



PANDEMIC: PROPERTY LOSS PREVENTION

Temporary production of hand sanitizer

At FM we remain committed to providing our clients with the best property loss prevention advice to keep your facilities resilient and safe, particularly during these challenging times. We understand that many companies are doing their part to supply materials needed during the pandemic response. If dedicating your assets and people to the production of alcohol-based hand sanitizer is one of the ways you are contributing, it's important to recognize that your buildings and equipment may not be suitably designed for this purpose and therefore you could be introducing a severe risk. The following aspects should be considered to ensure your properties remain protected and safe:

- Hand sanitizer production typically utilizes alcohols and glycerin, which can introduce significant hazards. The use of low-flash point liquids such as ethyl alcohol (flash point 13°C / 55°F) and isopropyl alcohol (flash point 12°C / 53°F), meaning these can readily ignite and burn at room temperatures.
- The storage of raw materials and finished product in plastic containers can create a severe fire hazard. Most warehouse fire protection systems are not designed for this hazard.

Property loss prevention advice

To assist you in your efforts to mitigate the potential impact of these risks in this sector, the following loss prevention advice will help keep your properties resilient and safe. They are intended to be for a short-term temporary production situation only; FM and FM Affiliated clients should contact their account engineer or local FM loss prevention consultant to review the specific measures. If production is likely to extend beyond the short term (several weeks), permanent measures should be implemented.

- Alcohols – Safe storage and use of portable containers
 - Utilize metal storage tanks or metal drums/ Intermediate Bulk Containers (IBC) for all alcohol raw materials.
 - Avoid the use of plastic IBCs to store low-flash point ignitable liquids.
 - Store these materials in a segregated room or low-value detached building, designed for ignitable liquids storage.
 - Minimize the quantities stored and staged in production areas to no more than one shift's quantities.
- Store bulk finished hand sanitizer in metal containers. Finished sanitizer in small plastic containers should be shipped promptly to customers or stored in a suitably designed ignitable liquids storage room or low-value detached building.

Alcohols – Process hazards

- Utilize dispensing and process equipment designed for ignitable liquids. This includes the use of **drum pumps, drum safety bungs**, etc. More information on ignitable liquids safeguards is available at this [LINK](#).
- To prevent ignition, utilize only electrical equipment rated for ignitable liquids use. To prevent static ignition, properly bond and ground all equipment. More information on bonding and grounding is available at this [LINK](#).
- Ensure adequate forced ventilation in all areas where alcohols are processed, to prevent the accumulation of vapors and a severe fire/explosion.
- Avoid the use of temporary plastic hoses and connections. Instead, use steel piping to transfer liquids.

Useful resources

These FM resources can provide you with additional information:

- FM Property Loss Prevention Data Sheet 7-32
- FM Property Loss Prevention Data Sheet 7-29
- Relevant FM Approvals Approval Standards for products you may need:
Drum Pump: FM601; Drum Dispensing Safety Vents: FM6082; Self-closing faucets FM603; Flexible hoses: FM6036;

For more information and methods for addressing loss prevention concerns at your facility, refer to the free resources on FM's website at fm.com. FM and FM Affiliated clients can contact their account engineer.

