Pressure-vessels

Incidents involving pressure vessels used for sterilising microbiological materials have been reported in recent months. In all cases, it would seem that the incidents could have been avoided if equipment had been maintained or used properly.

In one case, a domestic pressure cooker was being used to sterilise used agar plates before disposal, with the plates inside a roasting bag. During the sterilisation cycle, it would seem that the roasting bag moved and blocked the steam outlet. Pressure increased to the point that the lid of the pressure cooker was blown off. For some reason, the safety valve did not blow out. Fortunately no one was in the room at the time so no injuries were caused, though damage to the fabric of the room was extensive. When carrying out such operations, it is vital to ensure that the pressure vessel is not overloaded (better to split the load and use the equipment several times) and to ensure that either a small autoclavable bag is used or that the excess material of a larger bag is cut off so that blocking of the steam outlet cannot occur. Although the non-failure of the safety valve has not been explained, it is important to check such valves regularly and replace them if there is any indication that the rubber has lost its flexibility.

In a further incident, involving a portable steam steriliser, an explosion occurred which resulted from over-pressurisation. In this case, the equipment had not been properly maintained, with the gasket replaced using an incorrect part. The caps of the bottles being sterilised had been tightly screwed down instead of loosened. The remedies for these problems are evident.

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