

Department for Environment, Food and Rural Affairs

Biodegradable Bags

Solutions through Innovation- SBRI Lot 2 Phase 1

Project ref: WE0112 SBRI

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Aims and objectives:

The contractor Gluco Technologies Limited (acting as sub-contractor for Aquapak Polymers Limited) sought to examine whether the unique water solubility characteristics of the APL/ADI materials would allow them to be separated from other plastic film waste using dissolution methods.

In particular

- (i) To consider the end-of-life disposal of hydrophilic film formulations (other than composting which formed part of the Lot 1 Phase 1 programme).
- (ii) To gain a fundamental understanding of the dissolution process.
- (iii) To examine the ways in which dissolution steps might be incorporated into existing waste management systems.
- (iv) To explore possible ways of recovering hydrophilic materials for recycling.

Methods:

The relevant literature on the thermodynamics of polymer solubility in water was collected by the contractor. Of more significance from the standpoint of separating carrier bag material from other waste was the study carried out on the rate at which carrier bag film could be taken into solution (as this information was not previously available). The variables which might influence the dissolution examined included (a) temperature, (b) morphology of the material being dissolved, (c) mixing and stirring conditions, and (d) the presence of other non-soluble materials such as PE film.

Outputs:

The information contained in the rest of the report is being withheld as it falls under the exception(s) in regulation(s) 12(5) of the Environmental Information Regulations 2004 (EIRs), which relate(s) to confidentiality of commercial or industrial information. The potential for producing a new IP has been established and is being actively pursued as a result of the findings of this research. The information contained in this report is therefore commercially sensitive and could negatively impact the possibility of attaining IP if released.

In applying these exception(s), we (Defra) have had to balance the public interest in withholding the information against the public interest in disclosure.

We recognise that there is a public interest in disclosure of information concerning the outputs of this research into separation techniques for new biodegradable materials as it is publically funded.

On the other hand, there is a strong public interest in withholding the information because the information is relevant to only one company and its product development, which would be compromised if this material was released.

Therefore, we have concluded that in all the circumstances of the case, the information should be withheld.



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