

Non-packaging plastics

End of waste criteria for the manufacture of secondary raw materials from waste non-packaging plastics



This Quality Protocol was funded by Defra and the Welsh Assembly Government (WAG) as a business resource efficiency activity. It was developed by the Environment Agency and WRAP (Waste & Resources Action Programme) in consultation with Defra, WAG, industry, and other regulatory stakeholders. It is applicable in both England and Wales. It sets out criteria for the manufacture of secondary raw materials from waste non-packaging plastics.

Front cover photography: Footway constructed from recycled plastic materials in place of wood.

Contents

Foreword	01
1. Introduction	02
1.1 What is this Quality Protocol?	02
1.2 The purpose of the Quality Protocol	02
1.3 Complying with the Quality Protocol	02
1.4 Failure to comply with the Quality Protocol	04
1.5 Updating the Quality Protocol	05
1.6 Importing and Exporting Quality Protocol compliant material	05
2. Providing evidence of compliance with the Quality Protocol	07
Appendix A	
Definitions	08
Appendix B	
List of standards	10

Foreword

Background

Uncertainty over the point at which waste has been fully recovered and ceases to be waste within the meaning of Article 1(1)(a) of the EU Waste Framework Directive (2006/12/EC) has inhibited the development and marketing of materials produced from waste which could be used beneficially without damaging human health and the environment. In some cases, this uncertainty has also inhibited the recovery and recycling of waste and its diversion from landfill.

Interpretation of EU legislation is ultimately a matter for the courts and there is now a substantial body of case law on the interpretation of the definition of waste in Article 1(1)(a) of the Waste Framework Directive. Drawing on the principles established in this case law, it is possible to identify the point at which certain wastes cease to be waste and thus when the Waste Framework Directive's waste management controls no longer apply. This identification is the purpose of the Waste Protocols Project.

More specifically, depending on the circumstances of the waste stream concerned, the project seeks to achieve the following outcomes:

- to produce a Quality Protocol identifying the point at which waste, having been the subject of a complete recovery operation, may become a non-waste product or material that can be either reused by business or industry, or supplied into other markets, enabling such fully recovered products to be used without the need for waste management controls; and
- to produce a statement that confirms to the business community what legal obligations they must comply with to use the treated waste material.

What is a Quality Protocol?

A Quality Protocol sets out end of waste criteria for the production of a product from a specific waste type. Compliance with these criteria is considered sufficient to ensure that the fully recovered product may be used without harm to human health or the environment and therefore without the need for waste management controls. In addition, the Quality Protocol indicates how compliance may be demonstrated and points to good practice for the use of the fully recovered product.

The Quality Protocol further aims to provide increased market confidence in the quality of products made from waste and so encourage greater recovery and recycling.

1. Introduction

1.1 What is this Quality Protocol?

- 1.1.1 This Quality Protocol has been developed by *WRAP (Waste & Resources Action Programme)* and the *Environment Agency* in consultation with industry and other regulatory stakeholders. It is applicable in both England and Wales.
- 1.1.2 The Quality Protocol sets out end of waste criteria for the production of *secondary raw materials* from waste *non-packaging plastics*. If these criteria are met, processed waste non-packaging plastic will normally be regarded as having been fully recovered and to have ceased to be waste.
- 1.1.3 *Producers* and *users* are not obliged to comply with the Quality Protocol. If they do not the non-packaging plastic will normally be considered to be a waste and *waste management controls* will apply to its handling, transport and application.
- 1.1.4 The process of turning waste non-packaging plastic into secondary raw materials is classified as a waste recovery operation and is subject to the waste management controls in the Waste Framework Directive and domestic legislation. Producers should note that this Quality Protocol does not affect the obligation to hold an *environmental permit* and comply with all of its conditions to store and process waste non-packaging plastic.
- 1.1.5 Definitions for terms that appear in *italics* when they are first used in the Quality Protocol are provided in Appendix A.

1.2 The purpose of the Quality Protocol

- 1.2.1 This Quality Protocol has three main purposes:
- i. to clarify the point at which secondary raw materials from waste non-packaging plastics cease to be waste and waste management controls are no longer required;
 - ii. to provide users with confidence that the secondary raw material they purchase conforms to their agreed *specification*; and
 - iii. to protect human health and the environment (including groundwater) by setting standards for producing secondary raw materials.

1.3 Complying with the Quality Protocol

- 1.3.1 Secondary raw materials from waste non-packaging plastics will normally be regarded as having ceased to be waste, and therefore no longer subject to waste management controls, when they require no further processing before use, specifically:
- have been processed in accordance with all the requirements of the relevant European and British Standards listed in Appendix B;
 - meet any additional requirements specified by the customer;
 - have been supplied to the customer for use in an identified plastics manufacturing process¹; and
 - have been supplied to the customer with a Quality Protocol compliant *safety data sheet*².
- A Quality Protocol compliant safety data sheet is a sheet in the form of Table 1 which must be fully completed in order to give the customer the required information about the material. The information requirements in Table 1 are based on current guidance, however manufacturers of secondary raw materials from waste non-packaging plastics must ensure that the safety data sheets they produce conform to all applicable requirements³.

¹The Protocol does not apply to materials that are intended for any final end use (e.g. substitute aggregates), only identified plastics manufacturing processes.

²Waste is exempted from REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) (Regulation (EC) No 1907/2006) as it is covered by separate waste management controls. However, once waste has been fully recovered and ceases to be waste, waste management controls cease to apply and REACH may apply instead at that point. Unless specifically exempted (e.g. because a substance has already been registered), producers may need to register substances recovered from waste and placed back on the market and make available appropriate hazard and safety information, for example a suitable safety data sheet.

Further information on REACH is available at the REACH UK Competent Authority website www.hse.gov.uk/reach or Helpdesk on 0845 408 9575 or email ukreachca@hse.gov.uk or from the European Chemicals Agency website http://echa.europa.eu/reach_en.html.

³Additional guidance is available in the REACH UK Competent Authority leaflet *REACH and safety data sheets* (<http://www.hse.gov.uk/reach/resources/reachds.pdf>), which explains the current requirements for safety data sheets and how this will change in the future.

Table 1 – Information requirements of a Quality Protocol compliant safety data sheet

1	<p>Identification of the substance/preparation and of the company/undertaking</p> <ul style="list-style-type: none"> ■ Identification of the product. ■ Use of the product (including recommended end-use applications). ■ Identification of the company. ■ Emergency telephone number. ■ Information about the product (e.g. what it consists of). ■ Standards for recycled plastics.
2	<p>Hazards identification</p> <ul style="list-style-type: none"> ■ Chemical characterisation. ■ Hazardous ingredients.
3	<p>Composition/information on ingredients</p>
4	<p>First-aid measures</p>
5	<p>Fire-fighting measures</p>
6	<p>Accidental release measures</p>
7	<p>Handling and storage</p>
8	<p>Exposure controls/personal protection</p> <ul style="list-style-type: none"> ■ Exposure limit values. ■ Occupational exposure controls. ■ Environmental exposure controls.
9	<p>Physical and chemical properties</p>
10	<p>Stability and reactivity</p> <ul style="list-style-type: none"> ■ Conditions to avoid. ■ Materials to avoid. ■ Hazardous decomposition products.
11	<p>Toxicological information</p> <ul style="list-style-type: none"> ■ Toxicological data. ■ Health effects.
12	<p>Ecological information</p> <ul style="list-style-type: none"> ■ Ecotoxicity. ■ Mobility. ■ Persistence and degradability. ■ Bio-accumulative potential. ■ Other adverse effects.
13	<p>Disposal considerations</p> <ul style="list-style-type: none"> ■ Waste treatment. ■ Packaging treatment.
14	<p>Transport information</p>
15	<p>Regulatory information</p>
16	<p>Other information</p>
Annex	<p>Exposure scenarios</p> <p>This section needs to be completed if there is any hazardous content. It must contain:</p> <ul style="list-style-type: none"> ■ Basic information on hazardous content. ■ Main route of human exposure. ■ Main route of environmental exposure; and ■ Risk management measures.

- 1.3.2 Producers must demonstrate that these criteria have been met. They can do this in the ways set out in Section 2, that is, by producing and keeping copies of customer supply documentation including a *declaration of conformance* with this Quality Protocol and a Quality Protocol compliant safety data sheet.
- 1.3.3 If secondary raw material that complies with the Quality Protocol is mixed with waste materials, the resulting mix will be considered to be a waste and subject to waste management controls.
- 1.3.4 If secondary raw material that complies with the Quality Protocol is mixed with other non-waste materials, the resulting mix will not be waste.
- 1.3.5 Figure 1 outlines the main stages and control mechanisms of the Quality Protocol.

1.4 Failure to comply with the Quality Protocol

- 1.4.1 Where this Quality Protocol is not complied with, for example the secondary raw materials are not produced to an *approved standard* or the producer cannot demonstrate evidence of compliance, the secondary raw materials produced will normally be considered to be waste. In such circumstances, the producer/user must comply with the appropriate waste management controls⁴ for the transportation, storage and use of the secondary raw material and may be committing an offence if they do not do so.
- 1.4.2 Detailed guidance on waste management controls can be obtained from the Environment Agency's National Customer Contact Centre on 08708 506506, from its website (<http://www.environment-agency.gov.uk/subjects/waste/>) or NetRegs (<http://www.netregs.gov.uk/>).
- 1.4.3 It must be demonstrated that the secondary raw materials will actually be used in an identified manufacturing process. Producers and users of secondary raw material should note that, even if the Quality Protocol is complied with and the secondary raw material has ceased to be waste, the material will become waste again and subject to waste management controls if it is at any stage:
- disposed of; or
 - stored indefinitely with little prospect of being used.

⁴For example, persons who collect and transport the waste will need to be registered waste carriers.

1.5 Updating the Quality Protocol

- 1.5.1 We propose to review and update this document in July 2010 and every two years thereafter.
- 1.5.2 However, this document may be subject to change before these review dates. Triggers for change could include:
- pollution incidents;
 - a change in the market;
 - a change in legislation or case law.
- 1.5.3 This Quality Protocol may be withdrawn by the Environment Agency if it becomes apparent that it is generally being misused and/or misapplied.
- 1.5.4 This Quality Protocol will be adopted as a technical regulation under *Technical Standards and Regulations Directive 98/34/EC* (as amended)⁵. We recognise that there may be codes of practice or standards which apply in *European Economic Area (EEA)* States other than the UK setting out requirements for the manufacture of secondary raw materials from non-packaging plastics waste. We accept that secondary raw materials from non-packaging plastics waste may cease to be waste when despatched to a customer provided that they have been produced in compliance with:
- a relevant standard or code of practice of a national standards body or equivalent body of any EEA State; or
 - any relevant international standard recognised for use in any EEA State; or
 - any relevant technical regulation with mandatory or de facto mandatory application for marketing or use in any EEA State.

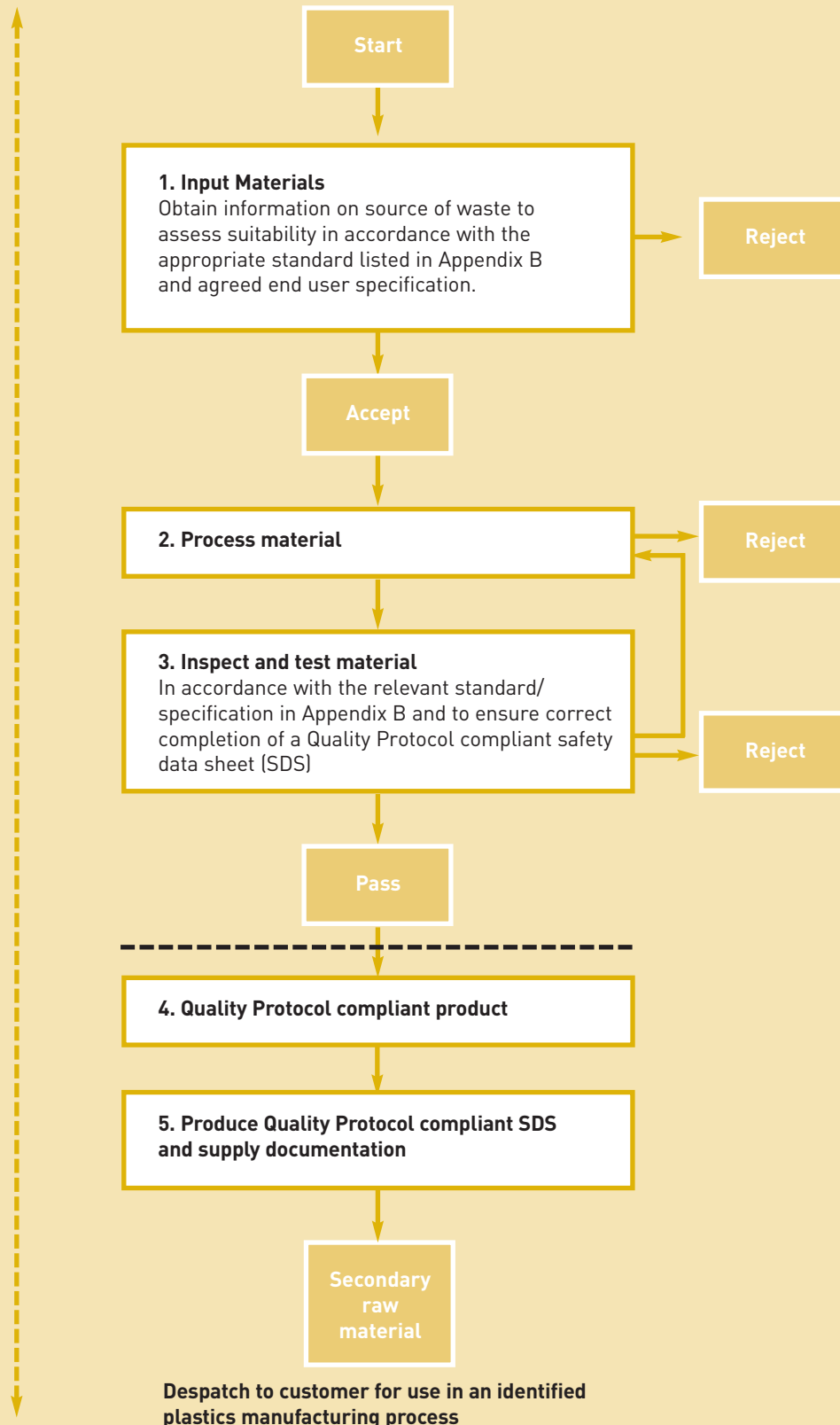
These must give levels of product performance and protection of human health and the environment which are equivalent to those required in this Quality Protocol.

1.6 Importing and exporting Quality Protocol compliant material

- 1.6.1 Producers intending to export Quality Protocol compliant materials should be aware that, although the material may cease to be waste in England and Wales, the country of destination may take a different view. Under the Waste Shipment Regulation (EC/1013/2006), if the competent authority in the country of destination considers the material to be waste, the controls specified in that Regulation will apply to the shipment.
- 1.6.2 Producers intending to import Quality Protocol compliant materials to England and Wales should be aware that if the country of dispatch regards the material as waste the controls set out in the Waste Shipment Regulation will apply to the shipment, even though the material may be regarded as having ceased to be waste in England and Wales.
- 1.6.3 As such it is prudent to check with the competent authority for the country of despatch or destination before importing or exporting tyre-derived rubber materials. A list of the relevant European competent authorities can be found at http://ec.europa.eu/environment/waste/shipments/pdf/list_competent_authorities.pdf

⁵The Technical Standards and Regulations Directive 98/34/EC seeks to ensure the transparency of technical regulations and is intended to help avoid the creation of new technical barriers to trade within the European Community.

Figure 1 Main stages and control mechanisms of the Quality Protocol



Key
 Point at which product ceases to be waste

 Records management required
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2. Providing evidence of compliance with the Quality Protocol

- 2.1 Evidence of compliance with the requirements of this Quality Protocol may be provided by retaining copies of supply documentation issued to the customer. It is expected that this will include documents which show:
- date of supply;
 - quantity by weight/volume and batch;
 - name and address of receiving business/establishment;
 - nature of receiving business/establishment; and
 - a copy of the *Quality Statement*.
- 2.2 The Quality Statement must give the following information:
- declaration of conformance to the European standard to which the material has been produced;
 - declaration of conformance to specification agreed between producer and customer; and
 - declaration of conformance to this Quality Protocol.
- 2.3 Records must also be kept of incoming wastes. Specifically, a record of each load delivered to site must be kept giving:
- date;
 - *European Waste Catalogue (EWC)* code and description;
 - place of origin (where known);
 - quantity by weight/volume;
 - registered waste carrier;
 - supplier; and
 - whether the load was accepted.
- 2.4 These input records may already be required to comply with the conditions of the environmental permit for the processing operation. This Quality Protocol does not effect the obligations on producers to comply with these environmental permit conditions.
- 2.5 All records must be available to the producer and must be retained for a minimum of two years.

Appendix A Definitions

In this Quality Protocol, the words and phrases below have the following meanings.

Term	Description
Approved standard	Any standard included in Appendix B and any other standard approved by the Environment Agency for inclusion.
Declaration of conformance	A statement issued by the producer to state that the material to which the declaration applies has been produced according to the Quality Protocol and the approved standard – see Quality Statement.
Environment Agency	The Environment Agency is the leading public body for protecting and improving the environment in England and Wales. Its job is to make sure that air, land and water are looked after by everyone in today's society, so that tomorrow's generations inherit a cleaner, healthier world.
Environmental Permit	<p>Environmental permits issued or exemptions registered under the Environmental Permitting (England and Wales) Regulations 2007, which came into force on 6 April 2008, or a position adopted by the Environment Agency in accordance with its guidance on the regulation of low risk activities.</p> <p>From 6 April 2008, the following automatically became environmental permits:</p> <ul style="list-style-type: none"> ■ PPC permits issued under the Pollution Prevention and Control (England and Wales) Regulations 2000 (as amended); ■ Waste Management Licences (WMLs) issued under the Environmental Protection Act 1990 (as amended). <p>Exemptions from the need for a Waste Management Licence, registered under Regulation 18 and Schedule 3 of the Waste Management Licensing Regulations 1994 (as amended) will now come under schedule 3 of the Environmental Permitting (England and Wales) Regulations 2007.</p>
European Economic Area (EEA)	The EEA States consist of the members of the EU (Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the UK) together with Iceland, Liechtenstein, Norway and Switzerland. Although the Channel Islands and the Isle of Man are part of the UK, they are not part of the EU and businesses registered there are subject to different licensing legislation.
European Waste Catalogue (EWC) code	European Waste Catalogue (EWC 2002 and amendments) – comprehensive list of waste codes and descriptions based on waste source and type.
End user(s)	Individuals or organisations that obtain secondary raw material from a producer or third party with the intention of using the material in a specific manufacturing process.
Non-packaging plastics	Any plastic that does not fall under the definition of packaging contained in this document.
Packaging	All products made of any materials of any nature to be used for the containment, protection, handling, delivery and presentation of goods, from raw materials to processed goods, from the producer to the user or the consumer. A more detailed definition of 'packaging' can be found in Article 3(1) of the Packaging Waste Directive.

Producer	The operator who processes the non-packaging plastic waste into secondary raw material.
Quality Statement	Documentation accompanying each load or consignment of secondary raw materials from waste non-packaging plastics, which details the chosen standard to which the product complies and states that the product was produced according to this Quality Protocol.
Registered waste carrier	A carrier of waste who is registered under the Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations 1991 – see waste carriers licence.
Safety data sheet (SDS)	Contains appropriate safety information on a product's health and environmental hazards.
Secondary raw materials	Non-packaging plastics waste that has been processed into chips or pellets that can be re-used to produce other plastic products.
Waste carriers licence	The EU Waste Framework Directive requires that establishments and undertakings who collect or transport waste on a professional basis to be registered waste carriers. This is implemented in domestic legislation by the Control of Pollution (Amendment) Act 1989. People who carry waste as part of their business are required to be registered with the Environment Agency.
Waste management controls	Controls under legislation that govern the treatment, handling, containment and storage of waste. For example, in compliance with Article 11 of the Waste Framework Directive the user might need to apply to the Environment Agency for a permit.
WRAP	WRAP helps individuals, businesses and local authorities to reduce waste and recycle more, making better use of resources and helping to tackle climate change.

Appendix B List of standards

Figure 2 – Table showing the European and British standards.

Reference	Title
BS EN 15342:2007	Plastics – Recycled Plastics – Characterisation of polystyrene (PS) recyclates
BS EN 15343:2007	Plastics – Recycled Plastics – recycling traceability and assessment of conformity
BS EN 15344:2007	Plastics – Recycled Plastics – Characterisation of polyethylene (PE) recyclates
BS EN 15345:2007	Plastics – Recycled Plastics – Characterisation of polypropylene (PP) recyclates
BS EN 15346:2007	Plastics – Recycled Plastics – Characterisation of poly(vinyl chloride) (PVC) recyclates
BS EN 15347:2007	Plastics – Recycled Plastics – Characterisation of waste plastics
BS EN 15348:2007	Plastics – Recycled Plastics – Characterisation of polyethylene terephthalate (PET) recyclates
CEN/TR 15353:2007	Plastics – Recycled Plastics – Guidelines for the development of standards relating to recycled plastics

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