



Region Eight Fire Risk Management

Safety Bulletin



Date: May 17th, 2021

R8-FAM-RM-2021-20

Subject: Vehicle portable fire extinguisher internal chemical becomes “packed” and leads to extinguisher failure

Issue: Vehicle portable fire extinguishers are prone to having the extinguishing powder “pack” down from vibrations while stored in vehicles. 30-day **and** annual inspections of all portable fire extinguishers are required by the NFPA (National Fire Protection Agency) and OSHA (Occupational Safety and Health Agency). These inspections will help mitigate potential failures with portable fire extinguishers due to “packing.”

Annual Inspections: Annual portable fire extinguisher inspections are completed by *certified technicians*. The technician ensures that equipment is serviceable, hydrostatic testing has been completed, repairs are correctly made, and additional maintenance is performed as needed.

30-Day Inspection: *Professional certification* is not required to perform the 30-day inspection; any employee, once trained will be able to complete it. A 30-day extinguisher inspection ensures that the extinguisher is in its designated place (mounted securely in the vehicle with proper brackets), it has not been discharged or tampered with, and there is no obvious physical damage that would prevent its operation. Turning or shaking the extinguisher every 30-days will also help to ensure that the extinguishing material is not “packed.”

How do I know if my fire extinguisher has become packed?

Vehicle portable fire extinguishers use a mixture of oxygen and dry chemicals. By turning the fire extinguisher over, and slightly shaking it, you can feel the dry powder freely move inside. If the fire extinguisher reads “charged” and has been annually inspected within the last year, but you do not feel the powder freely moving, then your portable fire extinguisher may likely be “packed.”

What do I do if I believe my fire extinguisher has become packed?

If during the 30-day inspection you **cannot** feel the powder freely move, then strike the side or bottom of the canister with your hand until the material becomes loose. If this does not free the powder, replace the unit with a serviceable portable fire extinguisher immediately. Then, contact your unit’s safety manager to ensure that the un-serviceable fire extinguisher is inspected by a certified technician, before being put back into service.

Vehicle portable fire extinguishers are for personal protection and emergency use such as emergency egress or incipient fire stages. Extinguishing a vehicle fire requires advanced training and protection, and employees should not engage unless immediately needed to do so.

References:

[NFPA 10\(10\), Sec. 7.2. 1: Standards for Portable Fire Extinguishers](#)

[OSHA 29 CFR 1910.157\(e\)\(2\): Portable Fire Extinguishers](#)

[Johnson Controls. \(2018\). Caking Verses Packing of Dry Chemicals](#)

Contact: For additional questions or comments, please contact Heath Bell at heath.g.bell@usda.gov