

Royal Pharmaceutical Society, Medicines, Ethics & Practice methods of denaturing controlled drugs (Appendix 1)

All medicines should be disposed of in a safe and appropriate manner. Medicines should be disposed of in appropriate waste containers that are then sent for incineration. They should not be disposed of into the sewerage system. Table specifies how controlled drugs should be destroyed – according to their type of formulation.

Dosage Form	Method of denaturing
Tablets and capsules	<p>Remove from outer packaging and, wearing gloves, remove from blister packaging and place into a CD denaturing kit (a commercial product designed to render controlled drugs irretrievable).</p> <p>Best practice would be to grind* or crush* the solid dosage formulation before adding to the CD denaturing kit to ensure that whole tablets or capsules are irretrievable</p> <p>An alternative method of denaturing is to crush or grind the solid dose formulation and place it into a small amount of hot, soapy water – stirring sufficiently to ensure the drug has been dissolved or dispersed. The resulting mixture, once cool, can then be added to an empty waste disposal container supplied by the waste contractor</p>
Liquid dose formulations	<p>Pour from container into a CD denaturing kit, which should then be placed into a pharmaceutical waste container</p> <p>Alternatively, pour onto an appropriate amount of cat litter (or similar product), taking into account Health and Safety Regulations so that the person destroying the drug and the environment are safeguarded from harm and pollution</p> <p>The cat litter (or similar product) should be disposed of by incineration via the usual waste disposal methods for medicines</p>
Ampoules	<p>Wearing suitable protective gloves, ampoules containing liquid should be opened and the contents emptied into a CD denaturing kit or disposed of in the same manner as the disposal of liquid dose formulations above. The ampoule can then be disposed of in the sharps bin</p> <p>Wearing suitable protective gloves, ampoules containing powder can be opened and then have water added to dissolve the powder inside. The resulting mixture can then be poured into the CD denaturing kit. The ampoule can be disposed of in the sharps bin</p> <p>An alternative, but less preferable, disposal method is to crush the ampoules with a pestle inside an empty plastic container. Once broken, a small quantity of hot, soapy water (for powder ampoules) or cat litter (for liquid ampoules) is added. If these methods are used, care should be taken to ensure that the glass does not harm the person destroying the drug. The resulting liquid mixture should then be disposed of in a CD denaturing kit or in the bin that is used to dispose of liquid medicines</p>
Fentanyl or buprenorphine patches	<p>The active ingredient in the patches can be rendered irretrievable by removing the backing and folding the patch over on itself and then placing it in a waste disposal bin or, preferably, a CD denaturing kit. Gloves must be worn by the person destroying the patch</p>
Aerosol formulations	<p>Aerosol formulations should be expelled into water (to prevent droplets of drug entering the air). As a further precaution, a facemask should be worn by staff undertaking the activity.</p> <p>Also, it should be carried out in well ventilated area. The resulting solution can then be disposed of in accordance with the above guidance on destroying liquid formulations</p>

**If grinding or crushing of tablets or capsules takes place, steps must be taken to ensure that particles of drug dust are not released into the air – or that this is minimised. The use of a small amount of water while grinding or crushing may assist. It may also be necessary for the person involved in the grinding or crushing to wear a suitable face mask for protection, suitable gloves and ensure that the area is well ventilated.*