured or damaged by the Contractor in the performance of this Agreement.

17. SOLICITATION: The Contractor warrants that it has not employed or written any company or person, other than a bona fide employee working solely for the Contractor to solicit or secure this Agreement, and it has not paid, or agreed to pay any company, or person, other than a bona fide employee working solely for the Contractor any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon, or resulting from the award for making this Agreement. For breach or violation of this warranty, the Division shall have the absolute right to annul this agreement or, in its discretion, to deduct from the Agreement price or consideration, or otherwise recover the full amount of such fee, commission, percentage, brokerage fee, gifts, or contingent fee.

18. WAIVER: The failure of the Division to insist, in any one or more instances, upon the performance of any of the terms, covenants, or conditions of this order or to exercise any right hereunder, shall not be construed as a waiver or relinquishment of the future performance of any such term, covenant, or condition or the future exercise of such right, but the obligation of Contractor with respect to such future performance shall continue in full force and effect.

19. MATERIAL SAFETY: All manufacturers, importers, suppliers, or distributors of hazardous chemicals doing business in this State must provide a copy of the current Material Safety Data Sheet (MSDS) for any hazardous chemical to their direct purchasers of that chemical.

20. COMPETITION: By accepting this Contract, Contractor agrees that no collusion or other restraint of free competitive bidding, either directly or indirectly, has occurred in connection with this award by the Division of Purchases.

21. INTEGRATION: All terms of this Contract are to be interpreted in such a way as to be consistent at all times with this Standard Terms and Conditions document, and this document shall take precedence over any other terms, conditions, or provisions incorporated into the Contract.

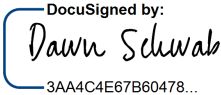
**STATE OF MAINE
DEPARTMENT OF ADMINISTRATIVE AND FINANCIAL SERVICES
DIVISION OF PROCUREMENT SERVICES**

BID COVER PAGE

Bidder's Organization Name: Greenhill Supply LLC		
Chief Executive - Name/Title: Dawn Schwab		
Tel: 215-455-5110	Fax: 215-455-5120	E-mail: sales@greenhillsupply.com
Headquarters Street Address: PO Box 46926		
Headquarters City/State/Zip: Philadelphia, PA 19160		

By signing below Bidder affirms:

- Their bid complies with all requirements of this RFQ;
- This bid and the pricing structure contained herein will remain firm for a period of 180 days from the date and time of the bid opening;
- That no personnel currently employed by the Department or any other State agency participated, either directly or indirectly, in any activities relating to the preparation of the Bidder's proposal;
- That no attempt has been made or will be made by the Bidder to induce any other person or firm to submit or not to submit a proposal; and
- The undersigned is authorized to enter into contractual obligations on behalf of the above-named organization.

Name: Dawn Schwab	Title: Owner
Authorized Signature:  Dawn Schwab <small>3AA4C4E67B60478...</small>	Date: 9/23/2020

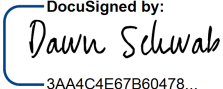
Debarment, Performance, and Non-Collusion Certification

By signing this document, I certify to the best of my knowledge and belief that the aforementioned organization, its principals, and any subcontractors named in this proposal:

- a. Are not presently debarred, suspended, proposed for debarment, and declared ineligible or voluntarily excluded from bidding or working on contracts issued by any governmental agency.*
 - b. Have not within three years of submitting the proposal for this contract been convicted of or had a civil judgment rendered against them for:

 - i. fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government transaction or contract.*
 - ii. violating Federal or State antitrust statutes or committing embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;*
 - iii. are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or Local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and*
 - iv. have not within a three (3) year period preceding this proposal had one or more federal, state or local government transactions terminated for cause or default.**
 - c. Have not entered into a prior understanding, agreement, or connection with any corporation, firm, or person submitting a response for the same materials, supplies, equipment, or services and this proposal is in all respects fair and without collusion or fraud. The above-mentioned entities understand and agree that collusive bidding is a violation of state and federal law and can result in fines, prison sentences, and civil damage awards.*
- Failure to provide this certification may result in the disqualification of the Bidder's proposal, at the discretion of the Department.**

To the best of my knowledge all information provided in the enclosed proposal, both programmatic and financial, is complete and accurate at the time of submission.

Name: Dawn Schwab	Title: Owner
Authorized Signature:  <small>3AA4C4E67B60478...</small>	Date: 9/23/2020

SUPPLIER PART NUMBER	SUPPLIER NAME	ITEM DESCRIPTION	EXTENDED DESCRIPTION	UNIT OF MEASURE	LIST PRICE	DELIVERY DAYS
4753040	Greenhill Supply, LLC	Sand Blasting Sand, GARNET, 30/40 Intermediate Coarse	55 lb bags - Pallet price per bag, 40/bags a pallet	Bag	\$18.70	30
GX1	Greenhill Supply, LLC	Sand Blasting Sand, GARNET, 30/60 Med Coarse, Most Used	MOST USED BY DOT 55 lb bags - Pallet price per bag, 40/bags a pallet	Bag	\$18.70	30



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SAFETY DATA SHEET

Date of Issuance: May 31, 2017

SECTION I - IDENTIFICATION OF MATERIAL AND SUPPLIER

Date of Issuance: May 31, 2017

Product Name: **GMAX GXI Garnet™**

Synonyms: Almandine Garnet, Garnet Sand

Relevant Use(s): Industrial Abrasives

Recommended Use: Industrial Abrasive Media, Blast Cleaning, Waterjet Cutting, Water Filtration Media

Supplier: Garnet USA, LLC

Address: 16 Garnet USA Loop
Alder, Montana 59710

Telephone: (406) 842-7829

Fax Number: (406) 842-7698

E-Mail: ghildebrand@gmaamericas.com

Emergency Telephone Number: (406) 842-7829; (832) 243-9300; (208) 761-5121;
24 hours: (208) 761-5121





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SECTION 2 - HAZARDS IDENTIFICATION

United States (U.S.)

According to OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture:

OSHA HCS 2012 Carcinogenicity 1A - H350

Label elements:

OSHA HCS 2012

Danger



Hazard statements:

Prolonged inhalation exposure may cause cancer. - H350

Precautionary Statements:

Prevention

Obtain special instructions before use - P201

Do not handle until all safety precautions have been read and understood. - P202

Response

If exposed or concerned: Get medical advice/attention. - P308+P313

Disposal

Store locked up. - P405

Dispose of content and/or container in accordance with local, regional, national, and/or International regulations - P501

OTHER HAZARDS

OSHA HCS 2012

Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

CLP

According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.

DSD/DPD

According to European Directive 1999/45/EC this material is not considered dangerous.

If the crystalline silica (fine fraction) content in mixtures and substances is below 0.1 %, no classification is required.





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SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

This material is a natural mixture of almandine garnet and other trace minerals.

Chemical Name	Common Name	CAS Number	Proportion (weight %)
$(\text{Fe,Ca})_3\text{Al}_2(\text{SiO}_4)_3$	Garnet *	1302-62-1	Greater than 95%
FeTiO_3	Ilmenite	103170-28-1	Less than 2.0%
SiO_2	Quartz (Crystalline Silica)	14808-60-7	Less than 0.5%
CaCO_3	Calcium Carbonate	471-34-1	Less than 0.5 %
ZrSiO_4	Zircon	149040-68-2	Less than 0.1 %
$\text{Ca}_2(\text{Mg,Fe,Al})_5(\text{Al,Si})_8\text{O}_{22}(\text{OH})_2$	Hornblende	1178-42-6	Less than 5 %

* Predominantly almandine Garnet along with minor amounts of Grossular Garnet

SECTION 4 - FIRST AID MEASURES

Description of first aid measures:

- Ingestion:** May cause abdominal discomfort due to abrasiveness; get medical attention if symptoms develop.
- Eye contact:** In case of eye contact, immediately flush eyes with running water with plenty of clean water for at least 20. If eye irritation persists; seek medical advice/attention.
- Skin contact:** There are no known health effects from skin contact that may occur during normal handling. Contact with material under pressure will damage skin by abrasion. Clean and dress any open wound and seek medical advice/attention.
- Inhalation:** IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. If breathing difficulties persist, seek medical attention immediately.

Most important symptoms and effects, both acute and delayed:

Refer to Section 11 - Toxicological Information.

Indication of immediate medical attention and special treatment needed, if necessary:

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.



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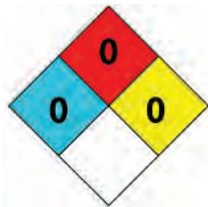
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SECTION 5 - FIRE FIGHTING MEASURES

This product is non-flammable and does not support combustion.

- | | | |
|----|---|---|
| a) | Extinguishing media: | Non-flammable. Use media suitable for the surrounding materials. |
| b) | Specific hazards arising from the chemical: | None known. |
| c) | Special protective equipment and precautions: | No specific procedures given. Use protective equipment and precautions suitable for surrounding fire. |

NFPA



SECTION 6 - ACCIDENTAL RELEASE MEASURES

- (a) **Personal precautions, protective equipment and emergency procedures:**
Do not walk through spilled material. Wear appropriate Personal Protective Equipment (PPE)
- (b) **Environmental Precautions:**
This material should not be dumped in nature but collected and disposed of in accordance with local, state or federal guidelines. Avoid run off to waterways and sewers.
- (c) **Methods and materials for containment and cleaning up:**
Avoid generating unnecessary dust. Sweep or vacuum up material for disposal or recovery.

SECTION 7 - HANDLING AND STORAGE

- (a) **Precautions for safe handling:**
No special precautions necessary for normal handling of the material. Use only with adequate ventilation. Wear appropriate personal protective equipment.
- (b) **Conditions of safe storage, including any incompatibilities:**
No special precautions necessary for normal storage of the material. Keep container/package tightly closed and in a well-ventilated place. Practice good housekeeping practices to keep nuisance dust to a minimum.



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SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

(a) **Control Parameters/Exposure Standards:**

OELs (respirable fraction) in air for dust containing crystalline silica (quartz).

Standard	Exposure Limits
ACGIH TLV** (8-Hour Time-Weighted Average)	0.025 mg/m ³
NIOSH REL** (10-Hour Time-Weighted Average, 40-hour work week)	0.05 mg/m ³
MSHA/OSHA PEL* (8-Hour Time-Weighted Average)	10 mg/m ³ / (% SiO ₂ +2)
AIOH	0.1 mg/m ³
OHS	0.025 mg/m ³

* Crystalline silica is normally measured as respirable dust. The OSHA/MSHA standard also presents a formula for calculation of the PEL based on total dust: 30 mg/m³ / (% SiO₂ +2). The OSHA/MSHA PEL for dust containing crystalline silica (quartz) is based on the silica content of the respirable dust sample. The OSHA/MSHA PEL for crystalline silica as tridymite and cristobalite is one-half the PEL for crystalline silica (quartz).

** The ACGIH and NIOSH limits are for crystalline silica (quartz), independent of the dust concentration. The ACGIH TLV for crystalline silica as cristobalite is equal to the TLV for crystalline silica as quartz. In 2005, ACGIH withdrew the TLV for crystalline silica as tridymite.

OELs in air for inert/nuisance dust

Standard	Respirable Dust	Total Dust
MSHA/OSHA PEL (as Inert or Nuisance Dust)	5 mg/m ³	15 mg/m ³
ACGIH TLV (as Particles Not Otherwise Specified)	3 mg/m ³	*10 mg/m ³

Note: The limits for Inert Dust are provided as guidelines. Nuisance dust is limited to particulates not known to cause systemic injury or illness. * The TLV provided is for inhalable particles not otherwise specified.

California/OSHA's Permissible Exposure Levels over an 8-hour average basis.

Respirable crystalline silica (quartz, fused, tripoli), 0.1 mg/m³ - 0.1 milligrams of Silica in 1 cubic meter of air.

Total crystalline silica (quartz), 0.3 mg/m³, Respirable cristobalite and tridymite, 0.05 mg/m³.

Canadian OEL:

Canada Labor Code (Canadian Centre Occupational Health & Safety [OHS]): 0.025 mg/m³ (respirable)

Alberta, British Columbia: 0.025 mg/m³ (respirable quartz and cristobalite)

Saskatchewan: 0.05 mg/m³ (respirable, cristobalite); 0.05 mg/m³ (respirable, quartz); 0.1 mg/m³ (respirable, Tripoli, as quartz)

Manitoba, Newfoundland, Prince Edward Island: 0.025 mg/m³ (respirable, crystalline silica)

Ontario: 0.05 mg/m³ (respirable cristobalite); 0.1 mg/m³ (quartz, tripoli)

Quebec: 0.05 mg/m³ (respirable, cristobalite, tridymite); 0.1 mg/m³ (quartz, tripoli)

New Brunswick: 0.1 mg/m³ (quartz); 0.05 mg/m³ (cristobalite)

Nova Scotia: 0.025 mg/m³ (quartz, cristobalite)





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Yukon: 300 particles/ml measured with a konimeter (quartz, and tripoli); 150 particles/ML measured with a konimeter (cristobalite and tridymite)

Northwest Territories, Nunavut: 0.05 mg/m³ (respirable, cristobalite, tridymite); 0.1 mg/m³ (respirable)

Austria OEL: - Maximum allowable concentration 0.15 mg/m³

Australia: (AIOH) (OEL) – 0.1 mg/m³

Mexico: 0.1 mg/m³ (quartz, tripoli containing respirable quartz powder, inhalable), 0.05 mg/m³ (cristobalite, tridymite inhalable)
(Also refer to ACGIH)

Argentina: 0.05 mg/m³ (quartz, cristobalite, tridymite respirable) 0.1 mg/m³ (tripoli, respirable)

United Kingdom OEL: 0.1 mg/m³ (quartz, cristobalite, tridymite)

Japan OEL: Japan Society of Occupational Health Respirable crystalline silica 0.03 mg/m³

Poland OEL TWA: 2 mg/m³ (total inhalable dust, containing >50% free crystalline silica);
0.3 mg/ mg/m³ m³ (respirable dust, containing >50% free crystalline silica);
4.0 mg/m³ (total inhalable dust, containing 2% to 50% free crystalline silica);
1.0 mg/m³ (respirable dust, containing 2% to 50% free crystalline silica); and
10.0 mg/m³ (total inhalable dust, containing < 2% free crystalline silica)

If your Country or Territory is not listed, stricter regulations (ACGIH) apply where the materials are being used.

Key to abbreviations

PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)
ACGIH = American Conference of Governmental Industrial Hygiene
AIOH = Australian Institute of Occupational Hygienists
OSHA = Occupational Safety and Health Administration
NIOSH = National Institute of Occupational Safety and Health
TLV = Threshold Limit Value determined by the American Conference of Governmental Industrial Hygienists (ACGIH)
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

(b) Engineering Measures and Controls:

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable use process enclosures, exhaust ventilation or dust collectors to maintain airborne levels below recommended exposure limits. Operate and maintain dust collectors per manufacture recommendations.

(c) Personal Protective Equipment:

For limited exposure use an N95 dust mask or equivalent. For prolonged exposure follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

Wear safety glasses

Wear protective clothing and gloves

Follow local, state or federal guidelines for the use of personal protection equipment. Blast cleaning operations should use an air fed abrasive blast hood conforming to relevant standards such as Australian Standards 1715, 1716 and European Standard EN14594:2005 such as a Nova 2000, as well as leather (or equivalent) gloves and apron when in use. Hearing protection should also be worn when blast cleaning.

Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.



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SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

(a)	Appearance	: Pink to red colored free flowing sand
(b)	Odor	: Odorless
(c)	Odor threshold	: Not applicable
(d)	pH	: 8.0
(e)	Melting point	: Approximately 1250°C (2282°F)
(f)	Flash point	: Non-combustible
(g)	Evaporation rate	: Not applicable
(h)	Flammability (solid, gas)	: Non-flammable
(i)	Upper/lower flammability or explosive limits	: Non-combustible
(j)	Vapor pressure	: Not applicable
(k)	Vapor density	: Not applicable
(l)	Specific gravity	: 4.1
(m)	Solubility	: Insoluble
(n)	Hardness	: 7.5 – 8.0 Mohs
(o)	Particle size	: Average range between 0.1 – 0.7mm (150 mesh – 25 mesh), depending on grade
(p)	Particle shape	: Sub-angular to Angular
(q)	Bulk density	: Approximately 2.3 t/m ³ (145 lbs/ft ³)
(r)	Volatile organic compounds content	: Below detectable limits
(s)	Partition coefficient: n-octanol/water	: Not applicable
(t)	Auto-ignition temperature	: Not applicable
(i)	Decomposition temperature	: Not applicable
(v)	Viscosity	: Not applicable

SECTION 10 - STABILITY REACTIVITY

(a)	Reactivity	: Inert solid, no dangerous reaction known under conditions of normal use
(b)	Chemical stability	: Stable
(c)	Possibility of hazardous reactions	: None known
(d)	Conditions to avoid	: None known
(e)	Incompatible materials	: None known
(f)	Hazardous decomposition products	: None known



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SECTION II - TOXICOLOGICAL INFORMATION

Information on toxicological effects

Crystalline Silica (SiO ₂)	14808 - 60 -7	Acute Toxicity: Inhalation-Human TCLo • 16 mppcf 8 Hour(s) 17.9 Year(s)- Intermittent; <i>Lungs, Thorax, or Respiration:</i> Fibrosis, focal (pneumoconiosis); <i>Lungs, Thorax, or Respiration:</i> Cough; <i>Lungs, Thorax, or Respiration:</i> Dyspnea; Inhalation-Rat TCLo • 200 mg/kg; <i>Lungs, Thorax, or Respiration:</i> Fibrosis, focal (pneumoconiosis); <i>Lungs, Thorax, or Respiration.</i>
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GHS Properties	Classification
Acute Toxicity	EU/CLP• Data lacking OSHA HCS 2012•Data lacking
Aspiration Hazard	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Carcinogenicity	EU/CLP•Data lacking OSHA HCS 2012•Carcinogenicity 1A
Germ Cell Mutagenicity	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Skin Corrosion/Irritation	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Skin Sensitization	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
STOT-RE	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
STOT-SE	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Toxicity for Reproduction	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Respiratory Sensitization	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Serious Eye Damage/Irritation	EU/CLP•Data lacking OSHA HCS 2012•Data lacking

Potential Health Effects

Inhalation

Acute

(Immediate) Exposure to dust may cause irritation.

Chronic

(Delayed) Inhalation of respirable dusts containing crystalline silica may cause lung injury or disease silicosis and/or cancer.

Skin

Acute

(Immediate) May cause abrasions.

Chronic

(Delayed) No data available



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Eye

Acute

(Immediate) Exposure to dust may cause irritation.

Chronic

(Delayed) No data available

Ingestion

Acute

(Immediate) No known effects, however ingestion not recommended.

Chronic

(Delayed) No data available

Carcinogenic

Effects

This product contains crystalline silica and/or quartz. IARC Monographs on Evaluation of Carcinogenic Risk of Chemicals to Humans (Monograph 68, 1997) concludes that there is sufficient evidence for the carcinogenicity of crystalline silica to humans (IARC Group I). Crystalline Silica is classified as a Known Carcinogen according to NTP.

Carcinogenic Effects			
	CAS	IARC	NTP
Crystalline Silica (SiO ₂)	14808-60-7	Group 1-Carcinogenic	Known Human Carcinogen

SECTION 12 - ECOLOGICAL INFORMATION

This material is a naturally occurring mineral with no known Eco-Toxicity. It is insoluble in water and unlikely to contaminate waterways or food chains. GMA garnet does not contain rubber or plastic materials.

Independent laboratory Toxicity Characteristic Leaching Procedure (TCLP) testing for leachates has shown that this material is not a hazardous or toxic substance.

- (a) Persistence and degradability : Data Lacking
- (b) Bioaccumulative potential : Data Lacking
- (c) Mobility in soil : Data Lacking
- (d) Other adverse effects : None known.

SECTION 13 - DISPOSAL CONSIDERATIONS

- (a) Disposal methods: Dispose of content and packaging waste in accordance with local, state, or federal guidelines for disposal of inert solid waste, e.g. landfill disposal.

MATERIAL CONTAMINATED OR REDUCED TO DUST IN USE MAY NEED SPECIAL HANDLING AND DISPOSAL. IT IS THE RESPONSIBILITY OF THE USER TO UNDERTAKE ANY EVALUATION, CLASSIFICATION AND DISPOSAL OF MATERIAL AFTER USE.



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SECTION 14 - TRANSPORT INFORMATION

No special precautions necessary. It is recommended to keep bags closed and dry bulk loads covered to prevent dust generation and moisture incursion.

- a) UN number : None allocated.
- b) UN proper shipping name: : Not classified for transportation.
- c) Transport hazard class(es) : Not classed as Dangerous under the ADG Code.
- d) Packing group : Not classified for transportation.
- e) Environmental hazards : Not classified as a marine pollutant. Does not meet the criteria of 2.9.3.3.1 “environmentally hazardous substances (aquatic environment)”.
- f) Special precautions for user : None necessary. It is recommended to keep bags closed and dry bulk loads covered to prevent dust generation and moisture incursion.
- g) Hazchem code : None allocated.
- h) Harmonized System code : 251320

SECTION 15 - REGULATORY INFORMATION

- (a) Safety, health and environmental regulations/ legislation specific for the substance mixture:

GMA Garnet™ is exempt from the obligation to register under REACH legislation (EC 1907/2006) Annex V 7.

This product is an inorganic substance and does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH.

No known additional regulations for this product.

SECTION 16 - OTHER INFORMATION

This SDS has been prepared by GMA Garnet USA Corporation and complies with the Safe Work Australia Code of Practice on the *Preparation of Safety Data Sheets for Hazardous Chemicals December 2011* and follows the Globally Harmonized System of Classification and Labeling of Chemicals (the GHS).

As per Worksafe Guidance Note NOHSC 3017, each user should review the information in the specific context of the intended application.

Disclaimer: The information in this SDS was obtained from sources that are believed to be reliable; however, the information is provided without any representation or warranty, express or implied, regarding its accuracy or correctness. The conditions or methods of handling, storage, use, and disposal of this product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of, or in any way connected with, the handling, storage, use or disposal of this product.





Safety Data Sheet

GMA 30/40 Mesh

Date of issue: August 2018

SECTION 1 – IDENTIFICATION OF MATERIAL AND SUPPLIER

Product Name:	GMA 30/40 Mesh
Synonyms:	Garnet, Almandine Garnet, Alluvial Garnet, Crushed Garnet
Relevant Use (s):	Industrial Abrasives
Recommended Use:	Industrial Abrasive Media, Blast Cleaning, Waterjet Cutting, Water filtration Media
Supplier:	GMA Garnet (USA) Corp.
Address:	Corporate – 1800 Hughes Landing, Suite 350, Woodlands, TX 77380 Production Plant – 25 Middle Drive, Keystone Industrial Port Complex (KIPC), Fairless Hills, PA 19030
Telephone:	+1 (832) 243 9300
Fax Number:	+1 (832) 243 9301
General inquiries:	Info.us@gmagarnet.com
E-Mail:	Greg.hildebrand@gmagarnet.com
Emergency Telephone Number:	+1 (832) 243 9300 24 hours: +1 (208) 761 5121

SECTION 2 - HAZARDS IDENTIFICATION

United States (U.S.)

According to OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture:

HCS2012 Carcinogenicity 1A - H350

Label Elements:

OSHA HCS 2012



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Hazard statements:

None required.

Precautionary Statements:

None required.

OTHER HAZARDS

OSHAHCS2012 Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this material is not considered hazardous.

CLP According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.

DSD/DPD According to European Directive 1999/45/EC this material is not considered dangerous.

If the crystalline silica (fine fraction) content in mixtures and substances is below 0.1 %, no classification is required.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

This material is a natural mixture of almandine garnet and other trace minerals.

Chemical Identity	Common Name	CAS Number	Proportion (weight %)
$(\text{Fe,Ca})_3\text{Al}_2(\text{SiO}_4)_3$	Garnet	1302-62-1	93%
FeTiO_3	Ilmenite	103170-28-1	2%
SiO_2	Quartz (Crystalline Silica)	14808-60-7	< 0.1%
ZrSiO_4	Zircon	149040-68-2	0.6%

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SECTION 4 – FIRST AID MEASURES

Description of first aid measures:

- Ingestion:** May cause abdominal discomfort due to abrasiveness; get medical attention if symptoms develop.
- Eye contact:** In case of eye contact, immediately flush eyes with running water with plenty of clean water for at least 20. If eye irritation persists; seek medical advice/attention.
- Skin contact:** There are no known health effects from skin contact that may occur during normal handling. Contact with material under pressure will damage skin by abrasion. Clean and dress any open wound and seek medical advice/attention.
- Inhalation:** IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. If breathing difficulties persist, seek medical attention immediately.

Most important symptoms and effects, both acute and delayed: Refer to Section 11 - Toxicological Information.

Indication of immediate medical attention and special treatment needed, if necessary:

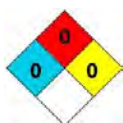
All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

SECTION 5 – FIRE FIGHTING MEASURES

This product is non-flammable and does not support combustion.

- | | |
|--|---|
| a) Extinguishing media: | Non-flammable. Use media suitable for the surrounding materials. |
| b) Specific hazards arising from the chemical: | None known. |
| c) Special protective equipment and precautions: | No specific procedures given. Use protective equipment and precautions suitable for surrounding fire. |

NFPA



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SECTION 6 – ACCIDENTAL RELEASE MEASURES

(a) Personal precautions, protective equipment and emergency procedures:

Do not walk through spilled material. Wear appropriate Personal Protective Equipment (PPE)

(b) Environmental Precautions:

This material should not be dumped in nature but collected and disposed of in accordance with local, state or federal guidelines. Avoid run off to waterways and sewers.

(c) Methods and materials for containment and cleaning up:

Avoid generating unnecessary dust. Sweep or vacuum up material for disposal or recovery.

SECTION 7 – HANDLING AND STORAGE

(a) Precautions for safe handling:

No special precautions necessary for normal handling of the material. Use only with adequate ventilation. Wear appropriate personal protective equipment.

(a) Conditions of safe storage, including any incompatibilities:

No special precautions necessary for normal storage of the material. Keep container/package tightly closed and in a well-ventilated place. Practice good housekeeping practiced to keep nuisance dust to a minimum.

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SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

(a) Control Parameters/Exposure Standards:

OELs (respirable fraction) in air for dust containing crystalline silica (quartz).

Standard	Exposure Limits
ACGIH TLV** (8-Hour Time-Weighted Average)	0.025 mg/m ³
NIOSH REL** (10-Hour Time-Weighted Average, 40-hour work week)	0.05 mg/m ³
MSHA/OSHA PEL* (8-Hour Time-Weighted Average)	10 mg/m ³ / (% SiO ₂ +2)
AIOH	0.1 mg/m ³
OHS	0.025 mg/m ³

* Crystalline silica is normally measured as respirable dust. The OSHA/MSHA standard also presents a formula for calculation of the PEL based on total dust: 30 mg/m³ / (% SiO₂ +2). The OSHA/MSHA PEL for dust containing crystalline silica (quartz) is based on the silica content of the respirable dust sample. The OSHA/MSHA PEL for crystalline silica as tridymite and cristobalite is one-half the PEL for crystalline silica (quartz).

** The ACGIH and NIOSH limits are for crystalline silica (quartz), independent of the dust concentration. The ACGIH TLV for crystalline silica as cristobalite is equal to the TLV for crystalline silica as quartz. In 2005, ACGIH withdrew the TLV for crystalline silica as tridymite. OELs in air for inert/nuisance dust.

Standard	Respirable Dust	Total Dust
MSHA/OSHA PEL (as Inert or Nuisance Dust)	5 mg/m ³	15 mg/m ³
ACGIH TLV (as Particles Not Otherwise Specified)	3 mg/m ³	*10 mg/m ³

Note: The limits for Inert Dust are provided as guidelines. Nuisance dust is limited to particulates not known to cause systemic injury or illness. * The TLV provided is for inhalable particles not otherwise specified.

California/OSHA's Permissible Exposure Levels over an 8-hour average basis.

Respirable crystalline silica (quartz, fused, tripoli), 0.1 mg/m³ - 0.1 milligrams of Silica in 1 cubic meter of air. Total crystalline silica (quartz), 0.3 mg/m³, Respirable cristobalite and tridymite, 0.05 mg/m³.

Canadian OEL:

Canada Labor Code (Canadian Centre Occupational Health & Safety [OHS]):0.025 mg/m³ (respirable) Alberta, British Columbia: 0.025 mg/m³ (respirable quartz and cristobalite)

Saskatchewan: 0.05 mg/m³ (respirable, cristobalite); 0.05 mg/m³ (respirable, quartz); 0.1 mg/m³ (respirable, Tripoli, as quartz)

Manitoba, Newfoundland, Prince Edward Island: 0.025 mg/m³ (respirable, crystalline silica)

Ontario: 0.05 mg/m³ (respirable cristobalite); 0.1 mg/m³ (quartz, tripoli)



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Quebec: 0.05 mg/m³ (respirable, cristobalite, tridymite); 0.1 mg/m³ (quartz, tripoli) New Brunswick: 0.1 mg/m³ (quartz); 0.05 mg/m³ (cristobalite)

Nova Scotia: 0.025 mg/m³ (quartz, cristobalite)

Yukon: 300 particles/ml measured with a konimeter (quartz, and tripoli); 150 particles/ML measured with a konimeter (cristobalite and tridymite)

Northwest Territories, Nunavut: 0.05 mg/m³ (respirable, cristobalite, tridymite); 0.1 mg/m³ (respirable) Austria OEL: - Maximum allowable concentration 0.15 mg/m³

Australia: (AIOH) (OEL) – 0.1 mg/m³

Mexico: 0.1 mg/m³ (quartz, tripoli containing respirable quartz powder, inhalable), 0.05 mg/m³ (cristobalite, tridymite inhalable) (Also refer to ACGIH)

Argentina: 0.05 mg/m³ (quartz, cristobalite, tridymite respirable) 0.1 mg/m³ (tripoli, respirable) United Kingdom OEL: 0.1 mg/m³ (quartz, cristobalite, tridymite)

Japan OEL: Japan Society of Occupational Health Respirable crystalline silica 0.03 mg/m³ Poland OEL TWA:

2 mg/m³ (total inhalable dust, containing >50% free crystalline silica);

0.3 mg/m³ (respirable dust, containing >50% free crystalline silica);

4.0 mg/m³ (total inhalable dust, containing 2% to 50% free crystalline silica);

1.0 mg/m³ (respirable dust, containing 2% to 50% free crystalline silica); and

10.0 mg/m³ (total inhalable dust, containing < 2% free crystalline silica)

If your Country or Territory is not listed, stricter regulations (ACGIH) apply where the materials are being used.

Key to abbreviations

PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)

ACGIH = American Conference of Governmental Industrial Hygiene

AIOH = Australian Institute of Occupational Hygienists

OSHA = Occupational Safety and Health Administration

NIOSH = National Institute of Occupational Safety and Health

TLV = Threshold Limit Value determined by the American Conference of Governmental Industrial Hygienists (ACGIH)

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

(b) Engineering Measures and Controls:

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable use process enclosures, exhaust ventilation or dust collectors to maintain airborne levels below recommended exposure limits. Operate and maintain dust collectors per manufacture recommendations.

(c) Personal Protective Equipment:

For limited exposure use an N95 dust mask or equivalent. For prolonged exposure follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

Wear safety glasses

Wear protective clothing and gloves

Follow local, state or federal guidelines for the use of personal protection equipment. Blast cleaning operations should use an air fed blast hood conforming to the required OSHA or NIOSH standards, as well as leather (or equivalent) gloves and apron when in use. Hearing protection should also be worn when blast cleaning.

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Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

(a)	Appearance	: Pink to red colored free flowing sand
(b)	Odor:	: Odorless
(c)	Odor threshold	: Not applicable
(d)	pH	: 8.0
(e)	Melting point	: Approximately 1250°C (2282°F)
(f)	Flash point	: Non-combustible
(g)	Evaporation rate	: Not applicable
(h)	Flammability (solid, gas)	: Non-flammable
(i)	Upper/lower flammability or explosive limits	: Non-combustible
(j)	Vapor pressure	: Not applicable
(k)	Vapor density	: Not applicable
(l)	Specific gravity	: 4.1
(m)	Solubility	: Insoluble
(n)	Radioactivity	: Not detectable above background levels.
(o)	Hardness	: 7.5 – 8.0 Mohs
(p)	Particle size	: Average range between 0.212 – 0.5 mm (70 mesh – 35 mesh), depending on grade
(q)	Particle shape	: Sub-angular
(r)	Source	: Alluvial garnet
(s)	Bulk density	: Approximately 2.5 t/m ³ (156 lbs/ft ³)
(t)	Volatile organic compounds content	: Below detectable limits
(u)	Partition coefficient: n-octanol/water	: Not applicable
(v)	Auto-ignition temperature	: Not applicable
(w)	Decomposition temperature	: Not applicable
(x)	Viscosity	: Not applicable

SECTION 10 – STABILITY AND REACTIVITY

(a)	Reactivity	: Inert solid, no dangerous reaction known under conditions of normal use
(b)	Chemical stability	: Stable
(c)	Possibility of hazardous reactions	: None known.
(d)	Conditions to avoid	: None known.
(e)	Incompatible materials	: None known.
(f)	Hazardous decomposition products	: None known.

Safety Data Sheet

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SECTION 11 – TOXICOLOGICAL INFORMATION

Information on toxicological effects

Crystalline Silica (SiO ₂)	14808 - 60 -7	Acute Toxicity: Inhalation-Human TClO • 16 mppcf 8 Hour(s) 17.9 Year(s)- Intermittent; <i>Lungs, Thorax, or Respiration: Fibrosis, focal (pneumoconiosis)</i> ; <i>Lungs, Thorax, or Respiration: Cough</i> ; <i>Lungs, Thorax, or Respiration: Dyspnea</i> ; Inhalation-Rat TClO • 200 mg/kg; <i>Lungs, Thorax, or Respiration: Fibrosis, focal (Pneumoconiosis)</i> ; <i>Lungs, Thorax, or Respiration.</i>
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GHS Properties	Classification
Acute Toxicity	EU/CLP• Data lacking OSHA HCS 2012•Data lacking
Aspiration Hazard	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Carcinogenicity	EU/CLP•Data lacking OSHA HCS 2012•Carcinogenicity 1A
Germ Cell Mutagenicity	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Skin Corrosion/Irritation	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Skin Sensitization	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
STOT-RE	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
STOT-SE	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Toxicity for Reproduction	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Respiratory Sensitization	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Serious Eye Damage/Irritation	EU/CLP•Data lacking OSHA HCS 2012•Data lacking

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Potential Health Effects

Inhalation

Acute

(Immediate) Exposure to dust may cause irritation.

Chronic

(Delayed) Inhalation of respirable dusts containing crystalline silica may cause lung injury or disease silicosis and/or cancer.

Skin Acute

(Immediate) May cause abrasions.

Chronic

(Delayed) No data available

Eye Acute

(Immediate) Exposure to dust may cause irritation.

Chronic

(Delayed) No data available

Ingestion Acute

(Immediate) No known effects, however ingestion not recommended.

Chronic

(Delayed) No data available

Carcinogenic Effects: This product contains crystalline silica and/or quartz. IARC Monographs on Evaluation of Carcinogenic Risk of Chemicals to Humans (Monograph 68, 1997) concludes that there is sufficient evidence for the carcinogenicity of crystalline silica to humans (IARC Group I). Crystalline Silica is classified as a Known Carcinogen according to NTP.

Carcinogenic Effects			
	CAS	IARC	NTP
Crystalline Silica (SiO ₂)	14808-60-7	Group 1-Carcinogenic	Known Human Carcinogen



Safety Data Sheet

GMA 30/40 Mesh

Date of issue: August 2018

SECTION 12 – ECOLOGICAL INFORMATION

This material is a naturally occurring mineral with no known Eco-Toxicity. It is insoluble in water and unlikely to contaminate waterways or food chains. GMA garnet does not contain rubber or plastic materials. Independent laboratory Toxicity Characteristic Leaching Procedure (TCLP) testing for leachates has shown that this material is not a hazardous or toxic substance

(a)	Persistence and degradability	: Data available
(b)	Bioaccumulative potential	: Data available
(c)	Mobility in soil	: Data available
(d)	Other adverse effects	: None known

SECTION 13 – DISPOSAL CONSIDERATIONS

Disposal methods: Dispose of content and packaging waste in accordance with local, state, or federal guidelines for disposal of inert solid waste, e.g. landfill disposal.

MATERIAL CONTAMINATED OR REDUCED TO DUST IN USE MAY NEED SPECIAL HANDLING AND DISPOSAL. IT IS THE RESPONSIBILITY OF THE USER TO UNDERTAKE ANY EVALUATION CLASSIFICATION AND DISPOSAL OF MATERIAL AFTER USE.

SECTION 14 – TRANSPORT INFORMATION

No special precautions necessary. It is recommended to keep bags closed and dry bulk loads covered to prevent dust generation and moisture incursion.

a)	UN number:	None allocated.
b)	UN proper shipping name:	Not classified for transportation.
c)	Transport hazard class(es):	Not classed as Dangerous under the ADG Code.
d)	Packing group:	Not classified for transportation.
e)	Environmental hazards:	Not classified as a marine pollutant. Does not meet the criteria of 2.9.3.3.1 “environmentally hazardous substances (aquatic environment)”.
f)	Special precautions for user:	None necessary. It is recommended to keep bags closed and dry bulk loads covered to prevent dust generation and moisture incursion.
g)	Hazchem code:	None allocated.
h)	Harmonized System code:	251320

Safety Data Sheet

GMA 30/40 Mesh

Date of issue: August 2018



SECTION 15 – REGULATORY INFORMATION

- (a) Safety, health and environmental regulations/ legislation specific for the substance mixture:

GMA Garnet™ is exempt from the obligation to register under REACH legislation (EC 1907/2006) Annex V 7.

This product is an inorganic substance and does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH.

No known additional regulations for this product.

SECTION 16 – OTHER INFORMATION

This SDS has been prepared by GMA Garnet USA Corporation and complies with the Safe Work Australia Code of Practice on the Preparation of Safety Data Sheets for Hazardous Chemicals December 2011 and follows the Globally Harmonized System of Classification and Labelling of Chemicals (the GHS).

As per Worksafe Guidance Note NOHSC 3017, each user should review the information in the specific context of the intended application.

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