FOREWORD

Publication of this Technical Report that has been registered with ANSI has been approved by the Accredited Standards Developer ISA, 67 Alexander Drive, Research Triangle Park, NC 27709. This document is registered as a Technical Report according to the Procedures for the Registration of Technical Reports with ANSI. This document is not an American National Standard and the material contained herein is not normative in nature. Comments on the content of this document should be sent to the Secretary, Standards and Practices Board; ISA; 67 Alexander Drive; P. O. Box 12277; Research Triangle Park, NC 27709.

As a service to industry, the accompanying document, Bureau of Mines Bulletin 627 - Flammability Characteristics of Combustible Gases and Vapors, by Zabetakis 1965, is hereby reprinted in its entirety.

This compendium, formerly available from the U.S. Bureau of Mines, contains information essential to an understanding of detection, measurement and handling of flammable gases and vapors.

For further information, refer to ANSI/ISA–TR12.13.02.

The reader should be aware that more recent LFL/UFL figures are available in NFPA 497, and IEC 60079-20-1.

ABSTRACT

This technical report includes theoretical and practical work carried out and collected by the U.S. Bureau of Mines relating to ignition and explosive properties of flammable gas mixtures. Flammability limits, under varying conditions of proportion, temperature and pressure, are presented.

While the primary emphasis is on methane-air mixtures as found in coal mines, a full treatment of many other gases and vapors is included.

KEY WORDS

Methane

Fire

Explosion

Flammability limits

Flammable

Combustible

LEL, UEL

LFL, UFL

Gas