Hydrogen Tablets — Industry Safety Brief

A one-page chemistry-based summary for procurement, facilities and wellness teams

Magnesium tablet chemistry

• **Pellet composition** — Elemental magnesium, an acidulant, binders and fillers.

• **Reaction** — Mg + 2H2O → Mg(OH)2 + H2. The pellet disintegrates to release gas.

• **Output profile** — A single decaying burst; once consumed, production stops and H2 outgasses.

General heavy-metal considerations

This section describes category-wide sourcing and manufacturing variables, not a finding about any specific brand.

• **Trace elements** — Magnesium feedstock can carry trace metallic elements from ore refining.

• **Batch variability** — Powder lots, acid lots and press conditions change between production runs.

• **Dissolution is delivery** — Whatever is in the pellet transfers to the water — no separation stage.

• **Disclosure uneven** — Certificates of analysis are voluntary and lot-dependent; many are unpublished.

Why tablets are not suitable for hydrogen baths

• **Volume amplification** — A bath is 150–250 L vs. ~250 mL in a glass. Dosing to saturation requires a large mass of reactive material.

• **Residue scales** — Mg(OH)2, unreacted fines, acid salts and binders increase in direct proportion to dose.

• **Burst, not plateau** — Immersion lasts 20–40 min; tablets peak early and decay while the surface outgasses H2.

• **No control** — Output depends on temperature, agitation and pellet age — nothing is instrumented.

How commercial hydrogen systems differ

• **SPE/PEM membrane separation** — Splits purified water and separates hydrogen from oxygen at the membrane.

• **No consumable in water** — Feed is purified water and electricity; no reactive material is introduced.

• **Verified purity** — Gas stream is laboratory-tested — 99.991% certified hydrogen purity.

• **Continuous control** — Runs at a specified flow rate for the session, replacing H2 as it outgasses.

Tablets vs machines

Criterion	Hydrogen tablets	SPE/PEM machines
Hydrogen source	Mg metal + acidulant reaction	Purified water split at membrane
Material added	Mg(OH)2, fines, salts, binders	None — no consumable enters water
Residue / turbidity	Visible cloudiness typical	None from the process
Purity verification	Supplier-dependent, lot-level	99.991% certified hydrogen purity
Output profile	Single decaying burst	Continuous at set flow rate
Bath-scale suitability	Not suitable — residue load	Designed for it
Inhalation	Not applicable	Separated hydrogen gas output
Commercial use	Ongoing consumable + residue	Fixed asset, no residue
Repeatability	Varies with lot, temp, agitation	Instrumented and repeatable

Full advisory: hydrogenmachines.com.au/learning/hydrogen-tablets/heavy-metal-warning

General information only. Not health advice. Not a diagnosis or treatment recommendation.