

High-Entropy Alloys (HEAs)

Goodfellow comes forward to offer state-of-the-art materials and satisfy material demands in research and development by adding High-Entropy Alloys to their range of products, together with other alloys and metal spherical powders which will meet your specific application requirements.

High-Entropy Alloys (HEAs) are alloys that are formed by mixing equal or relatively large proportions of five or more elements.

These spherical powders are produced by a patented ultrasonic atomisation device, which allows us to produce high quality powders characterised by high sphericity and narrow particle size distribution.

- **Superior properties over conventional alloys – material of the future**
- **Consist of 5 or more metals**
- **High strength and hardness**
- **Excellent corrosion resistance**
- **Good thermal stability**
- **Excellent fatigue, fracture and irradiation resistance**
- **Good ductility, wear resistance, and magnetic properties**

Composition

Any alloy

Minimum order quantity

100g

Order lead time

6 weeks + (depending on order volume)

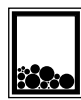
Unique advantages

High sphericity, narrow PSD, high flexibility having endless possibilities of alloying and atomising, with a small carbon footprint.



Excellent sphericity

no other atomisation method offers sphericity as high as 0.98



Free from contamination

and controllable oxidation thanks to airlock equipped powder containers



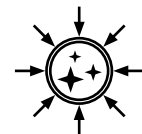
Custom alloying

with full metal control by spot-on melting tig torch



Particle size control

the higher the ultrasonic frequency, the smaller the particles



Clean environment

10^{-2} MBAR or 10^{-5} MBAR vacuum in the chamber

Applications

- 3D printing
- Batteries
- Cryogenic materials
- Structural jet engine applications
- Supercapacitors
- Fuel cells
- Solar cells (concentrated solar power)
- Magnets for motors & transformers
- Hydrogen storage (they can form metal hydrides)
- Auxiliary materials used for nuclear reactor applications

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