

		Water-based				Gaseous		Powder	
Effect on:	Risk:	Water	Water plus additive	Foam	Wet Chemical	Carbon Dioxide	Gaseous (Halon replacement types)	Powder (ABC and BC types)	D Class Powder
People	Toxicological	None unless contaminated by toxic substances	None unless contaminated by toxic substances	None unless contaminated by toxic substances	None unless contaminated by toxic substances	No risk to user	Dependent upon gas type and concentration - may be toxic to user	Commonly used powders are non-toxic	Some D class powders react with metal fires to produce toxic fumes
	Respiratory	None unless bacterially contaminated	None unless bacterially contaminated	None unless bacterially contaminated	None unless bacterially contaminated	No risk under normal usage - higher risk in confined spaces	Dependent upon gas type and concentration - may be respiratory risk to user	Risk to user of irritation to respiratory tract and lungs (particularly if susceptible - e.g. asthmatic)	Risk to user upon operation unless appropriate respiratory apparatus used
	Dermatological	No risk to user	Wetting or foaming additive may be an irritant	Wetting or foaming additive may be an irritant	Wetting or foaming additive may be an irritant	No risk to user	No risk to user	Powder (particularly, if wetted) may be an irritant	Powder (particularly, if wetted) may be an irritant
	Electrical	User at high risk of electrocution if used on live electrics	User at high risk of electrocution if used on live electrics	User at high risk of electrocution if used on live electrics	User at high risk of electrocution if used on live electrics	No risk to user	No risk to user	No risk to user	No risk to user
	Noise	Minimal noise	Minimal noise	Minimal noise	Minimal noise	Very noisy - may startle user upon operation	Noisy - may startle user upon operation	Noisy - may startle user upon operation	Minimal noise
	Visual	No risk to user	No risk to user	No risk to user	No risk to user	Visual impairment during operation which ceases after discharge	Visual impairment during operation which ceases after discharge	Considerable visual impairment during operation which continues after discharge	No risk to user
	Cooling	No risk to user	No risk to user	No risk to user	Some risk to user if 'slop-over' of hot fat occurs	May cause frost-burns to user if incorrectly operated	May cause frost-burns to user if incorrectly operated	No risk to user	No risk to user
Property	Wetting	Variable risk to materials that are destroyed, deteriorate or degrade upon wetting	Variable risk to materials that are destroyed, deteriorate or degrade upon wetting	Variable risk to materials that are destroyed, deteriorate or degrade upon wetting	Variable risk to materials that are destroyed, deteriorate or degrade upon wetting	No risk to property	No risk to property	No risk to property	No risk to property
	Corrosive	Risk to metals (particularly iron/steel) including internal workings of machinery/electrical	Risk to metals (particularly iron/steel) including internal workings of machinery/electrical - Also, risk of corrosion to other materials. Careful clean-up afterwards of equipment/materials wetted in the course of fire-fighting may be required.	Risk to metals (particularly iron/steel) including internal workings of machinery/electrical - Also, risk of corrosion to other materials. Careful clean-up afterwards of equipment/materials wetted in the course of fire-fighting may be required.	Risk to metals (particularly iron/steel) including internal workings of machinery/electrical - Also, risk of corrosion to other materials. Careful clean-up afterwards of equipment/materials wetted in the course of fire-fighting may be required.	None - clean agent leaving no residue and requiring no clean-up	Clean agent leaving no residue and requiring no clean-up. Some gases decompose upon use on a fire and produce corrosive decomposition products	Risk to materials when wetted of potentially forming a 'baked' on acidic layer that can be corrosive. Discharged powder may remain in the air for some time necessitating more than one clean-up.	Risk to materials when wetted of potentially forming a 'baked' on layer that can be corrosive. Discharged powder may remain in the air for some time necessitating more than one clean-up. Some D class powders are salts and therefore corrosive
	Cooling	No risk to property	No risk to property	No risk to property	No risk to property	May cause thermal damage to electrical components	May cause thermal damage to electrical components	No risk to property	No risk to property
	Electrical	Risk to electrical equipment through short-circuiting	Risk to electrical equipment through short-circuiting	Risk to electrical equipment through short-circuiting	Risk to electrical equipment through short-circuiting	No risk to property	No risk to property	Risk to electrical equipment through 'baking' onto components	Risk to electrical equipment through 'baking' onto components Some D class powders are salts and therefore corrosive
Environment	Atmospheric	No risk to environment	No risk to environment	No risk to environment	No risk to environment	Has a global warming potential (GWP) but is not subject to environmental controls	Have a variable global warming potential (GWP) and atmospheric lifetime (ATL) depending upon the gas type. May be subject to environmental controls depending upon gas type and volume.	No risk to environment	No risk to environment
	Groundwater	No risk to environment	Has a groundwater impact - must be collected for disposal or discharged to foul sewer only	Has a groundwater impact - must be collected for disposal or discharged to foul sewer only	Has a groundwater impact - must be collected for disposal or discharged to foul sewer only	No risk to environment	No risk to environment	No risk to environment	No risk to environment
	Hazardous Waste	No risk to environment	Classed as hazardous waste for disposal	Classed as hazardous waste for disposal	Classed as hazardous waste for disposal	No risk to environment	Subject to environmental controls for disposal	Classed as hazardous waste for disposal	Classed as hazardous waste for disposal