

END-OF-WASTE CRITERIA FOR POLYETHYLENE & POLYPROPYLENE RECYCLATE PELLETS

SINGLE CASE DECISION FOR ADN MATERIALS LIMITED

This document sets out end-of-waste criteria for polyethylene (PE) and polypropylene (PP) recyclate pellets, produced by ADN Materials Limited.

ENVIRONMENTAL PROTECTION AGENCY

An Ghníomhaireacht um Chaomhnú Comhshaoil

PO Box 3000, Johnstown Castle, Co. Wexford, Ireland, Y35 W821

Telephone: +353 53 916 0600 Fax: +353 53 916 0699

E-mail: info@epa.ie Website: www.epa.ie

© Environmental Protection Agency 2020

Decision establishing End-of-Waste Criteria
under
Article 28 of the European Union (Waste Directive) Regulations 2011-2020
for
polyethylene (PE) and polypropylene (PP) recyclate pellets
produced by
ADN Materials Limited,
Lossetts,
Carrickmacross,
Co. Monaghan.

Decision Date: 22nd September 2020

Table of Contents

1	Introduction.....	4
2	Decision and Reasons for the Decision	5
3	Materials Handling & Control	6
4	Demonstrating compliance with the decision establishing end-of-waste criteria	8
5	Use and Restrictions on Use	11
	Appendix A: Glossary of Terms.....	12

1 Introduction

Article 6 of the Waste Framework Directive, 2008, as amended¹ was transposed into Irish law by the European Union (Waste Directive) Regulations 2011-2020². Article 28 of the Regulations assign responsibility to the Environmental Protection Agency to make certain decisions regarding end-of-waste.

1.1 What are end-of-waste criteria?

End-of-waste is a means of determining the point at which, for the purposes of waste regulation, a material need no longer be classified as waste after it has undergone a recovery, including recycling, operation and complies with specific criteria to be developed in accordance with the specific conditions as outlined in the Regulation.

1.2 Complying with the end-of-waste criteria

Compliance with the criteria as outlined in this document is sufficient to ensure that PE & PP recyclate pellets may be used as a secondary material without the need for waste regulation or control.

1.3 When end-of-waste compliant material may become waste

ADN Materials Limited (as processors) and users of PE & PP recyclate pellets should note that, even if the end-of-waste criteria has been complied with, the material will become waste again, and subject to waste management controls if:

- 1.3.1 it is discarded or there is an intention or requirement to discard, for example if it is disposed of;
- 1.3.2 it is stored indefinitely with little possibility of being used;
- 1.3.3 it is mixed with other waste materials; or
- 1.3.4 the producer cannot provide documented evidence of compliance with these end-of-waste criteria.

1.4 Updating the criteria

These end-of-waste criteria may be reviewed and updated by the EPA at any stage based on the experience of practical applications, technological developments or legislative amendments. The EPA reserves the right to depart from the position outlined and to take appropriate action to avoid overall adverse environmental or human health impacts. If at any time the European Commission publishes generally applicable end-of-waste criteria for PE recyclate pellets and/or PP recyclate pellets, those European criteria may supersede these criteria and the EPA may withdraw this decision.

¹ Waste Framework Directive - Directive 2008/98/EC on waste, as amended by Directive 2018/851

² Waste Directive Regulations - European Communities (Waste Directive) Regulations 2011 (SI 126 of 2011), as amended by European Union (Waste Directive) Regulations 2020 (S.I. No. 323 of 2020)

1.5 Exporting end-of-waste compliant material

These end-of-waste criteria are applicable in Ireland only.

1.6 Application

The PE & PP recyclate pellets may be used as a raw material in the manufacture of plastic products. The primary plastic products manufactured from the PE & PP recyclate pellets are non-food grade:

- plastic bags,
- plastic profile,
- telecommunication pipes,
- plastic film, sheeting,
- plastic drums, crates and containers,
- plastic profile boards.

1.7 Interpretation

This decision document is for the purposes of article 28 of the European Union (Waste Directive) Regulations 2011-2020, only and nothing in this document shall be construed as negating ADN Material Limited or users' statutory obligations or requirements under any other authorisations (including planning permission), enactments or regulations.

Restrictions on the use of PE & PP recyclate pellets are specified in Section 5 below.

2 Decision and Reasons for the Decision

The EPA has decided, in accordance with article 28(3) of the European Union (Waste Directive) Regulations 2011-2020, that the PE & PP recyclate pellets (as defined in the Glossary, Appendix 1) the subject of the application made by ADN Material Limited on the 10th September 2018, and produced at an appropriately authorised waste facility operated by ADN Material Limited, will cease to be waste if it complies with the end-of-waste criteria set out in this document.

The EPA is satisfied, based on:

- the information provided by the applicant, including additional information;
- National Standards Authority of Ireland (NSAI) Standards:
 - IS EN 15343: Plastics. Recycled plastics. Recycling traceability and assessment of conformity;
 - IS EN 15344: Plastics. Recycled plastics. Characterization of polyethylene (PE) recyclates;
 - IS EN 15345: Plastics. Recycled plastics. Characterization of polypropylene (PP) recyclates;
 - IS EN 15347: Plastics. Recycled plastics. Characterisation of plastics wastes;
 - SR CEN/TS 16010:2013: Plastics. Recycled plastics. Sampling procedures for testing plastics waste and recyclates; and,
 - SR CEN/TS 16011:2013: Plastics. Recycled plastics. Sample preparation.
- The Agency's June 2020 Draft Guidance on End-of-Waste;
- Joint Research Centre, 2009 Final Report on "End-of-waste criteria"; and

- Joint Research Council, 2014 Technical Report on "End-of-waste criteria for waste plastic for conversion",

that, subject to compliance with the requirements of this decision, the PE & PP recyclate pellets conform with the requirements of article 28(1)(a) & 28(2) of the Regulation and their use as raw material in the manufacture of plastic products will not lead to overall adverse environmental and human health impacts.

3 Materials Handling & Control

3.1 Waste Inputs

3.1.1 Inputs shall be restricted to waste plastics as per the List of Waste codes:

- Plastic packaging 15 01 02, and
- Plastics 20 01 39.

3.1.2 The following wastes shall not be used as input:

- Bio-waste, health care waste, and used products of personal hygiene;
- Waste originated from electrical and electronic equipment waste (WEEE), construction and demolition, and end of-life vehicles (ELV); and
- Hazardous waste.

3.2 Treatment Process

3.2.1 All treatments needed to prepare the waste plastic for direct input in a free flowing form (PE and PP pellets) for manufacture of plastic products, such as inspection, shredding/grinding, washing, melting and extrusion, and screening shall have been completed.

3.2.2 All processes which are required in order to obtain the PE & PP recyclate pellets shall be completed in accordance with waste regulatory requirements, including requirements relating to compliance with the waste authorisation for the facility in which the material is produced.

3.2.3 Waste plastic streams used as input shall, once received by the producer or importer, be kept permanently separate from contact with any other waste, including other waste plastic grades.

3.3 Quality of PE & PP recyclate pellets

3.3.1 The PE & PP recyclate pellets shall comply with the relevant product technical standard(s), legislative requirements and customer specification for direct use in the production of plastic substances or objects by re-melting in plastic manufacturing facilities.

3.3.2 The relevant product technical standard for PE recyclate pellets is IS EN 15344: Plastics. Recycled plastics. Characterization of polyethylene (PE) recyclates.

The relevant product technical standard for PP recyclate pellets is IS EN 15345: Plastics. Recycled plastics. Characterization of polypropylene (PP) recyclates.

The relevant product technical standards for recycled plastics include:

- IS EN 15343: Plastics. Recycled plastics. Recycling traceability and assessment of conformity;
- IS EN 15347: Plastics - Recycled plastics - Characterisation of plastics wastes
- SR CEN/TS 16010:2013: Plastics. Recycled plastics. Sampling procedures for testing plastics waste and recyclates; and,
- SR CEN/TS 16011:2013: Plastics. Recycled plastics. Sample preparation.

As Standards are subject to regular review, it is the producer and user's responsibility to ensure that the latest version is referred to.

3.3.3 The non-plastic component content in the PE & PP recyclate pellets shall be less than or equal to 2% of moisture-free weight.

3.3.4 Each batch of the PE & PP recyclate pellets shall be assigned a unique identifier and shall be tested in accordance with the relevant product technical standard.

3.3.5 The PE & PP recyclate pellets shall:

- i. comply with relevant provisions of the CLP³ regulation;
- ii. comply with relevant provisions of the REACH⁴ regulation; and
- iii. comply with relevant provisions of the POPs⁵ regulation.

As regulations are subject to amendment and replacement, it is the producer and user's responsibility to ensure that current regulations are referred to.

3.3.6 Waste plastic shall not contain leachable fluids such as oil, solvents, glues, paint, aqueous and/or fatty foodstuffs, that can be detected by visual inspection and olfactory test, except for negligible amounts that will not lead to any dripping.

³ Classification, Labelling and Packaging - Regulation (EC) No 1272/2008 (CLP)

⁴ Registration, Evaluation, Authorisation and Restriction of Chemicals - Regulation 1907/2006/EC (REACH)

⁵ Persistent Organic Pollutants - Regulation 850/2004/EC (POPs)

4 Demonstrating compliance with the decision establishing end-of-waste criteria

ADN Materials Limited shall be able to demonstrate compliance with the requirements of this decision. If unable to do so the PE & PP recycle pellets will be considered a waste.

4.1 Records Management

In order to be able to demonstrate compliance with these end-of-waste criteria, the following records of production, testing and sale or supply of the PE & PP recycle pellets shall be maintained;

- 4.1.1 A quality management system shall be implemented to demonstrate compliance with the end-of-waste criteria.
- 4.1.2 The quality management system shall be certified by the Irish National Accreditation Board.
- 4.1.3 The quality management system shall include a set of documented procedures concerning each of the following aspects;
 - i. monitoring of the quality of waste plastic resulting from the recovery operation (including sampling and analysis);
 - ii. monitoring of the treatment processes and techniques;
 - iii. acceptance control of waste used as input for the recovery operation;
 - iv. feedback from customers concerning the product quality;
 - v. record keeping of the results of monitoring conducted under points (i) to (iv);
 - vi. review and improvement of the quality management system;
 - vii. training of staff;
 - viii. specific monitoring requirements set out for each criterion;
 - ix. compliance with the relevant product technical standards, legislative requirements and customer specifications;
 - x. use, control, calibration and maintenance of inspection, measuring and test equipment. Equipment shall be uniquely identified; and
 - xi. identification and management of non-conforming PE & PP recycle pellets.
- 4.1.4 Training records shall be maintained which demonstrate that all relevant persons have been appropriately trained in all aspects of these criteria, including the relevant product technical standard(s), legislative requirements and customer specifications.
- 4.1.5 In order to demonstrate that the PE & PP recycle pellets does not pose a risk to the environment or human health, the producer shall make available;
 - i. the results of any analysis carried out;
 - ii. interpretative reports including laboratory results;

- iii. details of the test methods used;
 - iv. details of accreditation of the test method;
 - v. details of accreditation of laboratory;
 - vi. independent audit reports demonstrating the outcome of any independent audit of the plastics processing shall be made available for inspection; and
 - vii. if contaminants above the allowable limits are identified, details of the actions taken to correctly dispose of the non-conforming load(s) and corrective action(s) taken prior to dispatch and to prevent any such recurrence.
- 4.1.6 A register of non-conforming products i.e. a product that does not meet the customer specifications, relevant product technical standard(s), legislative requirements, as appropriate, or these criteria shall be maintained. The register shall contain information as to the reasons for the non-conformance and the manner in which the non-conformance was rectified. The register should also include information on the outlet for the non-conforming product, i.e. re-introduced to the start of the process, disposed of, or recovered as waste.
- 4.1.7 A 'statement of conformity' shall be completed for each consignment of PE & PP recycle pellets leaving the facility. The statement of conformity shall;
- i. include the producer/importer of the waste plastic details;
 - ii. state the customer's name and contact details;
 - iii. state the relevant provisions of the appropriate product technical standard(s) and customer specifications to which the PE & PP recycle pellets has been complied with;
 - iv. specify the content of non-plastic components, in percentage points of moisture-free weight ($\leq 2\%$);
 - v. state the quantity of the consignment in kg;
 - vi. include a product description and the unique identifier for each batch included in the consignment;
 - vii. include a statement that the consignment meets the criteria referred to in this decision (End-of-waste Decision ART28-0032);
 - viii. state that the producer of the plastic applies a quality management system complying with the requirements of this decision (End-of-waste Decision ART28-0032), and which has been verified by an accredited conformity assessment body or by an environmental verifier or, where plastic which has ceased to be waste is imported into the customs territory of the Union, by an independent external verifier;
 - ix. include a statement that: *'The material in this consignment is not classified as hazardous, following the definitions in Article 3 and Annex I of Regulation EC/1272/2008 (CLP), and meets the prescriptions on commercialisation of*

substances of very high concern (SVHC) laid out in Article 56 of Regulation EC/1907/2006 REACH, and the restriction of the commercialisation of persistent organic pollutants laid out in Article 3 of Regulation 50/2004/EC (POPs)';

- x. include a section on the intended use with the statement that: *'The material in this consignment is intended exclusively for the manufacture of plastic products'*;
- xi. state any restrictions on use;
- xii. state the date of supply;
- xiii. be issued in electronic form;
- xiv. be issued prior to the PE & PP recyclate pellets leaving the facility;
- xv. be accompanied by or contain a link to an electronic copy of the safety data sheet for the PE & PP recyclate pellets; and
- xvi. shall be signed and dated by the producer/importer of the plastic certifying that the above information is complete and correct.

4.1.8 The producer or the importer shall transmit the statement of conformity to the next holder of the consignment. They shall retain a copy of the statement of conformity for at least one year after its date of issue.

4.1.9 CLP, POPs, REACH and food contact regulations⁶: The producer shall maintain documentary evidence, for assessment by the relevant competent authority which demonstrates compliance, where appropriate, with the provisions of the POPs, CLP, REACH and food contact regulations. The producer shall ensure these matters are addressed in customer supply contracts.

4.1.10 Retention of Records: All records including controls, inspections and training shall be maintained for a minimum of 5 years.

4.1.11 Storage of Records: Records including any electronic media shall be stored and maintained in a manner that they are readily retrievable and protected against damage, deterioration or loss. Records shall be legible, identifiable and traceable to the process or product. All reviews and revisions of procedures are to be included in an annex to the most up to date version of that procedure.

4.1.12 The producer shall, upon request, provide competent authorities including EPA, the relevant local authorities, and the Health and Safety Authority (HSA) access to the quality management system, including statements of conformity.

⁶ European Union (Plastics and other materials) (Contact with food) Regulations 2017, as amended.

5 Use and Restrictions on Use

Users of the PE & PP recyclate pellets that are produced in compliance with these criteria shall take full account of any environmental impact resulting from such use.

To comply with these criteria, the following restrictions apply:

- The PE & PP recyclate pellets will not be used directly in the manufacture of food grade plastics; and
- The PE & PP recyclate pellets will not be used in the manufacture of water pipes where water is for human consumption.

These criteria do not affect the obligation of producers to hold and comply with a waste collection permit, certificate of registration, waste facility permit or waste/industrial emissions licence or any other National or European legislation which may apply when transporting, storing or processing waste. These criteria do not affect permitting or any other legal requirements that do not depend on the status of the material as a waste.

Appendix A: Glossary of Terms

Applicant	ADN Materials Ltd. of Lossetts, Carrickmacross, County Monaghan.
Authorised waste facility	A facility which has been granted a waste authorisation in the form of an Industrial Emissions licence, a waste licence, a waste facility permit or a certificate of registration.
CLP	Classification, Labelling and Packaging: Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008
Consignment	Each load of PE & PP recycle pellets that leaves the facility.
Declaration of Conformity	A declaration that the PE & PP recycle pellets conforms to end-of-waste criteria, product standards and specifications, it includes details of restriction on use of the recycle.
Recycled Material/Recyclate	PE & PP recycle pellets that meets these end-of-waste criteria.
Non-plastic component	Any material that is not plastic but is present in waste plastic before recycling.
Producer	ADN Materials Ltd. of Lossetts, Carrickmacross, County Monaghan.
POPs	Persistent organic pollutants: Regulation 850/2004/EC.
REACH	Regulation 1907/2006/EC concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.
Recovery	As defined in the Waste Management Act 1996 as amended.
Recycling	As defined in the Waste Management Act 1996 as amended.
User	User means manufacturers, contractors and all those organisations or individuals responsible for the end use of the PE & PP recycle pellets.
Waste	As defined in the Waste Management Act 1996 as amended.