## Plastics - Polyamides - Determination of viscosity number

## Contents

Annex A (informative) Determination of the concentration of commercial sulfuric acid(95\% to $98 \%$ ) and adjustment to $96 \%$ by titration

| A. 1 | General |
| :--- | :--- |
| A. 2 | Apparatus and reagents |
| A. 3 | Procedure |
| A.3.1 | Check on the titre of hydrochloric acid |
| A.3.2 | Preparation of sodium hydroxide solution, 1 mol/l |
| A.3.3 | Determination of the titre of sodium hydroxide solution |
| A.3.4 | Determination of the titre of initial sulfuric acid solution |
| A. 4 | Expression of results |

A. $5 \quad$ Adjustment of sulfuric acid concentration
A.5.1 Concentration of sulfuric acid solution lower than $96 \%$
A.5.2 Concentration of sulfuric acid solution higher than $96 \%$

Annex B (informative) Determination of the concentration of sulfuric acid (95\% to $98 \%$ ) and adjustment to 96 \% by flow time measurement in a small capillary viscometer

| B. 1 | General |
| :--- | :--- |
| B. 2 | Apparatus |
| B. 3 | Preparation of calibration curve |
| B.4 | Adjustment of sulfuric acid concentration |
| B.4.1 | Concentration of sulfuric acid solution lower than $96 \%$ |
| B.4.2 | Concentration of sulfuric acid solution higher than $96 \%$ |

Annex C (informative) Determination of the concentration of commercial formic acid and adjustment to 90 \% by titration
C. 1 General
C. 2 Apparatus and reagents
C. 3 Procedure
C.3.1 Determination of the titre of the sodium hydroxide solution
C.3.2 Determination of the formic acid concentration
C. 4 Adjustment of formic acid concentration

Annex D (informative) Determination of the concentration of commercial formic acid and adjustment to 90 \% by density measurement

| D. 1 | General |
| :--- | :--- |
| D. 2 | Apparatus |
| D. 3 | Procedure |

Annex E (informative) Relationship between the viscosity number determined in 96 \% (by mass) sulfuric acid solution and the viscosity determined in various solvents
E. 1 Relationship between the viscosity numbers determined in 96 (by mass) sulfuric acid, 90 \% (by mass) formic acid and m\#cresol
E.1.1 Viscosity numbers in 96 \% (by mass) sulfuric acid and 90 \% (by mass) formic acid, respectively
E.1.2 Viscosity numbers in 96 \% (by mass) sulfuric acid and m\#cresol, respectively
E.1.3 Precision
E. 2 Relative viscosities determined in accordance with ASTM D789 and viscosity numbers determined in 96 \% (by mass) sulfuric acid
E. 3 Interconversion of relative viscosity (JIS K 6920-2:2009, Annex JA) and viscosity number for PA 6 and PA 66 (this document)
E. 4 Interconversion of relative viscosity in 95,7 \% (by mass) sulfuric acid at a concentration of $0,01 \mathrm{~g} / \mathrm{ml}$ and viscosity number for PA 6 and PA 66 (this document)

