

Background

- Tight supply of alcohol-based disinfectants due to COVID-19 pandemic.
- Urgent needs for evaluation of virucidal activity of candidate alternative substances against SARS-CoV-2, which are easily and widely available as daily commodities.

Disinfecting substances recommended by Japanese government as of March 2020:

1. Hot water
2. Alcohol-based disinfectants
3. Chlorine-based bleaches



Two candidate substance categories were selected based upon the literature survey regarding virucidal activities to relevant viruses and expectation of enough supply.

Surfactants

Hypochlorous acid water



The Committee on Efficacy Assessment of Disinfecting Substances Alternative to Alcohol Against SARS-CoV-2

Members of the Committee

Chairperson: MATSUMOTO Tetsuya, M.D., Ph.D.

Chief Professor, Department of Infectious Diseases, International University of Health and Welfare, and Vice President, Japanese Society for Infection Prevention and Control

Committee Members:

Experts from National Institute of Health Sciences (NIHS), National Institute of Infectious Diseases (NIID), Mie University, Osaka University, Tottori University, and industrial associations relevant to the candidate substances

Ministry Officials:

Ministry of Economy, Trade and Industry (METI), Ministry of Health, Labour and Welfare (MHLW) and Consumer Affairs Agency

Secretariat: METI and NITE

Participating Organizations to the Study

- National Institute of Infectious Disease (NIID)
- Kitasato University
- Obihiro University of Agriculture and Veterinary Medicine (OUAVM)
- Tottori University
- Japan Textile Products Quality and Technology Center (QTEC)

Intended Application

Disinfection of environmental surfaces in non-healthcare settings.

Evaluation of efficacy but not safety is the aim of the Committee. Hand sanitization and spatial sterilization are out of the scope.

Surfactants

Nine surfactants of certain concentration were judged to be effective based on the evaluation study using SARS-CoV-2.

1. Sodium linear alkylbenzene sulfonates (0.1% or more)
2. Alkyl glycosides (0.1% or higher)
3. Alkyldimethylamine oxide (0.05% or higher)
4. Benzalkonium chloride (0.05% or higher)
5. Benzethonium chloride (0.05% or higher)
6. Dialkyldimethylammonium chloride (0.01% or higher)
7. Polyoxyethylene alkyl ether (0.2% or higher)
8. Potassium soap (0.24% or higher)
9. Sodium soap (0.22% or higher)



SARS-CoV-2 is expected to be effectively eliminated by the appropriate use of various types of household detergents containing effective surfactants listed above.



On its website, NITE is disclosing the list of detergent products sold in Japan that contain effective surfactants of necessary concentration (written in Japanese).

- It is important to pay attention to the safety information on household detergent products. Regarding safety, it is necessary to appropriately use these products in consideration of the safety information and precautions provided by the manufacturer etc.

Hypochlorous Acid Water (HAW)

HAW* of certain level of available chlorine concentration (ACC) was judged to be effective based on the evaluation study using SARS-CoV-2.

- For HAW**, regardless of its production method, an ACC of 35ppm or higher.
- For sodium dichloroisocyanurate solution, an ACC of 100 ppm or higher.

*Note that HAW samples tested in the study were acidic HAW.

** Several production methods are known such as electrolytically-generated method and premixed method of sodium hypochlorite and acid.



SARS-CoV-2 is expected to be effectively eliminated by the appropriate use of HAW with the conditions listed above.

- Recommendations upon the use of HAW:
 - Remove dirt such as organic matter (hand stains etc.) in advance.
 - Use an enough amount of HAW to eliminate the virus on the surface.
- It is important to pay attention to the safety information on HAW products. Regarding safety, it is necessary to appropriately use these products in consideration of the safety information and precautions provided by the manufacturer etc.