



Bathed in a foggy, foggy dew

Mobile fogging equipment, recently introduced to prevent cross-contamination during the manufacture of pharmaceutical powders, is being further developed for use by emergency services in industry and civil defence, where it can equally be applied to the containment or neutralising of chemical/biological contaminants.

'Fogging', in this sense, is the generation and application of a light mist of very fine droplets that dampen a surface without wetting it. In the pharmaceutical industry, the technique is used by operatives on exit from critical locations to encapsulate dust residues on PPE (personal protective equipment) clothing so that it can be discarded safely. This would normally follow a planned break in regular containment procedures, but the flexibility of the technology opens new possibilities for its employment in unplanned situations over a wider field.

For instance, the system could be used to encapsulate and/or neutralise contaminant in dust, droplet or gas form - treating clothing, skin or the local environment. The equipment also incorporates a washdown facility, for direct removal of contaminant from person or objects.

Mobility is the key. Containment technologist Tony O'Connell, then on the staff of a major pharmaceutical manufacturer in south-west Ireland and now an independent consultant, conceived the idea of fog carts that could operate anywhere within the plant and which might provide a practical, more flexible and lower cost alternative to permanent decontamination showers. Earlier experiments, with fog lances, had only limited success as they needed external water supply and a second operator. Moreover, the heavy mist generated left floors wet and slippery.

Collaboration with spray technology specialists, Spraying Systems, helped O'Connell build and test

a prototype fog cart, and in November 2002 a fleet of factory-built carts came into successful operation. "It let us set up a buffer zone for decontamination almost anywhere," he says. "We just marked out a small dedicated area next to the exit in each room and put a cart there. To use it, the operative puts down a small piece of adsorbent mat, starts the sprays and turns round gently in the fog for one minute. The fog is very light, so the floor stays relatively dry and there is no water disposal problem."

Designed and built by the AutoJet Technologies division of Spraying Systems, the fog cart was from the outset conceived as a self-sufficient unit, independent of external water sources and with all spray components, instrumentation and controls built in. Its construction is modular - all the specialised components are standard items from the Spraying Systems' catalogue. The cart format itself was chosen for the particular needs of pharmaceutical plants, but for other situations the system can be re-figured - for example as a portable back-pack unit, with compressed air carried in a standard 7-litre pressure vessel as used for fireman's breathing apparatus.

As most recently supplied, the fog cart incorporates two AirJet Fogger nozzles, adjustable for height and flow rate, a lightweight hand-held air atomising spray gun and a washdown gun. Water, or other liquid, sufficient for more than 2 hours fogging, is carried in a removable stainless steel 19-litre pressure pot. There is a quick-connect inlet for attachment to plant air or other supply for the compressed air used to move liquid to the spray nozzles and to help atomisation.

As a specialist on the pharmaceutical industry, Tony O'Connell may be contacted through his company, Containment Service Providers Co. Ltd., Email containment@eircom.net. **IM**

A mobile fogging unit, dispensing a fine, damping spray of droplets, is one of the latest pieces of equipment for personal decontamination.



For further details quote the relevant enquiry number on page 41

Spraying Systems Limited
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