

Safe Magnesium



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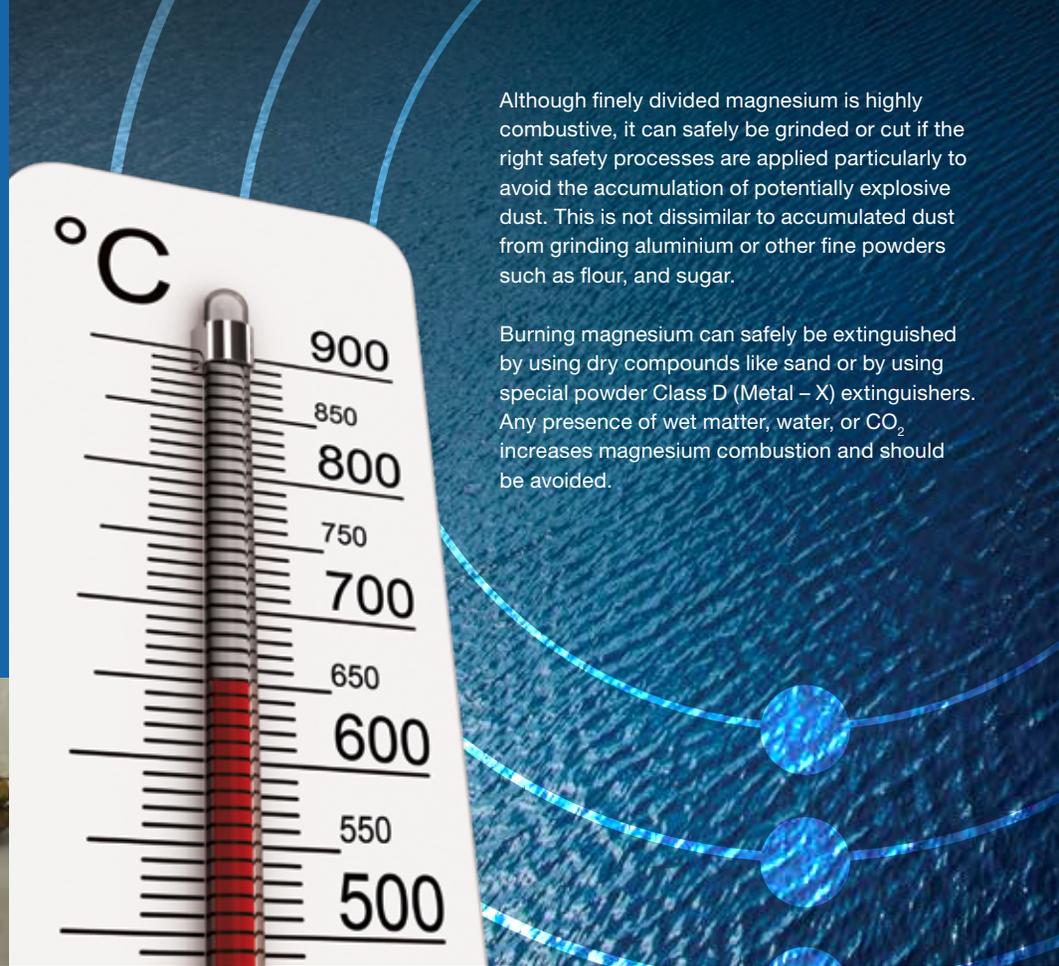
The International Magnesium Association (IMA), and its members, is committed to best practices, state-of-the-art production processes, and the safest working environments within the production and use of magnesium. We place a high level of importance on safety, fire prevention, and staying abreast of new developments within the industry. Regular safety initiatives, webinars, and fire drills are regularly facilitated and encouraged by the IMA.

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The flammability of magnesium alloys, and associated fire hazards with its use, are often exaggerated.

This is largely due to the identification of magnesium alloy products with pure magnesium in the form of powder or ribbons used for photographic and pyrotechnic purposes as well as high school chemistry experiments.



Although finely divided magnesium is highly combustible, it can safely be grinded or cut if the right safety processes are applied particularly to avoid the accumulation of potentially explosive dust. This is not dissimilar to accumulated dust from grinding aluminium or other fine powders such as flour, and sugar.

Burning magnesium can safely be extinguished by using dry compounds like sand or by using special powder Class D (Metal – X) extinguishers. Any presence of wet matter, water, or CO_2 increases magnesium combustion and should be avoided.

Below are some key facts and information about magnesium:

- Solid magnesium parts will **NOT** burn until heated above the melting point. This melting point is similar to aluminium at 650°C or 1202°F .
- If locally melted, the high thermal conductivity of magnesium will generally ensure rapid cooling and prevent a fire from spreading.
- It is possible, with a welding torch to burn a hole in a magnesium sheet as big as the cone of the welding flame without igniting the surrounding metal. Similarly, you can place a welding torch on a full-size ingot it still would not ignite.
- Magnesium alloys can easily be welded.
- Magnesium alloys are rolled, extruded, forged, and heat-treated at elevated temperatures (over 400°C or 752°F).
- Magnesium alloys are widely used in jet engines, in the structures of military and civilian helicopters, and hundreds of auto components.



Additional information on magnesium can be found online at www.intlmag.org

