

Surface Ship Guidance for Selecting and Storing Products Effective against Novel Coronavirus SARS-CoV-2 for Use in General Ship-wide Applications

30 March 2020

Applicability:

- This guidance applies to U.S. Navy surface ships and aircraft carriers. Submarines should follow guidance as provided by their TYCOM.
- This guidance applies to product selection and storage. Follow Type Commander's (TYCOM) Direction regarding proper sanitation, disinfection, and hand hygiene procedures.
- This guidance applies to products obtained by surface ship Supply Departments for use in ship-wide sanitation and disinfection efforts. Consult Fleet Medical Officers for guidance specific to medical and dental spaces.

Authority:

- This guidance was developed jointly by the Navy Marine Corps Public Health Center (NMCPHC), the Naval Supply Systems Command (NAVSUP), and the Naval Sea Systems Command (NAVSEA). Specifically, NMCPHC provided required active ingredients with thresholds and product usage guidance. NAVSUP provided product procurement guidance. NAVSEA provided product review, stowage, and labeling guidance.
- This guidance was reviewed by the Navy Bureau of Medicine and Surgery (BUMED) in references (1) and (2).

Background:

- TYCOM Direction recommended products effective in reducing transmission of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2); however, there is a significantly high demand for these products, thus causing gaps in supply availabilities of effective disinfectants, biocides, and cleaning agents.
- This guidance was developed to assist ships in determining which products are effective against SARS-CoV-2.

References

1. Email correspondence with BUMED Branch Head of Surface Medicine (CAPT Lenart) of 30 March 2020
2. Email correspondence with BUMED Director of Fleet Program (CAPT Kurtz) of 30 March 2020

3. Guidance for Underway Evaluation and Management of Suspected Persons Under Investigation (PUI) for 2019 Novel Coronavirus (COVID-19), Published by NMCPHC, 28 March 2020 (located at <https://esportal.med.navy.mil/sites/nmcphc/pps/wppc19/COVID-19-Toolbox.aspx>)
4. Recommended Chemical Constituents with Disinfectant and Biocidal Activity for SARS-CoV-2, Published by NMCPHC, 27 March 2020 (located at <https://esportal.med.navy.mil/sites/nmcphc/pps/wppc19/COVID-19-Toolbox.aspx> as “NMCPHC_Biocide_Response”)

Product Selection:

- The “Remarks” column of the Ship’s Hazardous Material List (SHML) is being updated to reflect products that are effective against SARS-CoV-2. NAVSUP will update Type SHML (T-SHML) files and provide ships with the latest updates as required. NAVSUP will provide the Consolidated Hazardous Material Reutilization and Inventory Management Program (CHRIMP) technicians with the list of effective products and will provide updates periodically so they may assist ships in product selection.
- Diluted solutions of bleach or calcium hypochlorite are effective against SARS-CoV-2. Dilution procedures are in reference (3).
- If products authorized on the SHML are not available, products may be open purchased provided they contain the active ingredients for the appropriate category list below. The active ingredients and thresholds were published in reference (4). Consult product literature, product label, and safety data sheet (SDS) to determine the active ingredients. A SHML Feedback Request (SFR) is not required for items that are open purchased to fight SARS-CoV-2.
 - Hand sanitizers must contain a minimum of 60% alcohol (ethanol, ethyl alcohol, isopropyl alcohol, isopropanol, 2-propanol)
 - Disinfecting wipes/towelettes must contain a minimum of both of the following:
 - 17.2% isopropyl alcohol, isopropanol, or 2-propanol, and
 - 0.28% of a quaternary ammonium compound (see list below)
 - Alternatively, disinfecting wipes/towelettes must contain a minimum of 0.95% sodium hypochlorite
 - Spray-On Disinfectant/Sanitizers must contain a minimum of one of the following:
 - 0.5% sodium hypochlorite, or
 - 70% ethanol or ethyl alcohol, or
 - 0.5% hydrogen peroxide

- For the below instances, submit a SFR with product literature, SDS, and product label (if available). Clearly state in the SFR that the product is for SARS-CoV-2 disinfection. NAVSUP and NAVSEA will consult NMCPHC and BUMED and provide a response.
 - Uncertain of a product's effectiveness.
 - Identified a product meeting the above requirements with a NSN and in stock, but not on the SHML.
 - Identified a product using quaternary ammonium compounds as their active ingredient. These compounds are often found in disinfectants, but are difficult to identify. Their effectiveness is dependent on other constituents in the product. Common quaternary ammonium compounds are:
 - Alkyl dimethyl benzyl ammonium chlorides (C12-16)
 - Alkyl dimethyl benzyl ammonium chloride (C14 60%, C16 30%, C12 5%, C18 5%)
 - Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)
 - Alkyl dimethyl ethylbenzyl ammonium chlorides (C12-18)
 - Benzalkonium chloride
 - Benzethonium chloride
 - Cetalkonium chloride
 - Cetrimide
 - Cetrimonium
 - Cetylpyridinium chloride
 - Didecyldimethylammonium chloride
 - Dioctyldimethylammonium chloride
 - Dofanium chloride
 - Domiphen bromide
 - Methylbenzethonium chloride
 - Tetraethylammonium bromide

Product Storage and Use aboard Ship:

- All products brought onboard for disinfection of SARS-CoV-2, including products that are open purchased, must be stored in accordance with the HM Simplified Compatibility Chart of NSTM Chapter 670, Volume 1. In particular, oxidizers (bleach, calcium hypochlorite, sodium hypochlorite, and hydrogen peroxide) and flammables (products containing alcohol) shall never be stored in the same compartment. Refer to the product's Hazard Characteristic Code (HCC) and the HM Simplified Compatibility Chart to determine the proper storage location. If a

HCC is not available, contact NAVSUP WSS HEDMO at afloathazmat.wss.fct@navy.mil for assistance.

- If secondary containers are used (i.e. to distribute a diluted bleach solution), ensure labeling requirements of OPNAV 5100.19F are followed. Labels must clearly identify at a minimum the product name, the manufacturer's name, stock number (if applicable), HCC, and the nature of the hazard (e.g., flammable, corrosive).
- Always follow the manufacturer's instructions regarding appropriate product preparation. Do not prepare products stronger than the manufacturer's recommendation. Corrosion and adverse health effects may occur.
- Never mix products (i.e., bleach and ammonia). Hazardous vapors or oxidizing reactions may be produced as a result of improper chemical mixing.
- To ensure maximum potency, use products within their shelf life. Ensure products are sealed when not in use to prevent evaporation of active ingredients.
- Always follow the manufacturer's guidelines for appropriate personal protective equipment (PPE) usage. Additional PPE guidance by HCC is on the PPE Selection Guides on the Force Revision DVDs.