

## Fire Fighting Foam Disposal Recommendations

Angus Fire foam concentrates are especially formulated for minimal environmental impact. However, as with all foams and most other organic liquids, they are capable of adversely impacting on the environment under certain conditions. Measures should therefore be adopted to dispose of foams responsibly in accordance with relevant liquid waste disposal regulations.

### Foam-Water Solution

Foam-water solutions are generally discharged under either controlled conditions (eg. training exercises, foam system commissioning and maintenance tests) or uncontrolled conditions (eg. manual fire fighting and vapour suppression operations, accidental foam system activation).

Foam-water solutions should be contained and disposed of in an environmentally responsible manner. They should not be diluted and dispersed into watercourses, soils, or foul water drains without the prior consent of the local environmental authority.

There are a variety of containment measures that may be employed, ranging from temporary arrangements to permanent engineered systems. The relevant enforcing authority should be consulted for practical advice on the most appropriate containment measures for a particular site and discharge scenario.

Once the foam-water solution has been contained, the common methods of disposal include incineration, concentration followed by filtration,

or biologically in a wastewater treatment plant (WWTP). The nature of the foam effluent will govern the most suitable method of disposal.

If appropriate for disposal purposes the WWTP should be contacted prior to discharge. In most cases it will require a Safety Data Sheet for the foam concentrate (contains information on composition, BOD, aquatic toxicity), an estimate of the total volume of foam-water solution to be discharged, and the anticipated timing of the discharge.

A WWTP may require foam-water solutions to be diluted in advance in order to prevent shock loading of the sewage bacteria and to minimise foaming.

Foaming may also be controlled by the selective use of defoaming agents but the environmental properties of any defoaming agent should be taken into consideration prior to use.

Foam-water solutions pre-treated in oil/water separators may emulsify with hydrocarbon fuels and so carry them over into the water stream. Solutions containing synthetic detergent foams have a greater tendency to emulsify than those containing natural protein-based foams.

Foam-water solutions generally exhibit low toxicity to bacteria in WWTPs. Natural protein-based foams exhibit lower toxicity than synthetic detergent based foams. Foam-water solutions may have a higher BOD than liquids that are usually treated in WWTPs, however, and so microbial oxygen uptake may be inhibited if excessive quantities are discharged.

### Foam Concentrate

Foam concentrates may need to be disposed of in the event of a spillage or if they are judged unsuitable for use as a result of being diluted or contaminated by foreign materials. They should be taken to an approved disposal site by a licensed waste disposal contractor for disposal by controlled release to a WWTP or by incineration, depending on the foam type. It is advisable to obtain a certificate of disposal from the waste contractor.

### Further information and relevant legislation available from:

[http://books.hse.gov.uk/hse/public/saleproduct.jsf?catalogueCode=9780717609901Foam Disp](http://books.hse.gov.uk/hse/public/saleproduct.jsf?catalogueCode=9780717609901Foam+Disp)

<http://www.environment-agency.gov.uk/business/topics/pollution/39083.aspx>

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:327:0001:0072:EN:PDFRecommendations>

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:372:0019:0031:EN:PDF>

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1991:135:0040:0052:EN:PDF>

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FM 00215



EMS 576644