

# [Metals chemical element with a small amount of](https://assignbuster.com/metals-chemical-element-with-a-small-amount-of/)

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Metals and alloys are materials that are characterized by anumber of specific features, due to which they have become the foundation ofmodern technology. Metals consist of purechemical element with a small amount of other element addition. They are portrayedby characteristic metal gloss, increased electrical and thermal conductivity, good mechanical properties, resistance to electrochemical influences andelevated temperatures, susceptibility of different techniques’ processing (treating)in both cold and heated conditions and so on. All of the listed characteristicsare conditioned by the properties of the internal structure of the atoms andtheir interconnections. The metal density ranges between 0.

59 g/cm3(lithium) and 22. 4 g/cm3 (osmium). Metal with the highest meltingtemperature point is tungsten (34000C), while mercury is with thelowest one (- 390C). Alloys are complex materials that represent a mixture of abase element with other metals and non-metals. The alloying elements are calledalloy components, and their number and specifics determine the complexity ofthe alloy and its characteristics. At least one metal enters the composition ofalloys (e.

g. bronze: copper and tin alloy, steel: iron and carbon alloy, etc.). Alloys acquire completely new characteristics, which differ from the ones oftheir components: more favorable mechanical properties, increased corrosionresistance, color change, improved processing ability, etc. Most of the alloys areobtained by melting the constituents, but there are other methods as well -such is the case of metal-ceramic alloys that are made by sintering. In engineering practice, alloys are much more used than puremetals. The reasons are multiple: technically pure metals are difficult toobtain in purified state, they are expensive, generally have low dampingcapacity and strength levels, unfavorable chemical and physical properties, areoften difficult to handle with standard processing methods and many more.