



DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, REDSTONE
4488 MARTIN ROAD
REDSTONE ARSENAL, ALABAMA 35898-5000

IMRE-ESF

25 June 2017

MEMORANDUM FOR RECORD

SUBJECT: Health, Safety, and Disinfection

1. SCOPE: Redstone Fire & Emergency Services (F&ES) is committed to providing a healthy and safe working environment for all employees. The ultimate goal is to prevent and reduce accidents, injuries and occupational illness to all Redstone F&ES personnel.
2. References:
 - a. DODi 6055. Safety and Occupational Health. Continuously improve firefighter safety and health using established standards and the following;
 - b. 6.9.1. Monitor firefighter injury and illness trends, analyze data to focus prevention efforts, and implement mishap prevention initiatives.
 - c. 6.9.2. Analyze work processes to identify fire fighter injury and illness risk. Using ORM, implement initiatives to reduce risk by the greatest extent possible thereby preventing illness and injury.
 - d. 6.9.3. Implement health promotion, disease and injury prevention, and population health programs, as required by DoD Directive 1010.10 (Reference (I)), with special emphasis on smoking cessation.
 - e. https://www.cdc.gov/immigrantrefugeehealth/pdf/seasonal-flu/flu_and_you_english_508.pdf.
3. Redstone F&ES promotes cleaning, decontamination, and maintenance of facilities, equipment and apparatus for minimizing illness and disease.
4. Report Management System data reports that Redstone F&ES sustained 7,721.5 hours of personnel Sick Leave (LS) for the period of January 1, 2016 thru January 1, 2017. 6,567 of these hours were coded as LS, and 1,154.5 hours were coded as LS-CI (Sick Leave - Call In)
5. The data shows that 3,864 out of 6,567 LS hours, and 601.5 out of 1,154.5 of LS-CI hours were between the months of October and May. 4465.5 out of 7721.5 (57.8%) of the total LS used by Redstone F&ES was during the Flu season.

6. The Influenza Virus (Flu) is detectable year round in the United States, but is most common during the fall and winter seasons. Influenza activity often begins to increase in October, peaks between December and February, and often lasts through May. Redstone F&ES Flu cycle is consistent with the U.S. trend.
7. Although the Flu virus requires a live host cell to multiply and spread, the virus can live on inanimate surfaces for hours or even days. Proper disinfection in conjunction with standard cleaning regimens provides an additional safeguard for areas where people come into contact with pathogens.
8. Influenza may be spread by people immediately after infection and up to 7 days after symptoms begin.
9. To effectively reduce the chance of exposure risk from airborne and non-airborne disease and or illness, Redstone F&ES will utilize the AeroClave RDS 3110 on a routine basis. The AeroClave process is effective against Influenza, TB, MRSA, MERS, HIV, Meningitis, Hepatitis, Ebola, and many other pathogens. The EPA rates the disinfectant (Vital Oxide) non-toxic and environmentally-friendly.
10. The AeroClave RDS 3110 is a versatile product that is designed to provide a convenient and effective decontamination solution in any environment. The RDS 3110 is lightweight, easy to transport, and simple to use. With minimal setup and the quick press of a button the end user can begin to decontaminate assets within minutes. It has the ability to be used in a room fogging or hand application method giving the end user the ability to decontaminate any asset, anywhere, at any time.
11. At Redstone F&ES, the primary use for AeroClave shall be for decontamination of facilities and vehicles. It will also be used for equipment as needed. The AeroClave system is a great tool for decontamination; however, it does not take the place of routine decontamination procedures on apparatus, facilities, or equipment.
12. AeroClave's RDS 3110 provides a consistent and reliable delivery of disinfectant to facilities, vehicles and equipment that may not be achievable through manual cleaning methods.
13. Financial benefits.

The average Firefighter at Redstone F&ES hold the paygrade of GS-07, which averages an OT rate of \$27.32. A 25% reduction in LS will save \$52,734.43, our goal is to reduce the LS annually by at least 15%, this will save the department \$31,640.66 annually in the operating budget. Over a 5 year period this will equate to \$158,203.30 government dollars saved. A significant reduction in sick leave is supported by studies conducted by AeroClave client showing a 34% reduction over four years.

14. Vital Oxide is EPA Reg. No 82972-1 (Accepted 10/07/2016). Pending 18 months.

Excerpt from the Vital Oxide EPA label:

AREAS OF USE INCLUDE:

homes, vehicles, schools & daycare, gyms & locker rooms, sports gear, hospitals, nursing homes, laundry rooms, veterinary, pharmacies, ambulances, barber shops, laboratories, restaurants, boats, ships, federally inspected meat & poultry processing plants, farms, animal pens and poultry houses, egg processing premises, hatcheries, swine premise sanitation, refrigerated storage units (empty & disconnected), airplanes, trains, trucks, buses & automobiles. Use as a mold & mildewstat on hard non-porous surfaces (i.e, tiles) and soft surfaces (i.e, fabrics).

15. Vital Oxide solution kill(s) and or eliminate(s), disinfect(s), destroy(s), or attack(s) the following:

Excerpts from the Vital Oxide EPA label:

Hard Surface Sanitization No Rinse Required: 30 sec contact time
Escherichia Coli (ATCC 11229)
Staphylococcus aureus (ATCC 6538)

To Sanitize Soft Surfaces: 5 minute contact time
S. aureus ATCC 6538
E. aerogenes ATCC 13048

Carpet Sanitization: 10 Minute contact time
Enterobacteraerogenes (ATCC 13048)
Staphylococcus aureus (ATCC 6538)

Fungicide: 10 Minute contact time
Trichophyton rubrum ATCC MYA
Trichophyton mentagrophytes ATCC 9533

Mildewstat:10 Minute contact time
Aspergillus Niger ATCC 6275

Disinfection Bacteria 10 minute contact time
Pseudomonas Aeruginosa ATCC 15442
Acinetobacterbaumannii ATCC 19606
Staphylococcus aureus MRSA ATCC 33592
Listeria monocytogenes ATCC 15313
Legionella Pneumophila ATCC 33153
Salmonella enterica ATCC 10708
Staphylococcus aureus ATCC 6538

Klebsiellapneumoniae (NDM-1) ATCC BAA-2146
Escherichia Coli ATCC 11229
Bordetella bronchiseptica ATCC 10580
Myobacterium bovis- BCG

Disinfection Virus 5 minute contact time
Rotavirus, Strain WA
Hepatitis C Virus Bovine Viral Diarrhea Virus
Hepatitis B Virus Duck Hepatitis
Norovirus Feline Calicivirus
Murine Norovirus (MNV-1)
Swine Influenza (H1N1) **
Respiratory Syncytial virus, ATCC VR-26
Human Immunodeficiency Virus (HIV Type 1) Strain HTLV-IIIb
Influenza B Virus (Strain B/Taiwan/2/62), ATCC VR-1735
Hepatitis A Virus ATCC VR-1541
Hantavirus (Prospect Hill Virus) University of Ontario
Canine Distemper Virus, Strain Snyder Hill, ATCC VR **

Disinfection Virus 10 minute contact time
Adenovirus 1, Strain Adenoid 71, ATCC VR-1
Canine Parvovirus, Strain Cornell-780916, ATCC VR-2016 **

16. All user level maintenance shall be completed IAW with manufacturer's recommendations.

17. AeroClave is currently used by Fire, EMS, law enforcement, and military organizations across the country. Additional justification for the use of AeroClave includes enhancing the ability of Redstone FE&S to support other organizations at Redstone Arsenal. For instance, common AeroClave uses include decontamination of police vehicles, bunk rooms/barracks, medical facilities, school rooms, daycare facilities, HAZMAT suits/gear, kennels, and more.

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