

Metals Description 2023

This report provides a technical overview of several industrial and precious metals, describing their properties, industrial applications, and reference prices per gram in USD as recorded in 2023.

Gold

Description:

Gold is a highly malleable, ductile metal with excellent conductivity and resistance to corrosion. It has been used for centuries in coinage, jewelry, and ornamental applications.

Industrial Uses:

Beyond its monetary and decorative roles, gold is widely used in electronics for connectors and circuit boards due to its high conductivity and resistance to oxidation. It's also used in aerospace, dentistry, and even medicine.

2023 Price:

88.1553 USD per gram

Silver

Description:

Silver is a soft, white, lustrous metal known for its highest electrical and thermal conductivity among all elements. It tarnishes upon exposure to air and sulfur compounds.

Industrial Uses:

Silver is extensively used in electrical conductors, solar panels, medical devices (due to its antibacterial properties), photography (although declining), and jewelry.

2023 Price:

1.0523 USD per gram

Platinum

Description:

Platinum is a dense, malleable, and corrosion-resistant metal with strong catalytic properties. It is a member of the platinum group of elements.

Industrial Uses:

It is used in catalytic converters in vehicles, electronics, chemical production, and jewelry. It also plays a key role in hydrogen fuel cells and medical instruments.

2023 Price:

32.169 USD per gram

Palladium

Description:

Palladium is a rare, silvery-white metal with excellent catalytic efficiency. Like platinum, it belongs to the platinum group.

Industrial Uses:

It is primarily used in catalytic converters, electronics, dentistry, and hydrogen purification systems. Its demand has increased due to stricter emission standards.

2023 Price:

35.8252 USD per gram

Copper

Description:

Copper is a reddish-brown metal known for its high electrical and thermal conductivity. It is one of the oldest metals used by humans.

Industrial Uses:

Copper is essential in power generation and transmission, building wiring, plumbing, and the manufacturing of electronics and motors. It is also used in alloys like bronze and brass.

2023 Price:

0.0098 USD per gram

Aluminum

Description:

Aluminum is a lightweight, silvery-white metal that is both durable and corrosion-resistant due to its natural oxide layer.

Industrial Uses:

It is used extensively in construction, transportation (aircraft, vehicles), packaging (cans, foils), and electrical applications. Its light weight makes it crucial for energy efficiency.

2023 Price:

0.0026 USD per gram

Lead

Description:

Lead is a heavy metal known for its softness, malleability, and resistance to corrosion. It is toxic and thus its use has declined in many applications.

Industrial Uses:

It is still used in lead-acid batteries, radiation shielding, ammunition, and some cable sheathing. Environmental concerns have led to reduced usage in paints and fuels.

2023 Price:

0.0021 USD per gram

Nickel

Description:

Nickel is a hard, silvery-white metal that is corrosion-resistant and commonly alloyed with other metals to increase strength and durability.

Industrial Uses:

It is vital in stainless steel production, rechargeable batteries (especially in EVs), coins, and plating. It's also used in catalysts and magnets.

2023 Price:

0.0159 USD per gram

Zinc

Description:

Zinc is a bluish-white metal commonly used as a protective coating due to its anti-corrosive properties.

Industrial Uses:

Its primary application is in galvanizing steel and iron. It's also used in alloys (brass), batteries, paints, rubber, and dietary supplements.

2023 Price:

0.0031 USD per gram