

Best Practice for Post-consumer aerosol recycling

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The health and safety issues associated with the recovery of empty post-consumer aerosols are generally the same as those associated with other recyclables and as such are covered by general guidance to good practice for operating MRFs.¹

Operating procedures specific to the recycling of empty post-consumer aerosols within the context of a general Health and Safety Code of Practice are set out below:

Only aerosols derived from the domestic waste stream should be handled by the MRF. Aerosols from the commercial waste stream should be directed to specialist recycling facilities.

1. As far as possible **only empty aerosols** should be handled by the MRF. This should be emphasised at the point of collection and through advice given to householders. Additional advice on appropriate disposal routes for unused or faulty aerosols should also be provided. Consumers should be warned not to pierce or crush aerosols themselves.
2. Aerosols **should not be segregated** from the steel and aluminium recycle streams
3. A **no-smoking policy should be enforced** during collection, transport and material handling at the MRF, with training given to operators to explain why the policy is required.
4. **Good ventilation is required at the MRF** in areas where aerosols are handled or may accumulate, e.g. the transit and sort conveyors, automated separators baler/shredder feed hopper, baling press and immediate storage area for completed bales.
5. The baler should be installed in an area where good ventilation can be maintained to prevent accumulation of flammable gases or vapours, i.e. not in a pit because flammable gases are heavier than air.
6. A **'Zone 2' Area should be maintained** in one metre horizontally and vertically of the press, and the last two bales produced.

Zoned Areas must be marked with specified 'EX' signs; workers will need to be provided with appropriate clothing that does not create an electrostatic discharge, and only equipment certified as suitable for use in the Zone may be used.

7. The baler and other equipment used in the Zone 2 Area should comply with the requirements of **BSEN 60079**.
8. The **baler and other equipment in this area should be well-maintained** so that there are no loose parts which could become detached in the event of a deflagration, e.g. lids, gratings, panels, etc.
9. Operators should not stay within the Zone 2 area during operation of the baler.

10. New bales should be removed promptly from the baler and aerated for at least 30 minutes to allow any residual vapours to disperse.
11. Fire extinguishers should be available for use in the vicinity of the baler. Dry powder or foam extinguishers are effective for combating fires involving flammable liquids; carbon dioxide extinguishers are suited for use on fires involving flammable gases.
12. A good standard of housekeeping should be maintained throughout the MRF and no debris, especially of combustible material, should be allowed to collect; in particular around and underneath the baler.
13. A written standard operating procedure/code of good practice should be drawn up for the MRF with operators trained to follow it. A good standard of supervision should be maintained throughout the MRF.
14. Adequate and suitable training should be provided for all persons working in the MRF to ensure they are familiar with, and understand, the precautions that must be taken and the emergency procedures to be followed in the case of a fire or other incident.

Further recommendations for MRFs using can flatteners rather than balers:

15. Mesh screens should be placed over the can flattener in-feed and output hoppers to prevent can components escaping as missiles.
16. Open (mesh) sided skips should be used to store newly flattened aerosols to prevent the accumulation of flammable gas released during can flattening.
17. The can flattener and mesh skips should be checked and cleaned periodically to prevent build-up of flammable residues.

These recommendations are based on published experimental work and risk assessments with feed streams containing up to 5% post-consumer aerosols. If the proportion of aerosols in the feed stream were to be higher, the risks associated with handling the material would also be expected to increase.

¹A health and safety review conducted for BAMA considers the recycling of aerosols in the context of a general MRF Health and Safety Code of Practice. The report includes general guidance on operational safety, health/hygiene, fire precautions, electrical hazards and personal protection. For a full copy of the general guidance or the full report please contact BAMA. www.bama.org.uk