March 2024

# ***Chemical profile***

# **Boric acid and its precursors**

**Summary**

* Boric acid and borax are used in large volumes in Australia, in a wide range of applications.
* The environmental risk of the chemical was [assessed](https://www.industrialchemicals.gov.au/sites/default/files/Boric%20acid%20and%20precursors%20to%20boric%20acid_%20Environment%20tier%20II%20assessment.pdf) by the National Industrial Chemicals Notification and Assessment Scheme (NICNAS).
* Boric acid and its precursors are mainly used in construction materials, as additives, flame retardants, fire-preventing agents, tanning agents, domestic/cleaning products and for the manufacture of other chemicals.
* Based on these assessed use patterns, the chemicals pose a low risk to aquatic and soil ecosystems.
* The chemicals do not satisfy the criteria for classification for acute or chronic aquatic hazard under the Globally Harmonised System of Classification and Labelling of Chemicals (GHS).
* The chemicals have risk characteristics of a Schedule 2 chemical, as set out in the [IChEMS Principles](https://www.legislation.gov.au/F2022L01436/latest/text).

**End Use**

Boric acid and borax are used industrially in construction materials, as additives, flame retardants, fire-preventing agents, tanning agents, in domestic/cleaning products and for the manufacture of other chemicals and products such as glass, fibreglass and porcelain.

**Chemical identity**

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| CAS Name | CAS RN | Synonyms |
| Boric acid (H3BO3) | 10043-35-3  11113-50-1 | boric acid |
| Boric acid (H3B3O6) | 13460-51-0 | metaboric acid |
| Boric acid, (H2B8O13), disodium salt | 12008-41-2 | disodium octaborate sodium borate |
| Borax (Na2(B4O7).10H2O) | 1303-96-4 | disodium tetraborate decahydrate  borax  boric acid (H2B4O7), disodium salt decahydrate  Tincal |

**Table 1 – Chemicals which make up the “boric acid and its precursors” group.**

**Provisional scheduling outcome rationale**

* Boric acid and its precursors were assessed against the [IChEMS Principles](https://www.legislation.gov.au/F2022L01436/latest/text). The chemicals in this group do not have risk characteristics of a Schedule 3 or higher substance.
* The chemicals in this group will dissociate and/or hydrolyse to release boron as boric acid and/or borate anions (resulting in similar chemical and toxicological properties) which is the basis of the rationale for scheduling them as a group.
* The chemicals in this group contain an inorganic component that is bioavailable but is not likely to be harmful to aquatic life.
* Environmental release resulting from the assessed use is considered to pose a low risk to aquatic and soil ecosystems.
* The chemicals in this group do not satisfy the criteria for classification under the GHS.
* Boric acid and its precursors are proposed to be added to Schedule 2 of the Register.