

## Getting it right: plastics terminology

by Kevin Thurlow, Chair of ISO technical committee ISO/TC 61, Plastics, subcommittee SC 1, Terminology

**D**o you want to know what a thermoplastic elastomer is? Or what MABS means? Welcome to the world of ISO technical committee ISO/TC 61, *Plastics*, SC 1, *Terminology*. Many people find terminology an unexciting subject, but it is a vital part of communication. If you cannot name something, how do you tell others what it is?

The subcommittee has two working groups: WG 1, *Terms and definitions*, and WG 3, *Symbols*.

The main work item of WG 1 is the revision of the fourth edition of ISO 472, *Plastics – Vocabulary*. It contained some 1 300 terms and definitions, many of which were complex.

A major pitfall with terminology standards is that the wording has to be exactly right. Also it is expensive and time-consuming to post a 230-page document for people to access all over the world. The recipients might find such a large document intimidating, and it would need a considerable amount of time to check it.

### Database technology to benefit users

At a technical committee meeting in 1995, an electronic database format, with the ultimate aim of producing a “living” standard was proposed by the Convenor of WG 1, Professor Ramani Narayan (USA). A major benefit of the database format is that users can look up terms and definitions



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quickly. A simple search function provides a virtually instant answer, rather than the reader having to leaf through the whole document, when it might not be obvious if a term is given as “acetone resin” or “resin (acetone)”. Users can also build a standard document for their own needs. For example, it is easy to look up all terms where the word “polymer” appears, and then refine the search so that there are just a few terms. ISO 472 is a real-time database standard containing up-to-date terms, which are dated according to when the term was approved.

At present, the standard has been published in English and French, and also has a Russian index. The database version is currently in English, French and German, and it is easy to add further languages. As well as the regular five-year review, amendments and additions may be made simply, on a one-off basis. Indeed, in due course, the standard could be made available solely in an electronic format on a subscription basis. Thus, the use of a database benefits the users and it also simplifies the process of making amendments.

However, turning the vision into reality has its own challenges. Originally, the American National Standards Institute (ANSI) helped set up a platform-independent database which WG 1 members could access on the Internet, and suggest amendments.

Obvious errors could be corrected very quickly, rather than wait until the annual meetings. After a while, the British Standards Institution (BSI) stepped in and supported LGC, formerly Laboratory of the Government Chemist, in their continuation of the trials with a commercial package. Part of the work at LGC was funded by the UK Department of Trade and Industry's Valid Analytical Measurement (VAM) programme.

ISO/TC 61/SC 1 was well aware that other subcommittees should be consulted during the trials, so a field was inserted into the database to show which subcommittee owned various terms. It makes sense for the subcommittee that works on thermoplastic elastomers to have input into any definitions relating to that area of work. As thermoplastic elastomers are also covered by ISO/TC 45, *Rubber*, there has been considerable contact with that technical committee. Even the definition of "thermoplastic elastomer" required lengthy and complicated discussions, as it has "plastic" or "rubber" properties at different temperatures. All the other subcommittees were given access to "their" terms and many very valuable comments were received. This exemplified the spirit of cooperation across the whole technical committee.

## About the author



**Kevin Thurlow** became Chair of ISO/TC 61, *Plastics*, SC 1, *Terminology* in 2000 and is head of the Chemical Nomenclature Advisory Service at the LGC in Teddington,

UK. This encompasses terminology as well as nomenclature. He has sat on ISO committees on pesticides and plastics for over ten years. He is also a member of IUPAC's Division of Chemical Nomenclature and Structure Representation Advisory Committee.

By now there are nearly 1 700 terms in the database. Members of other technical committees have shown interest in the work and are considering a similar system for their standards. The latest version of the database, which is annexed to the standard, has been circulated as a draft international standard (DIS).

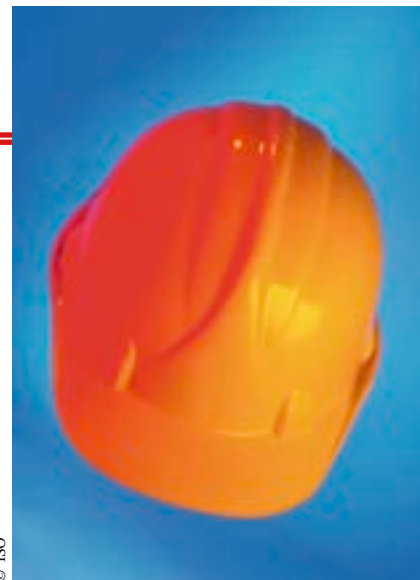
## Clarifying abbreviations

Working group 3 is led by Helmut Meyer (Germany) and specializes in symbols and abbreviated terms, of which the various parts of ISO 1043, *Plastics – Symbols and abbreviated terms*, make up a large part of the work. Abbreviated terms are very important as chemical names tend to be rather long, and obviously most users would rather say "MABS" than "methyl methacrylate – acrylonitrile – butadiene – styrene plastic".

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As there are only 26 letters in the alphabet, there are limits to the number of abbreviations available, and a lot of people have the habit of using abbreviated terms in documents without defining them anywhere. Although the context will tell you that MABS is not intended to mean "monoclonal antibodies", there are cases where there may be confusion. Unfortunately, many people ignore the standards and use whatever they like, e.g. the abbreviated term for low density polyethylene used by some is LDPE, whereas ISO 1043 uses the abbreviation PE-LD, so that all the polyethylenes are in the same format. More recent work has centred on abbreviated terms for biodegradable plastics, symbols for recyclates, and marking of plastics products.

All the symbols and terms have to consider legislation and industrial



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use. Occasionally, someone proposes an informative annex, merely with suggested courses of action, but care has to be taken, because if the standard subsequently becomes a European standard, it may become compulsory to comply with the standard in the European Community. A suggested course of action becomes a legal requirement!

Apart from liaisons with other ISO committees, ISO/TC 61/SC 1 also has contact with the International Union of Pure and Applied Chemistry (IUPAC), which publishes recommendations for chemical nomenclature. Their book on macromolecular nomenclature also includes a short list of abbreviations for polymers, including ISO recommendations. ISO is mainly interested in industrial applications but IUPAC is concerned primarily with published research, and wants recommendations for the formation of abbreviated terms for chemicals which may never become items of trade. This is a good opportunity for two major international organizations to work together and agree on the way forward. It is of course very important that abbreviated terms are not too long, and that they do not form offensive words in any language.

All ISO/TC 61/SC 1 committee members make a major contribution to the work. Terminology is not as dull as it might appear, but requires an eagle-eyed and a consistent approach to detail. It is also essential to maintain awareness of trends in the industry and legislation. Next time you see PVC mentioned, think of our committee. ■