



Designation: ~~D4797 – 88 (Reapproved 2007)~~ D4797 – 12

## Standard Test Methods for ~~Chemical and Gravimetric Analysis of White and Yellow Thermoplastic Traffic Marking Containing Lead Chromate and Titanium Dioxide~~<sup>1</sup>

This standard is issued under the fixed designation D4797; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 These test methods cover procedures for the ~~chemical and gravimetric analysis of the binder and hydrochloric Acid (HCL) insoluble particles in white and yellow thermoplastic traffic marking containing lead chromate and titanium dioxide pigment markings.~~ The HCL insoluble particles can be retroreflective optics, such as glass beads or some other type of retroreflective optic, or non-retroreflective particles such as silica sand, or a combination of any two or more of these materials.

1.2 This standard does not address the physical separation and the individual quantification of each component when a mixture of two or more HCL insoluble materials is present. Rather it requires the user to visually evaluate the HCL insoluble material (obtained from following this test method) and report the types of materials present.

1.3 This standard does not purport to address the titanium dioxide or lead chromate pigment measurement (after ashing) which is detailed in Test Methods [D1394](#) and [D126](#).

1.4 This standard will attempt to address the interference of organic pigments with the binder results.

1.5 The analytical procedures appear in the following order:

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<sup>1</sup> These test methods are under the jurisdiction of ASTM Committee [D01](#) on Paint and Related Coatings, Materials, and Applications and are the direct responsibility of Subcommittee [D01.44](#) on Traffic Coatings.

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|  | Sections |
|--|----------|
| Percent Binder   | 10       |
| Percent Glass Beads (Note 1)   | 44       |
| )  |          |
| Percent Retroreflective Optics or<br>Non-Retroreflective Particles                         | 11       |
| Percent Titanium Dioxide   | 42       |
| Percent Lead Chromate and Analysis of Chrome Yellow and<br>Chrome Orange Pigments (Note 2) | 43       |

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Weigh the crucible and ash (see Section 9) to the nearest 0.1 mg and calculate the percent binder  $D$  as follows:

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$$D = (1 - (SW)) \times 100 \quad (1)$$

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