

# ISO 21461:2012-06 (E)

## Rubber - Determination of the aromaticity of oil in vulcanized rubber compounds

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>1</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>1</b>
<b>4</b>	<b>Reagents and materials .....</b>	<b>1</b>
<b>4.1</b>	<b>Extraction .....</b>	<b>1</b>
<b>4.2</b>	<b>Sample preparation reagents .....</b>	<b>1</b>
<b>5</b>	<b>Apparatus .....</b>	<b>2</b>
<b>6</b>	<b>Procedure .....</b>	<b>3</b>
<b>6.1</b>	<b>Sample extraction .....</b>	<b>3</b>
<b>6.2</b>	<b>Extract purification .....</b>	<b>3</b>
<b>6.3</b>	<b>NMR analysis .....</b>	<b>4</b>
<b>7</b>	<b>Calculation .....</b>	<b>6</b>
<b>8</b>	<b>Test report .....</b>	<b>6</b>
<b>Annex A (informative) 1H NMR spectra of extracts from compounds containing aromatic oil (Figures A.1 and A.3) and MES oil (Figures A.2 and A.4) .....</b>		<b>8</b>
<b>Annex B (informative) Preparation of clean samples of rubber compounds from tyres .....</b>		<b>10</b>
<b>Annex C (informative) Precision statement .....</b>		<b>18</b>
<b>Bibliography .....</b>		<b>19</b>