Designation: D 2077 – 92 (Reapproved 1998)

Standard Test Method for Ash in Fatty Quaternary Ammonium Chlorides[1]

This standard is issued under the fixed designation D 2077; 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.

This test method was prepared jointly by ASTM and the American Oil Chemists' Society.

1. Scope

1.1 This test method covers the determination of the nonvolatile matter remaining after a specimen of fatty quaternary ammonium chloride is completely burned and ignited.

1.2 *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.*

2. Apparatus

2.1 *Crucible*—A porcelain or high-silica content glass of 250-mL capacity.

2.2 *Electric Muffle Furnace*.

2.3 *Triangle*, Nichrome or clay.

3. Procedure

3.1 Ignite a crucible in the muffle furnace at 550 to 600°C. Cool slightly, place in a desiccator for 1 h and weigh. Melt the sample if it is not already liquid, in a water bath. Mix thoroughly and weigh 20 g to 0.1 mg into the crucible. Heat gently by moving a flame on the bottom and sides of the crucible until the specimen ignites. Reduce the size of the flame until the heat is just sufficient to keep the specimen burning. Continue the heating of the specimen to a black char and transfer the crucible to the muffle furnace, heat at 550 to 600°C for 1 h. Remove the crucible from the furnace, cool slightly, place in a desiccator, and cool to room temperature. Weigh and repeat the heating in the muffle furnace to constant weight.

4. Calculation

4.1 Calculate the percent of ash (Note) as follows:

$$\text{Ash, \%} = (R/S) \times 100 \quad (1)$$

where:

R = residue, g, and

S = specimen weight used, g.

NOTE 1—Unless free caustic is found, the ash can be concluded to be essentially sodium chloride.

5. Precision and Bias

5.1 Precision and bias were not established at the time this test method was written. An effort is being made to obtain the precision and, if obtainable, it will be published in future revisons. This test method has been in use for many years, and its usefulness has been well established.

6. Keywords

6.1 ash; quaternary ammonium chlorides

[1] This test method is under the jurisdiction of ASTM Committee D-1 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.32 on Drying Oils.

Current edition approved March 15, 1992. Published May 1992. Originally published as D 2077 – 62 T. Last previous edition D 2077 – 64 (1987).