

Boric Acid

Boric acid has recently been the subject of much discussion regarding changes to the way it is classified and used. EC proposals for classification of boric acid are now at an advanced stage, although they have not yet been given final approval. At present, boric acid remains unclassified. This information sheet, produced by the Metalworking Fluid Product Stewardship Group of the UK Lubricants Association and revised in March 2007, aims to summarise the current position and the view of the UK metalworking fluids industry.

What is Boric Acid?

Boric acid is used as a raw material in water-mix metalworking fluids. It has been used extensively for many years and it has wide-ranging benefits that improve the quality of different aspects of the fluids. Key benefits in metalworking fluids include corrosion protection, pH buffering and hard water compatibility. Boric acid and related boron-containing substances have a long history of safe use in over 150 industrial and consumer applications. These include medical treatment, detergents, agriculture where borates are an essential micro-nutrient, ceramics, a variety of glass products, food preservation, paints, eyewashes and flame retardants.

Safety of Boric Acid

The borate industry has collected more than a century of data and experience demonstrating that there are no existing products or exposures – even among people who mine and refine boron-containing substances, generally accepted to be the highest human exposure – that pose any known risk to human health.

The proposals have consistently been strongly opposed by the borate industry and major downstream user groups on the basis of the absence of evidence of risk under normal handling and use. There is a strong belief amongst producers and users of boric acid that the classification process is being inappropriately applied in this situation and would lead to inappropriate and misleading labelling of safe products. Nevertheless, the industry is preparing for the potential impact of future classification, however inappropriate it might be.

EC Proposals

It is important to stress that boric acid is not currently classified and does not require labelling. This will not change unless the proposals are approved and implemented. However, proposals for classifying boric acid, boric oxide and specific sodium borate salts are at an advanced stage and it appears that classification is likely.

These specific boron-containing substances are included in the list of chemicals in the 30th Adaptation to Technical Progress (30th ATP) of the Dangerous Substances Directive 67/548/EEC. The 30th ATP proposal is for classification of these substances as Category 2 Reproductive Toxins, R60 (May impair fertility) and R61 (May cause harm to the unborn child). The indication of danger on the product labels would be the Toxic pictogram and the risk phrases R60 and R61. Specific concentration limits would apply to each of these substances. For example, the threshold concentration for boric acid to trigger classification of a preparation would be 5.5%.

The current status of the classification process is that the 30th ATP was approved at a meeting of the Technical Progress Committee of Competent Authorities of Member States in February 2007. In spite of reports to the contrary, this is not a formal adoption of the 30th ATP. The opinion of the TPC now goes forward for consideration by the Commission. A date for the Commission meeting has yet to be set.

The 30th ATP will only be adopted if and when the Commission endorses the TPC opinion. A consequence of Commission endorsement is publication of the 30th ATP in the Official Journal. This is the point at which classification can be considered to be inevitable. With previous ATPs, publication has been accompanied by an Entry into Force date for implementation nationally by each Member State. The imminent introduction of REACH and expected introduction of GHS are likely to impact upon the timing and the process. If the Commission does not endorse the TPC opinion, the 30th ATP will be rejected.

Scope of the Proposals

The boron-containing substances proposed in the 30th ATP for this classification are limited to boric acid, boric oxide and several sodium borates including borax. Other borates and reaction products of boric acid are not proposed for classification in the 30th ATP. Implications for end users and producers if the proposals were to be implemented might be as indicated below:

1. Fluids – Classification Not Required

- Metalworking fluids that do not contain any of the boron-containing substances proposed for classification would not be affected by the proposals at all.
- For fluids that contain any of the substances below their specific concentration limits (e.g. free boric acid below 5.5% or borax pentahydrate below 6.5%), the presence of these substances would not contribute towards the classification of the fluid, although the substances would need to be identified on the product label and in Section 2 of the Safety Data Sheet (Section 3 for REACH-compliant SDSs), subject to the respective minimum concentrations.

2. Fluids – Classification Required

Fluids that contain any of the boron-containing substances proposed for classification at levels equal to or greater than their specific concentration limits (e.g. free boric acid at 5.5% or more, or borax pentahydrate at 6.5% or more) would require classifying and labelling according to the 30th ATP proposal.

3. Impact upon Producers

If the proposals are implemented, for producers of metalworking fluids and additives, appropriate changes to raw material handling and use would be required. Risk assessments would need to be reviewed for all relevant handling, storage and manufacturing processes in the light of the proposed classifications.

No Need to Label

In the meantime, boric acid is not classified and does not require labelling with any hazard symbols or risk phrases. Similarly, products containing free boric acid are not required to be classified and labelled as a consequence of its presence.

The Metalworking Fluid Product Stewardship Group

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The Metalworking Fluid Product Stewardship Group exists to promote the industry's commitment to the development, manufacture and marketing of safe and effective metalworking fluid products. It will assist in the education of users, enhance the health and safety provision to both the members and their customers' employees, protect the environment and provide qualified, reviewed information to industry, trade unions, Government and the general public.

Member companies have each subscribed to the principles of product stewardship in respect of their metalworking fluids businesses and have signed a commitment to a common code of ethics.