Guidelines on Cleaning of Products

3.16.2020
1. Types of cleaning agents and recommended agents

Representative cleaning agents are listed below and the recommended agent for cleaning products is diluted ethanol.

- **Alcohols**
  - **Ethanol**: recommended

The following agents are not recommended.

- **Isopropyl alcohol (Isopropanol)**:
  - Shows almost the same effectiveness as ethanol, but its effect on the hydrophilic viruses (norovirus, adenovirus, etc.) is inferior to ethanol.
  - Shows stronger effect of degreasing than ethanol. When 70 vol% isopropanol is used on hands, it will likely roughen the skin. Therefore ethanol is recommended from the safety point of view, although isopropanol is the cheaper agent.

- **Alkaline cleaning solution**
- **sodium hypochlorite**: It is not suitable for cleaning metal parts due to its strong corrosiveness.

- **Benzine**
- **Thinner**
- **Acid cleaning solution**
- **Cleaning solution with polishing material**
- **Dust cloth with chemical materials**

These agents are not cleaning agents and are not recommended for use due to the risk of product's surface damage.
2. **Cleaning method**

- **Cleaning agent for products**
  - 76.9 - 81.4 vol% ethanol

- **Cleaning method**
  1. Dampen soft cloth made of cotton, such as gauze, with appropriate amount of ethanol
  2. Wipe products surface lightly once. (estimated load is about 2N)
3. Products that can be cleaned, those that should not, and the risks involved

Even using the recommended agent (ethanol), there are risks to the following materials. Harsh cleaning agents should not be used to clean the surface of:

◆ Clear plastic (PC, acrylic, etc.) : DO NOT use chemical cleaning agents
  Possibility to turn whitish

◆ Lens : DO NOT use chemical cleaning agents
  Possibility to peel off the surface coating
  Possibility to dissolve the adhesive if the agent gets into the gap around the lens or the lens barrel

◆ Monitor screen : DO NOT use chemical cleaning agents
  Possibility to peel off the surface coating