



DEPARTMENT OF THE NAVY

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

IN REPLY TO:

4123
Ser 05M2L/2008-270
14 August 2008

Polycon Manufacturing, LLC
Attn: Bradley Wilson
350 Industrial Drive South
Madison, MS 39110

Dear Mr. Wilson:

Subj: RESULTS OF HEALTH HAZARD ASSESSMENT FOR POLYCON -
MIL-PRF-32171A

Based on the results of an administrative health hazard assessment report Ser IH9/000831 dated 1 August 2008 from Navy and Marine Corps Public Health Center (NMCPHC) conducted on your Skid-Pro™ Overlay System, the Navy feels that your product can be safely used for its intended purpose provided the precautions stated in NMCPHC's letter and in your Material Safety Data Sheet (MSDS) are observed and diligently applied.

Polycon has successfully completed one step in meeting qualification to specification MIL-PRF-32171A.

Any questions that you have may be directed to Sandra Leach on (202) 781-3730.

Sincerely,

A handwritten signature in cursive script that reads "Cheryl A. Turner".

CHERYL A. TURNER
Technical Policy and
Standards Division

Encl:

(1) NMCPHC Ltr. Ser IH9/000831 dated 1 August 2008



DEPARTMENT OF THE NAVY
NAVY AND MARINE CORPS PUBLIC HEALTH CENTER
620 JOHN PAUL JONES CIRCLE SUITE 1100
PORTSMOUTH VA 23708-2103

P-2008-205
due: 8-18-08
QPL-32171
Ser 296

6261
Ser IH9/ 000831

01 AUG 2008

From: Commanding Officer, Navy and Marine Corps Public Health Center
To: Commander, Naval Sea Systems Command (05M2 C. Turner), 1333 Isaac Hull Avenue SE, Stop 5160 Washington Navy Yard, DC 20376-5160

Subj: HEALTH HAZARD ASSESSMENT: SKID-PRO™ OVERLAY SYSTEM
MANUFACTURED BY POLYCON MANUFACTURING LLC

Ref: (a) NAVSEASYS COM ltr 4123 Ser 05M2L/2008-181 of 28 May 08
(b) NAVENVIRHLTHCENINST 6270.8A of 24 Oct 06

Encl: (1) Health Hazard Assessment of Skid-Pro™ Overlay System

1. Reference (a) requested that this Command conduct a health hazard assessment of the subject Skid-Pro™ Overlay System. The product is proposed for use as a non-skid overlay (metal, concrete and/or asphalt surfaces) onboard U.S. Navy ships.
2. Reference (b) outlines the procedures for this evaluation. 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 industrial hygienist staff.
3. Mixing and application of this non-skid overlay system may generate vapors and dust that pose an inhalation hazard. Contact with the product may cause irritation to the eyes and the skin. By following the precautions outlined in enclosure (1), exposures can be minimized or prevented, thus limiting the potential for toxic injury. This non-skid overlay system can be used with the limitations noted.
4. If you need additional information, please contact Mr. Thomas Swartout at DSN 377-0745, Commercial 757-953-0745, FAX at 757 953-0689, or e-mail at thomas.swartout@med.navy.mil.


P. L. KREVONICK
By direction

Copy to:
BUMED (M4B4)

Health Hazard Assessment of Skid-Pro™ Overlay System

- Ref: (a) Searches from MEDLINE Plus®, National Library of Medicine, Bethesda, MD (21 Jul 08)
- (b) U.S. Department of Labor, Occupational Safety and Health Administration "Preventing Skin Problems from Working with Portland Cement" available at <http://www.osha.gov/dsg/guidance/cement-guidance.html>
- (c) Electronic Correspondence Polycon Manufacturing LLC B. Wilson/ NAVMCPUBHLTHCEN T. Swartout of 30 Jun 2008
- (d) Industrial Hygiene Sampling Guide for Consolidated Industrial Hygiene Laboratories (CIHLs) (21 April 2000)
- (e) OPNAVINST 5100.19E (30 May 2007)
- (f) 29 CFR 1910.1200. Hazard Communication Standard (30 December 1992)
- (g) ANSI Z358.1. Standard for Emergency Eyewash and Shower Equipment (2004)

1. Scope. This health hazard assessment (HHA) is directed at the mixing and application of this non-skid overlay system. This product is packaged as a kit. The kit will contain 1 gallon of liquid polymer and 47 pounds of cement (powder) that will be mixed with about 45 ounces of water. If desired, a granite aggregate may be applied for slip resistance. Procedures outlined herein can help prevent exposures, thus minimizing the potential for toxic injury.

2. Evidence-based Literature Review. Medical literature available in reference (a) has been used to evaluate health effects associated with the use of this non-skid overlay system. Components of concern for health hazards include both the polymer (aqueous ammonia, butyl acrylate and methyl methacrylate) and the masonry cement (crystalline silica; portland cement dust). The literature shows exposure to components of this non-skid overlay system during mixing and application phases (wet state) is associated with adverse health effects, i.e., eye, skin and respiratory tract irritation and dermatitis. Note that reference (b) states that the cement may contain trace amounts of crystalline silica and hexavalent chromium, and in a wet state can cause caustic burns to tissue. Per reference (c), this mixture will have unreacted residual monomers.

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. Exposure to volatile vapors, dusts and dermal contact with liquids can be anticipated during coating operations. Once the coating has hardened, it should emit no additional vapor. Thus, efforts to protect workers and by-standers

should be focused on mixing and application. Use of appropriate personal protective equipment that includes eye protection, protective gloves and respirators is prudent. Although the scope of this HHA is limited to application concerns, it is appropriate to point out that removal of such non-skid coatings will require protective equipment as well. Preventing eye and skin contact, inhalation, ingestion or absorption of chemicals in the workplace is always important.

5. Industrial Hygiene - Evaluation. This non-skid overlay is applied with a squeegee application device or using a modified compressed air spray rig (hopper gun). If the cognizant industrial hygienist determines air sampling is warranted, sampling guidance is provided in reference (d).

6. Industrial Hygiene - Control. Effective control is best accomplished through integration of primary, secondary and tertiary precautions. Primary efforts of labeling and training preclude exposures, while secondary precautions offer further reduction. Tertiary precautions include decontamination of eyes and skin surfaces.

a. Primary Precautions. Product labeling of this non-skid overlay system and training in its use, including spill cleanup, are essential steps in primary prevention. Training should comply with the requirements outlined in references (e) and (f). These references require discussion of health hazard recognition and the limitations of control devices.

b. Secondary Precautions. Personnel should wear a faceshield worn over chemical workers' goggles during mixing and application. Protect hands by using well-fitting butyl gloves and protect arms by wearing a long sleeve shirt. Taping sleeves to the gloves will prevent the wet non-skid mixture from getting on the skin. Wear waterproof boots during application. Tuck boots inside pants and tape around the top of the boots. If the cognizant industrial hygienist determines that a respirator will be needed, ensure the respirator is certified by the National Institute for Occupational Safety and Health. Additional information on preventing skin problems when working with portland cement is in reference (b).

c. Tertiary Precautions. Tertiary prevention focuses on decontaminating eyes and skin surfaces in the event of contact with the material. Requirements for eyewashes and deluge showers are in reference (g).

7. Emergency Contacts. If this product is swallowed, contact the Regional Poison Control Center at 1-800-222-1222.