Stat-X® Aerosol Fire Suppression

Post Discharge Clean-up and System Re-Commissioning

Guide

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AS WITH ANY FIRE SUPPRESSION PRODUCT, CLEANING OF RESIDUE AND RE-COMMISSIONING OF FACILITIES AND EQUIPMENT WILL VARY DEPENDING UPON FACTORS EXISTING BEFORE, DURING AND AFTER DISCHARGE.

WARNING

DO NOT ENTER HAZARD SPACE WITH AN OPEN FLAME OR LIGHTED CIGARETTE.

THE POSSIBLE PRESENCE OF FLAMMABLE VAPORS MAY CAUSE RE-IGNITION OR EXPLOSION.

ENSURE FIRE IS COMPLETELY EXTINGUISHED PRIOR TO VENTILATING THE HAZARD SPACE.

VENTILATE THOROUGHLY OR USE SELF-CONTAINED BREATHING APPARATUS BEFORE ENTERING.

RECOMMENDED PROCEDURE

Note: See AREAS WITH SENSITIVE ELECTRONIC EQUIPMENT for important additional information.

These procedures must be followed in sequence to successfully re-commission a Stat-X® suppression system.

1. After discharge, allow a minimum agent holding time of 10 minutes before ventilating the hazard space.

2. Always have backup portable fire extinguishers on hand for use in the unlikely event of fire re-ignition.

3. Ventilate the hazard area thoroughly by forced ventilation or by opening doors and windows. For best results, smoke ejectors or exhaust blowers fitted with non-collapsible extraction ducting should direct the air outside.

Note: If incoming fresh air is high in humidity, dehumidification is recommended after space is vented. Agent residue not cleaned up following discharge can absorb humidity and may create a surface film or cause surface metal discoloration.

4. If it is necessary to enter the hazard area prior to completing the ventilation, wear suitable respiratory protection conforming to relevant OSHA requirements (including 29 CFR 1910, subpart L, section 1910.160) to avoid unwanted inhalation of fire by-products and aerosol fire suppression agent.

5. Inspect that all fire is extinguished and there are no localized hot spots or other sources of re-ignition present.

6. Any minor amounts of agent residue not removed during ventilation should be thoroughly vacuumed, blown, brushed, or washed away using an acetic acid – water solution of approximately 3.5% (by volume)*. Residue should be removed within 24 hours if possible.

7. Occasionally agent may agglomerate onto equipment or surfaces near the aerosol generator discharge ports. Inspect for agent build-up and clean per Step 6 above as soon as possible.

WARNING

DO NOT TOUCH AEROSOL GENERATORS WITHIN 15 MINUTES AFTER END OF DISCHARGE. THE GENERATOR METAL SURFACES MAY BE HOT ENOUGH TO CAUSE INJURY TO UNPROTECTED SKIN.

8. Spent aerosol generators will remain quite hot to the touch for a time after discharge. They can be removed wearing suitable hand protection and by following your facility's maintenance and cleanup procedures.

9. Dispose of spent generators according to applicable federal, state, local, and your facility's requirements.

10. Contact your authorized Stat-X® distributor for system re-commissioning and replacement aerosol generators. The US DOT has classified packaged aerosol generators as dangerous goods. Consult Stat-X SDS sheets for further handling and safety information.

Important: Systems must be inspected, replaced, and re-commissioned by a trained and authorized Stat-X fire suppression distributor.

GENERAL GUIDELINES

Generally, fire by-products can be unknown, potentially harmful, and pose the biggest risk to equipment, facilities, and personnel. Stat-X agent itself is extremely effective. To clean most spaces other than electronic equipment there is little

need to do more than ventilate and vacuum the area. Still, any signs of accumulated fire by-product or agent residue should be washed from bare metal or slight surface discoloration may occur. This includes blades and casings of fan units. Also, if housekeeping was lax existing dirt may have blown around and been re-deposited during discharge or ventilation. A thorough inspection and cleaning of the hazard space is the best way to ensure no unwanted residue remains. Small amounts of particulate may be deposited during discharge and may stain walls and floor surfaces.

Note: The aerosol fire suppressant solid particulates contains potassium, an alkali salt. Initially following a discharge, settled particulates are highly deliquescent and will attract moisture in the air. This can cause surfaces covered by residue to become temporarily moist or wet at a high pH level until the particulates dry due to evaporation. Certain metals susceptible to corrosion such as unprotected copper, aluminum, or bronze may experience accelerated surface oxidation or discoloration.

AREAS WITH SENSITIVE ELECTRONIC EQUIPMENT

Recovery activities should begin immediately after system discharge and the area is secured from fire re-ignition. This will help protect electronic assets from possible damage due to fire by-products or oxidation by aerosol agent reaction with ambient moisture. According to the *Disaster Recovery Journal*, restoration process carried out by recovery specialists can successfully restore electronic equipment to a pre-loss condition in the majority of cases.

Systems requiring emergency power off (EPO) capability per NFPA® 75 should de-energize circuitry cooling fans during discharge to minimize driving agent or fire by-product particulates onto sensitive electronic surfaces. After securing the area from possible re-ignition, fire service or safety personnel should place smoke ejector fans to the outside of the building with exhaust ducting positioned into the hazard space as recommended by NFPA's "Ladder Company Fireground Operation" guide. Ventilating fans should not be placed inside the space since they will only blow dirt, dust, or residue around causing general contamination. Introduction of humidity by opening windows or doors should be avoided. After ventilating the space, use of auxiliary dehumidifiers to reduce humidity levels as much as possible and to avoid unconditioned outside air ingress with excessive humidity is recommended until the area is cleaned. Since many fire by-product and Stat-X agent particulates are 1-2 microns in size or more, use of a HEPA grade vacuum cleaner during recovery will have good success removing particulates 0.3 microns and larger and is recommended.

Procedures used to cleanse electronic assemblies are similar to those used in the original manufacturing cycle. Specialists disassemble equipment only to the level of accessing contaminated surfaces, and then apply cleaning processes that remove contamination to levels of MIL-P-28809. Because Stat-X aerosol agent residue is water soluble, follow this procedure:

1. Wipe with hot deionized or distilled water and approximately 3.5% acetic acid solution (by volume)*
2. Let stand for a couple of minutes
3. Rinse with hot deionized or distilled water or wipe with clean wet cloth/towel
4. Wipe again with hot deionized or distilled water & dishwater soap solution
5. Rinse with hot deionized or distilled water or wipe with clean wet cloth/towel
6. Wipe with dry cloth

For best results, cleansing activity should take place as soon as possible.

*Cleaning grade acetic acid is typically 5%-6% acetic acid solution by volume. Please check product information. To achieve ~3.5% solution, follow directions below:

Starting Solution (by vol)	Steps	Resulting Solution
5%	Mix 70% starting solution with 30% water	3.5%
6%	Mix 60% starting solution with 40% water	3.6%

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