

# DIN EN 16429:2021-05 (E)

Stationary source emissions - Reference method for the determination of the concentration of gaseous hydrogen chloride (HCl) in waste gases emitted by industrial installations into the atmosphere

---

<b>Contents</b>		<b>Page</b>
European foreword.....		3
Introduction .....		4
<b>1</b>	<b>Scope.....</b>	<b>5</b>
<b>2</b>	<b>Normative references.....</b>	<b>5</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>5</b>
<b>4</b>	<b>Principle .....</b>	<b>11</b>
<b>4.1</b>	<b>General.....</b>	<b>11</b>
<b>4.2</b>	<b>Measuring principle .....</b>	<b>12</b>
<b>5</b>	<b>Sampling system.....</b>	<b>12</b>
<b>5.1</b>	<b>General.....</b>	<b>12</b>
<b>5.2</b>	<b>Sampling probe.....</b>	<b>12</b>
<b>5.3</b>	<b>Filter.....</b>	<b>12</b>
<b>5.4</b>	<b>Sampling line .....</b>	<b>13</b>
<b>5.5</b>	<b>Conditioning system.....</b>	<b>13</b>
<b>5.5.1</b>	<b>Permeation drier (configuration 1) .....</b>	<b>13</b>
<b>5.5.2</b>	<b>Heated line and heated analyser (configuration 2).....</b>	<b>13</b>
<b>5.6</b>	<b>Sample pump .....</b>	<b>13</b>
<b>5.7</b>	<b>Secondary filter (optional) .....</b>	<b>13</b>
<b>6</b>	<b>Analyser equipment.....</b>	<b>14</b>
<b>7</b>	<b>Determination of the characteristics of the method: analyser, sampling and conditioning line .....</b>	<b>14</b>
<b>7.1</b>	<b>General.....</b>	<b>14</b>
<b>7.2</b>	<b>Relevant performance characteristics of the method and performance criteria.....</b>	<b>14</b>
<b>7.3</b>	<b>Establishment of the uncertainty budget .....</b>	<b>14</b>
<b>8</b>	<b>Field operation.....</b>	<b>16</b>
<b>8.1</b>	<b>Measurement plan and sampling strategy.....</b>	<b>16</b>
<b>8.2</b>	<b>Setting of the analyser on site.....</b>	<b>17</b>
<b>8.2.1</b>	<b>General.....</b>	<b>17</b>
<b>8.2.2</b>	<b>Preliminary zero and span check, and adjustments .....</b>	<b>17</b>
<b>8.2.3</b>	<b>Zero and span checks after measurement .....</b>	<b>18</b>
<b>9</b>	<b>Ongoing quality control .....</b>	<b>18</b>
<b>9.1</b>	<b>Introduction.....</b>	<b>18</b>
<b>9.2</b>	<b>Frequency of checks.....</b>	<b>19</b>
<b>10</b>	<b>Expression of results.....</b>	<b>19</b>
<b>11</b>	<b>Equivalence of an alternative method.....</b>	<b>20</b>
<b>12</b>	<b>Measurement report.....</b>	<b>20</b>
<b>Annex A (informative) Example of assessment of compliance of non-dispersive infrared method for HCl with requirements on emission measurements.....</b>		<b>21</b>
<b>Annex B (informative) Example of correction of data from drift effect .....</b>		<b>34</b>
<b>Annex C (informative) Validation of the method in the field .....</b>		<b>36</b>
<b>Bibliography.....</b>		<b>42</b>