

# JIS

**JAPANESE INDUSTRIAL STANDARD**

**Methods for Determination of  
Ammonia in Exhaust Gas**

**JIS K 0099—1983**

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## JAPANESE INDUSTRIAL STANDARD

J I S

Methods for Determination of  
Ammonia in Exhaust Gas

K 0099-1983

1. Scope

This Japanese Industrial Standard specifies methods for determination of ammonia in exhaust gas from exhaust stack accompanied by chemical reaction or the like.

Remark: The units and numerical values given in { } in this standard are in accordance with the International System of Units (SI) and are appended for reference.

2. Common Matters

The common matters shall be in accordance with JIS K 0050, JIS K 0095, JIS K 0114, JIS K 0115 and JIS K 0122.

3. Classification of Methods for Determination

The methods for determination shall be classified into three methods of indophenol absorptiometric method, membrane type ammonia electrode method and gas chromatography method.

4. Indophenol Absorptiometric Method

4.1 Summary Add to the sample solution for determination the sodium phenol-pentacyanonitrosylferrate (III) solution, and sodium hypochlorite solution, and measure the absorbance of indophenol blue generated by reaction with ammonium ion to determine ammonia.

In the case of sampling gas quantity of 20 l, this method applies to determination for sample having about 1 ppm or more in ammonia concentration in the sample gas.

Further, this method is applicable to the cases where relative to the concentration of ammonia, nitrogen dioxide not less than 100 times, amines not less than several ten times, sulfur dioxide not less than 10 times or hydrogen sulfide of equal part does not coexist.

4.2 Reagents <sup>(1)</sup> The reagents shall be as follows:

Note <sup>(1)</sup> Prepare these by dissolving in water containing no ammonia.

- (1) Absorbing Solution A [Boric Acid Solution (0.5 % w/v)] The solution prepared by using boric acid of Guaranteed Grade specified in JIS K 8863.

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Applicable Standards: See page 19.