



DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND
1333 ISAAC HULL AVE SE
WASHINGTON NAVY YARD DC 20376-0001

IN REPLY TO:

4123
Ser 05M3/2007-099
22 June 2007

New Age Fastening Systems
Attn: Paul J. Mellon, Jr.
2 Enterprise Court
Sewell, NJ 08080

Dear Mr. Melon:

Subj: QUALIFICATION OF NEW AGE BLAST MEDIA – MIL-A-22262B, AMD-2 – ABRASIVE
BLASTING MEDIA SHIP HULL, BLAST CLEANING

Based on satisfactory laboratory test results documented in Analytical Consulting Technology Report 2007020107-2, dated April 2007, **New Age Blast Media Coarse, Extra Course and Medium** crushed glass conforms with the requirements of MIL-A-22262B(SH), Amendment-2.

Based on toxicologic safety evaluations from Naval Environmental Health Center (NEHC), enclosure (1), the Navy feels that your product referenced above could be safely used for its intended purpose provided the toxicologic safety evaluation of crushed glass abrasive provided by NEHC, and safety precautions outlined in your Material Safety Data Sheet (MSDS) are strictly followed.

Qualification is hereby granted to your **New Age Blast Media Coarse, Extra Course and Medium** to be manufactured at your plant located at 2 Enterprise Court, Sewell, NJ 08080 (CAGE/4JRZ7). Qualification is granted to your product subject to the conditions printed on the reverse side of this page. Your product will appear in the electronic QPL-22262 as follows:

GOVERNMENT DESIGNATION	MANUFACTURER'S DESIGNATION	TEST OR QUALIFICATION REFERENCE	MANUFACTURER'S NAME AND ADDRESS
Crushed Glass	New Age Blast Media Coarse, Extra Course & Medium	Analytical Consulting Technology Rpt. 2007020107-2, dated April 2007; NEHC Ltrs Ser IH 17/000128, dtd 23 Feb 07 and IH17/000239 dtd Apr 07	New Age Fastening Systems 2 Enterprise Court Sewell, NJ 08080 CAGE: 4JRZ7 Plant: Same Address

If you have any questions regarding today's letter, contact the undersigned at (202)781-3734 or by email at: cheryl.a.turner@navy.mil.

Sincerely,

CHERYL A. TURNER
Command Standards Executive Office

Encl: (1) NEHC Ltrs Ser IH 17/000128, dtd 23 Feb 07 and IH17/000239 dtd Apr 07

CONDITIONS UNDER WHICH QUALIFICATION IS GRANTED

The listing of your product on the Qualified Products List does not guarantee acceptance of the product in any future purchase nor does it constitute a waiver of the requirements of the specification or the provisions of any contract.

Any use of the listing for publicity, advertising, or sales will not state or imply that the product or the process is the only one of that type so qualified, or that the government in any way recommends or endorses the manufacturer's product in preference to other qualified products. (Violation cause for removal from the list.)

Listing applies only to products produced in, or process used in, the plant specified in the letter of notification. The listing is effective at 8:00 a.m. (Local time of the qualifying activity) as of the date of the letter of notification.

Listing applies to amendments or revisions of the specification, unless otherwise notified.

Listing applies only to products or processes identical to those qualified (or to products defined in the family of products granted qualification coverage). The qualifying activity must be advised in advance of any intended change to a qualified product or process and must be provided with complete description of the change. Failure to notify the qualifying activity of any change is cause for removal from the listing regardless of the extent of the change.



DEPARTMENT OF THE NAVY
NAVY ENVIRONMENTAL HEALTH CENTER
620 JOHN PAUL JONES CIRCLE SUITE 1100
PORTSMOUTH VA 23708-2103

6261

Ser IH17/000128

23 FEB 2007

From: Commanding Officer, Navy Environmental Health Center
To: Commander, Naval Sea Systems Command, (SEA 05Q, Ms. C. Turner),
1333 Isaac Hull Avenue SE, Stop 5160 Washington Navy Yard, DC 20376-5160

Subj: TOXICOLOGIC SAFETY EVALUATION: NEW AGE BLAST MEDIA
(CRUSHED GLASS)

Ref: (a) NAVSEASYSKOM ltr 4123 Ser 05Q/2006-007 of 22 Jan 07
(b) NAVENVIRHLTHCENINST 6270.8A of 24 Oct 06
(c) MIL-A-22262B(SH) of 5 Apr 93

Encl (1) Toxicologic Safety Evaluation of New Age Blast Media (Crushed Glass)

1. Reference (a) requested that the Navy Environmental Health Center conduct a toxicologic safety evaluation for the subject blast media per the guidance outlined in reference (b). The blast media will be used to clean metal surfaces such as ships' hulls and tanks and to remove rust and old paint in order to provide surfaces that are clean and suitable for painting.
2. Reference (c) summarizes the Department of Defense military specification required for product approval for systems of this type. The information in this letter can be considered anticipatory for later phases of industrial hygiene recognition, evaluation and control. The latter three phases are outlined for follow-up by the industrial hygienist.
3. The primary health concerns are irritation of the eyes, skin, and respiratory tract, as well as high velocity body injuries. Adherence to the span of controls can prevent injury from the blasting media. Their use can be considered safe given limitations of enclosure (1).
4. If you need additional information, please contact Mr. H.C. Zedd at DSN: 377-0726, Commercial 757-953-0726, FAX 757-953-0689, or by e-mail at harold.zedd@med.navy.mil.

A handwritten signature in cursive script that reads "M.A. Miller".

M.A. MILLER
By direction

Copy to:
BUMED (M4B4)

**Toxicologic Safety Evaluation of New Age Blast Media
(Crushed Glass)**

- Ref: (a) Searches from MEDLINE Plus®, National Library of Medicine, Bethesda, MD (Feb 2007)
- (b) "Analysis of Glass Dusts," Clean Washington Center, Nov 1996.
 - (c) National Institute of Occupational Safety and Health (NIOSH). Nomination of Abrasive Blasting Agents for Inhalation Studies in Rats. 2001. Parma and Akron, OH (1996)
 - (d) "Chemical Composition of Container Glass," Clean Washington Center, Nov 1996.
 - (e) Miller F. Associates. Summary of Federal Affirmative Procurement of Post Consumer Recycled Glass Abrasives. Report No. GL-00-3. 2000. 5 p.
 - (f) Shipbuilders and Shiprepairers Association. The Waste & Resources Action Programme. Project Code: GLA44-017. Full Scale Operational Trials Involving the Use of Recycled Glass as a Blasting Medium in the Marine Sector. 2006. 88 p.
 - (g) Obery, A.M. and Landis W.G. Institute of Environmental Toxicology and Chemistry Huxley College of Environmental Studies Western Washington University. IETC Technical Report 01-99. Assessment of Environmental Toxicity from Spent Recycled Glass Abrasives Part A. Data Review. 1999. 32 p.
 - (h) Industrial Hygiene Sampling Guide for Consolidated Industrial Hygiene Laboratories (CIHLs) (21 April 2000)
 - (i) Rosenau, M.J. and Last J.M. Public Health and Preventive Medicine, 16th ed. New York: McGraw-Hill Professional, 2004.
 - (j) OPNAVINST 5100.19D CH-1 (30 August 2001)
 - (k) 29 CFR 1910.1200. Hazard Communication Standard (30 December 1992)
 - (l) Unified Facilities Criteria (UFC), UFC 3-410-04N, "Design: Industrial Ventilation," 25 Oct 04
 - (m) Federal Register Vol. 71 # 164, PP 50122 - 50192. 29 CFR Parts 1910, 1915, and 1926 Assigned Protection Factors; Final Rule of 24 Aug 2006.
 - (n) ANSI Z358.1. Standard for Emergency Eyewash and Shower Equipment (2004)

1. Scope. This evaluation is directed at the application of this product, i.e., abrasive blasting using crushed glass and the toxic hazards associated with the abrasive blast operations. Procedures outlined herein can help prevent exposures, thus minimizing the potential for toxic injury.

2. Evidence-based Literature Review. Medical and scientific literature available in references (a) - (g) have been used to evaluate hazards associated with the crushed glass media such as crushed glass, silicon dioxide and nuisance dust. The literature indicates that the heavy metal constituents found in the spent glass abrasives originate from the coatings removed by the blasting process. In addition, the literature shows irritation and high velocity body injuries are the persistent concerns connected with abrasive blasting using crushed glass.

Crushed glass, composed primarily of silicon dioxide, is made from bottle glass which has been melted down and cooled to an amorphous or non-crystalline structure. As a result of this process, dust is generated along with other particles. The Occupational Safety and Health Administration (OSHA) has classified this type of dust as nuisance dust. Therefore, glass blast media can cause irritation to the eyes, skin and respiratory tract as well as high velocity foreign body injuries.

3. Toxicity. The framework used in the evaluation of toxicologic harm includes three elements: the chemical agent, an exposure and a human receptor. The chemical agent is defined by the toxic effects it is capable of producing. Toxic or hazardous outcomes result from the interaction of a chemical with a human receptor or target during an exposure. The two most important factors defining exposure are its level and duration (dose and time). A particular human target is defined by its susceptibility to the toxic effects that such a chemical may produce. Effects occur only when all three elements (agent, exposure and target) align in a manner permitting toxicity.

4. Industrial Hygiene - Anticipation and Recognition. Toxicologic findings described in paragraph 3 support the use of personal protective equipment (respirators, eye protection and protective clothing and gloves) during abrasive blasting operations utilizing crushed glass. Preventing eye and skin contact in the workplace is always important.

5. Industrial Hygiene - Evaluation. Typically, airborne contaminant monitoring for respirable dust and heavy metal contaminants that might be in the surface being blasted is warranted. General sampling requirements are outlined in reference (h).

6. Industrial Hygiene - Control. Effective control is best viewed through integration of primary, secondary and tertiary precautions (reference (i)). Primary efforts of labeling and training preclude exposures, while secondary precautions offer further reduction. Tertiary precautions entail decontamination of eye and skin surfaces.

a. Primary Prevention. Proper labeling of the crushed glass media and training in its use, including spill cleanup, are essential steps in primary prevention. Training should comply with the requirements outlined in references (j) and (k). These require discussion of health hazard recognition and the limitations of control devices.

b. Secondary Prevention. Use of local exhaust ventilation meeting the guidelines established in references (j) and (l) is an important control method. Eyes are protected by the use of a blasting hood, while the skin can be protected using disposable coveralls, e.g., Tyvek® and leather gloves. A type CE continuous flow abrasive blasting hood approved by the National Institute for Occupational Safety and Health (NIOSH) is recommended at concentrations approaching 25 times the Occupational Exposure Limit (OEL). For concentrations at or above 25 times the OEL, use NIOSH approved full face continuous flow or pressure demand airline respirators approved for abrasive blasting, which may be used for concentrations up to 1,000 times the OEL. Alternatively, it is permissible to use a NIOSH approved type CE continuous flow abrasive blasting hood for which OSHA has issued an interpretation granting an assigned protection factor of 1,000 (reference (m)).

c. Tertiary Prevention. Tertiary prevention focuses on decontaminating eye and skin surfaces. Requirements for eyewashes and deluge showers are noted in reference (n).

7. Emergency Contacts. The Regional Poison Control Center (1-800-222-1222) can be contacted regarding acute or chronic poisonings from the crushed glass media.



DEPARTMENT OF THE NAVY
NAVY ENVIRONMENTAL HEALTH CENTER
620 JOHN PAUL JONES CIRCLE SUITE 1100
PORTSMOUTH VA 23708-2103

6261
Ser IH17/000239
06 APR 2007

From: Commanding Officer, Navy Environmental Health Center
To: Commander, Naval Sea Systems Command, (SEA 05Q, Ms. C. Turner),
1333 Isaac Hull Avenue SE, Stop 5160 Washington Navy Yard, DC 20376-5160

Subj: TOXICOLOGIC SAFETY EVALUATION: NEW AGE BLAST MEDIA
(CRUSHED GLASS, MESH SIZE 10-40)

Ref: (a) Electronic Correspondence NAVSEASYSKOM R.A. Hagar//NAVENVIRHLTHCEN
H.C. Zedd of 16 Mar 07
(b) NAVENVIRHLTHCENINST 6270.8A of 24 Oct 06
(c) MIL-A-22262B(SH) of 5 Apr 93

Encl (1) Toxicologic Safety Evaluation of New Age Blast Media (Crushed Glass,
Mesh Size 10-40)

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M. A. Miller

M.A. MILLER
By direction

Copy to:
BUMED (M4B4)

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