CRITICAL RAW MATERIALS IN CARS

.

Borates

Borate additives are widely used in lubricating oils due to their unique properties that reduces friction and provides thermal oxidative stability. Borates are also used in magnets for electric motors and braking systems, as well as in Li-ion battery additives.

Bauxite, Scandium

The lightweight property of aluminum allows for increase dent resistance while guaranteeing lower weight. Scandium combined with aluminum is an effective way to make alloys lighter, stronger and more malleable.

Vanadium

Vanadium micro alloyed forged steel is used to make engine components, such as crankshafts and connecting rods.

Lithium

Lithium's lightweight and high electrochemical potential makes it used in almost every electric vehicle battery. Lithium-ion batteries are high in energy density and generally lighter than other types of rechargeable batteries.

Titanium

Titanium alloys provide for high strength and low density while offering high resistance to corrosion and oxidation. These alloys are used in internal combustion engine components, such as valves, valve spring, retainers, and connecting rods.

Beryllium

The combination of high conductivity and resistance to heat makes copper-beryllium the material of choice for critical electric components in cars. Additionally, a few ppm of beryllium is added to magnesium and to rolled AlMg alloys to allow for recycling and better rolling results. These alloys are increasingly replacing steel in cars to reduce consumption and emissions. Without the addition of beryllium, these materials would need to be processed outside the EU with increased carbon footprint.

https://www.crmalliance.eu/