



A UTC Fire & Security Company

Badger Fire Protection
www.badgerfire.com

TECHNICAL BULLETIN
#103-0110

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Subject: Dry Chemical Extinguishing Agent Exposure and Agent Clean Up

From time to time Badger receives calls and questions regarding potential exposure problems associated with dry chemical extinguishing agents. This bulletin is intended to briefly address the majority of these concerns.

Personnel Health and Exposure Concerns:

Badger has been manufacturing and selling dry chemical extinguishing agents for close to 50 years. Over this period of time, personnel exposed to the testing, manufacture, training and recharging of dry chemical extinguishing agents have never generated any history of health problems. Badger dry chemical agents are considered non-toxic and safe, but by government regulation are classified as nuisance dusts, which accounts for their HMIS designation of 1-0-0. As with any form of nuisance dust exposure they can produce irritation to the eyes, nose and throat as well as temporary vision and shortness of breath. Direct exposures can also sometimes trigger or aggravate an existing asthmatic condition present in some people. The brief dry chemical agent exposure typically associated with hand portable fire extinguisher discharges are typically limited to a matter of seconds and are therefore classified as acute exposures.

The decomposition of dry chemical agents occurring during hand portable extinguisher fire fighting evolutions are very limited and from a health perspective, considered extremely minimal when compared to the toxic decomposition products commonly produced from burning materials.

Effects of Dry Chemical Agents on Material Surfaces and Clean Up:

On the pH scale, Badgers "Regular" and "Purple-K" Class B:C dry chemical agents have slightly alkaline bases, with the "Multipurpose" class A:B:C dry chemical agent's base being slightly acidic. It is important to point out however, that the acidic base level is not like battery acid, but more comparable to that of cola, beer or ketchup.

All of the Badger dry chemical agents are considered to be non-corrosive in their dry states, which is why the internal mild steel and aluminum extinguisher components do not require a protective finish. The potential for dry chemical agents to create a corrosion or finish problem on various unprotected metal surfaces typically depends on several factors. As with any material residue, when moisture, humidity, heat or the mixing of other materials is factored in over a period of time, various effects are possible on unprotected surfaces. For this reason Badger always recommends the prompt clean up of any extinguishing agent residues remaining after a discharge.

In most cases, dry chemical extinguishing agent residues can be swept, wiped, vacuumed or washed clean. Electrical contacts directly exposed to dry chemical residues should be cleaned with electric contact cleaner. With the yellow colored "Multipurpose" A:B:C types of agent however, it is important to understand that they are designed to melt at around 250 degrees Fahrenheit to produce a clear, thin oxygen sealing residue for the effective extinguishment of class "A" fires. Under these conditions, the removal of the "multipurpose" dry chemical agent residue will sometimes require the scrubbing of that surface with an alcohol based cleaning medium or solution of hot water and baking soda. Unprotected metal surfaces exposed to heat and "multipurpose" agents will sometimes later display various degrees of surface corrosion if they were not properly cleaned. Never use ammonia based cleaners to clean up "Multipurpose" A:B:C dry chemical extinguishing agents.

Should you need additional information, please refer the appropriate dry chemical extinguishing agent Material Safety Data Sheet (MSDS) or contact Badger (800-446-3857).