A.15. AUTO -IGNITION TEMPERATURE (LIQUIDS AND GASES)

1. METHOD

1.1. INTRODUCTION

Explosive substances and substances which ignite spontaneously in contact with air at ambient temperature should not be submitted to this test. The test procedure is applicable to gases, liquids and vapours which, in the presence of air, can be ignited by a hot surface.

The auto-ignition temperature can be considerably reduced by the presence of catalytic impurities, by the surface material or by a higher volume of the test vessel.

1.2. DEFINITIONS AND UNITS

The degree of auto-ignitability is expressed in terms of the auto-ignition temperature. The auto-ignition temperarure is the lowest temperature at which the test substance will ignite when mixed with air under the conditions defined in the test method.

1.3. REFERENCE SUBSTANCES

Reference substances are cited in the standards (see 1.6.3). They should primarily serve to check the performance of the method from time to time and to allow comparison with results from other methods.

1.4. PRINCIPLE OF THE METHOD

The method determines the minimum temperarure of the inner surface of an enclosure that will result in ignition of a gas, vapour or liquid injected into the enclosure.

1.5. QUALITY CRITERIA

The repeatability varies according to the range of auto-ignition temperatures and the test method used.

The sensitivity and specificity depend on the test method used.

1.6. DESCRIPTION OF THE METHOD

1.6.1. Appararus

The apparatus is described in the method referred to in 1.6.3.

1.6.2. Test conditions

A sample of the test substance is tested according to the method referred to in 1.6.3.

1.6.3. Performance of the test

See IEC 79-4, DIN 51794, ASTM-E 659-78, BS 4056, NF T 20-037.

2. DATA

Record the test-temperature, atmospheric pressure, quantity of sample used and time-lag until ignition occurs.

3. **REPORTING**

The test report shall, if possible, include the following information:

-the precise specification of the substance (identification and impurities),

-the quantity of sample used, atmospheric pressure,

-the apparatus used,

-the results of measurements (test temperatures, results concerning ignition, corresponding time-lags),

-all additional remarks relevant to the interpretation of results.

4. **REFERENCES**

None.