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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 3836.14-2014

**Explosive atmospheres-Part 14: Classification of
areas-Explosive gas atmosphere**

爆炸性环境 第14部分：场所分类 爆炸性气体环境

(English Translation)

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Foreword

All technical content of this Part is mandatory.

GB 3836 "Explosive atmospheres" is divided into the following parts.

- Part 1.Equipment - General requirements;

- Part 2.Equipment protection by flameproof enclosures "d";
- Part 3.Equipment protection by increased safety e;
- Part 4.Equipment protection by intrinsic safety i;
- Part 5.Equipment protection by pressurized enclosure "p";
- Part 6.Equipment protection by liquid immersion "o";
- Part 7.Equipment protection by powder filling "q";
- Part 8.Equipment protection by type of protection "n";
- Part 9.Equipment protection by type of protection "m";
- Part 11.Material characteristics for gas and vapour classification - Test methods and data;
- Part 12.Classification of gases or vapours with air according to their maximum experimental safe gaps and minimum igniting current;
- Part 13.Equipment repair, overhaul and reclamation;
- Part 14.Classification of areas - Explosive gas atmosphere;
- Part 15.Electrical installations design, selection and erection;
- Part 16.Electrical installations inspection and maintenance;
- Part 17.Construction and use of rooms or buildings protected by pressurization;
- Part 18.Intrinsically safe electrical systems;
- Part 19.Fieldbus intrinsically safe concept (FISCO);
- Part 20.Equipment with equipment protection level (EPL) Ga.

This Part is drafted in accordance with the rules given in GB/T 1.1-2009.

This Part is Part 14 of GB 3836.

This Part replaces GB 3836.14-2000 "Electrical apparatus for explosive gas atmospheres - Part 14.Classification of hazardous areas". Compared with GB 3836.14-2000, the main technical changes are as follows.

- ADD explosion hazard of flammable mist released by high flash point liquids under pressure (see Annex D);

- In the release rate, give many thermodynamic calculation equations for the estimation of the release rate of liquids and gases (see A.3).

This Part, using translation method, is identical to IEC 60079-10-1:2008

"Explosive atmospheres - Part 10-1: Classification of areas - Explosive gas atmosphere" (English edition).

This Part was proposed by China Electrical Equipment Industry Association.

This Part shall be under the jurisdiction of National Technical Committee 9 on Explosion Protected Electrical Apparatus of Standardization Administration of China (SAC/TC 9).

Main drafting organizations of this Part. Nanyang Explosion Protected Electrical Apparatus Research Institute, China National Quality Supervision and Test Centre for Explosion Protected Electrical Products, Helon Explosion-proof Electric Co., Ltd., Shenzhen Jinming Technology Co., Ltd., Sunleem Technology Incorporated Company, Dianguang Explosion Protection Electric Co., Ltd., SINOPEC Research Institute of Safety Engineering.

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The previous editions of the standard replaced by this Part were released as follows.

- GB 3836.14-2000.

1 Scope

This Part of GB 3836 is concerned with the classification of areas where flammable gas or vapour or mist hazards (see Notes 1, 2 and 3) may arise and may then be used as a basis to support the proper selection and installation of electrical equipment for use in a hazardous area.

2 Normative references

The following documents are indispensable for the application of this document.

For the dated references, only the editions with the dates indicated are

applicable to this document. For the undated references, the latest edition (including all the amendments) are applicable to this document.

GB/T 2900.35-2008 Electrotechnical terminology - Equipment for explosive atmospheres [IEC 60050(426).2008, IDT]

3 Terms and definitions

For the purposes of this document, the terms and definitions given in GB 3836.1-2010 and the following apply.

4 General

Subsequent to the completion of the area classification, a risk assessment may be carried out to assess whether the consequences of ignition of an explosive atmosphere requires the use of equipment of a higher equipment protection level (EPL) or may justify the use of equipment with a lower equipment protection level than normally required.

5 Area classification procedure

The basic elements for establishing the hazardous zone types are the identification of the source of release and the determination of the grade of release.

6 Ventilation

Ventilation can be accomplished by the movement of air due to the wind and/or by temperature gradients or by artificial means such as fans. So, two main types of ventilation are thus recognized.

The availability of ventilation has an influence on the presence or formation of an explosive gas atmosphere and thus also on the type of zone.

7 Documentation

Where the topography of an area influences the extent of the zones, this should be documented.