

Bechtel Plant Machinery, Inc.

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QUALITY CONTROL ALERT 2020-03

BPMI-QT-MEPC-00355 April 08, 2020

To:

Distribution

Subject:

Quality Control Alert Regarding the MIL-STD-2041 Aspects of Coronavirus

Disinfectants

Dear Sir or Madam:

This letter transmits Quality Control (QC) Alert 2020-03 for your information and action as deemed appropriate. You are encouraged to review the contents of this QC Alert and assess its impact on your organization and the products you supply. No response to this QC Alert is required; however, action may be required by your organization to preclude or mitigate the detrimental impact on hardware of disinfectants that may be used to limit the spread of COVID-19.

Background

In response to the COVID-19 pandemic some organizations may consider it necessary to take atypical actions to disinfect their facilities, including areas where Program hardware may be stored or in active fabrication. BPMI supports efforts to protect the safety of your employees and slow the spread of the virus. In an attempt to ensure that any cleaning efforts do not degrade the quality of the Program components in your facility, BPMI wanted to provide some information about which types of cleaners may be more appropriate to use around Program components, particularly those with exposed crevices where MIL-STD-767 and MIL-STD-2041 apply. Disinfectants advertised as effective against the novel coronavirus may contain ingredients that would exceed the detrimental material limits of MIL-STD-2041. This QC Alert is being issued to provide guidance and precautions on the use of disinfectants regarding contact with Program hardware.

Discussion

The following does not address any medical, health, usage, or disposal aspects associated with these compounds.

Provided that there are no crevices or inaccessible areas on the hardware, one may use a controlled shop product for initial disinfection, as long as the surface is followed up with an acetone, alcohol, or grade B water final cleaning solvent in accordance with MIL-STD-767 or MIL-STD-2041. Any crevices or openings in hardware should be covered or protected before spraying, fogging, or wiping an area. Wiping with TT-I-735 isopropyl alcohol or 27 CFR Part 21 denatured alcohol (which are the typical active ingredients in hand sanitizers) would comply with final cleaning requirements but should not be sprayed or aerosolized due to flammability

concerns. Note that the MIL-STD-2041 section 5.3.7 acid prohibition (pH <5) would still apply for final surfaces, so using an acid product would automatically violate MIL-STD-2041, even if one followed up with a final cleaning wipe. Suppliers should consult with their own materials engineering or Quality Assurance (QA) staff, or the undersigned, if any uncertainty exists about the nature of the product to be used. Products may be used freely under the controls of MIL-STD-2041 as controlled shop products. While BPMI cannot endorse the efficacy of a specific product, suppliers may wish to use the following website as a resource: https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2

The following table contains an assessment of commonly used sanitizing ingredients with respect to the likelihood of MIL-STD-2041 compliance. Where possible, suppliers are encouraged to use sanitizers lower in detrimental material content if the potential exists for the sanitizer to contact hardware where MIL-STD-767 or MIL-STD-2041 is invoked. To prevent potential damage to nonmetallics (e.g. green poly, caps, covers, etc.), suppliers may wish to test a product on a surrogate piece of the nonmetallic material to ensure no detrimental effects are observed.

	LIKELIHOOD OF MIL-STD-2041 COMPLIANCE		
ACTIVE INGREDIENT	High	Medium	Low
Alcohols (e.g. ethanol, denatured alcohol, isopropanol, isopropyl alcohol, 2-propanol) (1)	Х		
Hydrogen Peroxide	X		
Quaternary ammonium compounds (e.g. Clorox wipes) (2)			X
Thymol compounds	Х		
Phenols (3)		Х	
Acids (e.g. lactic, citric, octanoic, glycolic) (4)			Х
Potassium peroxymonosulfate			X
Hypochlorites (e.g. sodium, calcium, Clorox bleaches)			X
Sodium dichloro-S-triazinetrione (e.g. Sodium			X
dichloroisocyanurate)			
lodine and its compounds (5)			X
Ozone (6)	X		

- (1) Note that final cleaning solvents in accordance with MIL-STD-2041 may be used without additional testing.
- (2) Ammonia or its compounds should not contact copper or copper-base alloys. Also, in most cases the anion for these compounds is chloride.
- (3) Phenol compounds with "chlor" as part of the ingredients list are likely to fail MIL-STD-2041 limits.
- (4) Peracetic acid has an alkaline pH and may be used.
- (5) While iodine is not a MIL-STD-2041 prohibited halogen, iodine disinfectants often contain other ingredients that render them likely to fail MIL-STD-2041 limits.
- (6) While ozone gas would meet MIL-STD-2041, ozone may have an adverse effect on non-metallic hardware.

You are encouraged to read the labels, ingredients list, and SDS carefully before use. The listed percentages often will not sum to 100%, as ingredients may be listed as ranges, some compounds do not need to be reported, and other compounds can be omitted as part of a Trade Secret formulation.

Requested Action

Review the information presented in this QC Alert prior to the use of disinfectants on Program hardware. You are encouraged to forward this QC Alert to any of your subtier suppliers that work to MIL-STD-767 or MIL-STD-2041. Contact BPMI prior to the use of disinfectants which may enter crevices or inaccessible areas wherever MIL-STD-767 and MIL-STD-2041 apply. Disinfectants used in accordance with MIL-STD-2041 controls for shop products do not require notification.

Point of Contact

Questions related to QC Alert 2020-03 should be directed to the undersigned at BPMI, Materials Engineering – Plant Control Equipment Section, Quality & Technology Department (412-423-2538) or matthew.coury@unnpp.gov.

Any action taken as a result of this letter is not to be interpreted as a basis for a contractual commitment binding upon Bechtel Plant Machinery, Inc., nor should it be used as a basis for any change in price, delay in delivery, or any other modification of Bechtel Plant Machinery, Inc. purchase order requirements.

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Quality & Technology

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