Designation: E 954 – 94

Standard Practice for Packaging and Shipping of Laboratory Samples of Refuse-Derived Fuel[1]

This standard is issued under the fixed designation E 954; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice covers a procedure for packaging a refuse-derived fuel sample at its point of origin for shipping this sample to the laboratory for subsequent analyses.[2]

1.2 This practice may be applicable to any waste material from which a laboratory analysis sample can be prepared.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.* Additional hazard information is found in Section 6.

2. Terminology

2.1 *Definitions:*

2.1.1 *gross sample*—a sample representing one lot and composed of a number of increments on which neither reduction nor division has been performed.

2.1.2 *laboratory sample*—a representative portion of the gross sample (or lot) received by the laboratory for analysis.

2.1.3 *lot*—a large designated quantity (greater than the quantity of the final sample) of RDF which can be represented by a properly selected gross sample.

2.1.4 *forms of refuse-derived fuel (RDF)*:

RDF-1 Waste used as a fuel in as-discarded form.

RDF-2—Waste processed to coarse particle size with or without ferrous metal separation.

RDF–3—shredded fuel derived from municipal solid waste (MSW) which has been processed to remove metal, glass, and other inorganics. This material has a particle size such that 95 weight % passes through a 2-in. square mesh screen.

RDF-4—Combustible waste processed into powder form, 95 weight % passing a 10-mesh screen.

RDF-5—Combustible waste densified (compressed) into the form of pellets, slugs, subettes, and briquettes.

RDF-6—Combustible waste processed into liquid fuel.

RDF-7—Combustible waste processed into gaseous fuel.

3. Summary of Practice

3.1 A representative portion of a gross sample of RDF is packaged in such a manner that all physical and chemical properties of the material are retained during shipment to the laboratory for analyses. Labeling and chain-of-custody procedures are also included in this practice.

4. Significance and Use

4.1 The packaging of a laboratory sample as specified herein is intended to ensure that the physical and chemical characteristics of the sample as received in the laboratory are not changed during shipment.

5. Apparatus

5.1 *Polyethylene Bags*, 3 mL, having a capacity to hold 2 kg (1 to 2 ft^3) of RDF-3.

5.2 *Polyethylene Bag Seal*, twist tie or equivalent.

5.3 *Box*, corrugated.

5.4 *Box Seal*, strapping tape or equivalent.

6. Hazards

6.1 Due to the origins of RDF in municipal waste, common sense dictates that some precautions should be observed when handling samples. Recommended hygienic practices include use of gloves when handling RDF; wearing a dust mask (NIOSH—approved type), especially when shredding samples; conducting tests under a negative pressure hood when possible; and washing hands before eating and smoking.

6.2 Sample handling shall be performed by trained personnel. All operations shall be done as rapidly as possible to avoid sample moisture changes due to atmospheric exposure.

6.3 At all times, RDF samples should be protected from moisture, sun or contact with absorbent materials.

6.4 Packaging must be done at the sampling site without delay between sampling and bagging.

7. Sampling

7.1 Refuse-Derived Fuel products are frequently nonhomogeneous. For this reason, significant care should be exercised to obtain a representative laboratory sample from the RDF lot to be characterized.

7.2 The sampling method should be based on an agreement between involved parties.

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[1] This practice is under the jurisdiction of ASTM Committee D34 on Waste Management and is the direct responsibility of Subcommittee D34.08 on Medical Waste.

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[2] Supporting data for this test method are available on loan from ASTM Headquarters, 1916 Race St., Philadelphia, PA 19103. Request RR: E38-1001.