

Australian/New Zealand Standard™

**Code of practice for handling  
combustible dusts**

## **AS/NZS 4745:2004**

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee MS-011, Classification of Hazardous Areas. It was approved on behalf of the Council of Standards Australia on 12 November 2003 and on behalf of the Council of Standards New Zealand on 27 November 2003. It was published on 27 January 2004.

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The following are represented on Committee MS-011:

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Australian Chamber of Commerce and Industry  
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Australian Industry Group  
Australian Liquefied Petroleum Gas Association  
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## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee MS-011, Classification of Hazardous Areas, with the assistance of the Joint Subcommittee MS-011-01, Combustible Dusts.

The objective is to produce a Code of Practice to assist those industries which may have risks associated with the presence of combustible dusts as part of their processes, in minimizing the risk of injury, death or loss of property to fire and/or explosion through the application of good design and management principles and practices in the construction, operation and maintenance of manufacturing and processing plants and associated transportation and storage systems.

The relevant background information for this Code is as follows:

- (a) During a Dusts conference held in February 1996, an interactive work session was included to facilitate discussion among the delegates of the various industries dealing with dusts.
- (b) As a result of this discussion there was consensus about the need for a Code of Practice. The attendees agreed that the best vehicle for producing an industry code was through the Standards Australia/Standards New Zealand framework, due to the openness and transparency of the process used in its development of technical Standards.
- (c) A formal proposal to initiate this project was sent to Standards Australia by the Australian Chamber of Commerce and Industry (ACCI), and, through an industry survey, Standards Australia found a positive level of support for such project.
- (d) During another Dusts conference held in November 1998, the participation of experts from the different industries (textile, pharmaceutical, food, chemical, etc) was sought, as well as from the regulatory authorities, manufacturers of Ex equipment and testing laboratories, to guarantee a good coverage of all aspects to be included in the project and a proper balance of all interests involved.
- (e) In January 1999 the new Subcommittee MS-011-01, Combustible Dusts, was established to deal specifically with this project and the first Meeting was held in June 1999.

The terms 'normative' and 'informative' are used to define the application of the appendix to which they apply. A normative appendix is an integral part of a standard, whereas an informative appendix is only for information and guidance.

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## FOREWORD

This Standard is intended to assist those industries which may have risks associated with the presence of combustible dusts as part of their process, in minimizing the risk of injury, death or loss of property to fire and/or explosion. It sets out good design and management principles and practices for the construction, operation and maintenance of manufacturing and processing plants and associated transportation and storage systems.

The technical content of this Standard is based heavily on extracts from EN 1127-1, '*Explosive Atmospheres—Explosion-prevention and Protection, Part 1: Basic Concepts and Methodology*'.

## STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

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## SECTION 1 SCOPE AND GENERAL

**1.1 SCOPE**

This Code of Practice is intended to apply whenever combustible dusts are encountered in quantities sufficient to give rise to a fire and/or explosion. This would normally include, but is not limited to, manufacturing plants and processes (where dusts may be generated or used as part of the process) and bulk storage and handling installations.

It provides a means by which relevant parties can firstly determine whether or not risks exist within an existing or a proposed system or facility, secondly ascertain the nature of such risks, and thirdly determine the means by which the criteria for safe design, construction, operation and maintenance can be met.

The Code is not intended to apply to parts of pulverized fuel combustion systems, or other systems where burning is intended. Where other applicable Standards and Codes exist for the design, construction, operation and maintenance of those systems they may be adopted.

**1.2 APPLICATION**

The people who should use this Standard will specifically include those listed below, but this list is not meant to be exhaustive and the Standard may well be relevant to others not listed. Anyone in doubt should make their own enquiries as to the relevance of the Standard to their industry or specific circumstances.

Interested and affected groups include—

- (a) designers;
- (b) equipment manufacturers and suppliers;
- (c) installers of plants;
- (d) plant owners and operators;
- (e) employees;
- (f) storage and transport operators;
- (g) inspectors;
- (h) insurance companies; and
- (i) training providers.

**1.3 REFERENCED DOCUMENTS**

AS	
1674	Safety in welding and allied processes
1674.1	Part 1: Fire precautions
1768	Lightning protection