

SOME
ELEMENTS

OF THE PERIODIC
TABLE

Co

HISTORY OF DISCOVERY

1735

Swedish

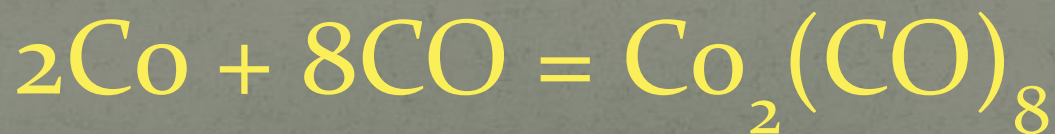
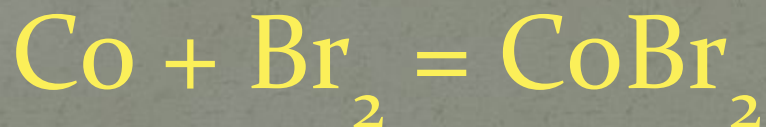
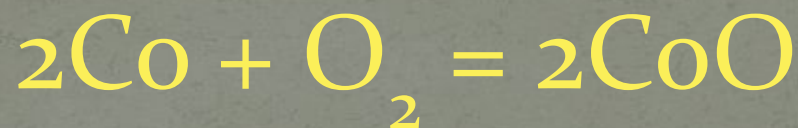
mineralogist

Georg Brandt

PHYSICAL PROPERTIES

- hard metal
- exists in two versions
- melting point of 1494°C
- ferromagnetic material

CHEMICAL PROPERTIES



BIOLOGICAL FUNCTION

Vital for the body trace element.

It is a part of vitamin B₁₂ (cobalamin).

It is involved in blood formation, function of the nervous system and liver, enzymatic reactions.

The human need for cobalt 0,007-0,015 mg daily.

In the absence of cobalt akobaltoz develops.

Ni

HISTORY OF DISCOVERY

1751

swedish mineralogist

Cronstedt

PHYSICAL PROPERTIES

silver-white metal

does not tarnish in air

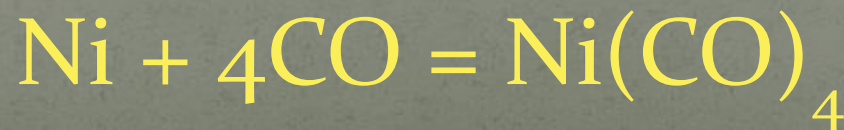
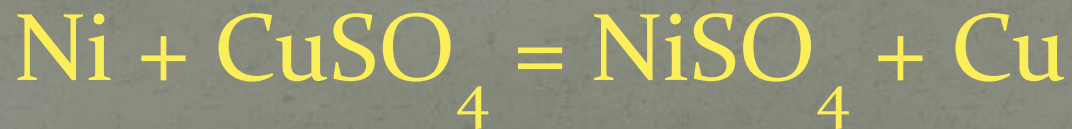
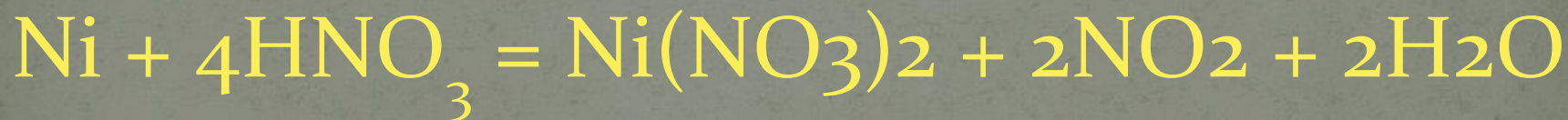
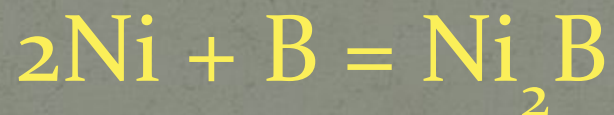
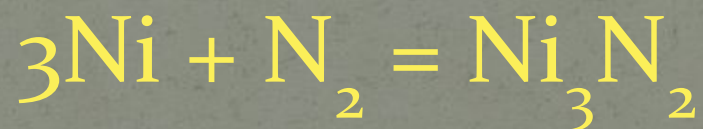
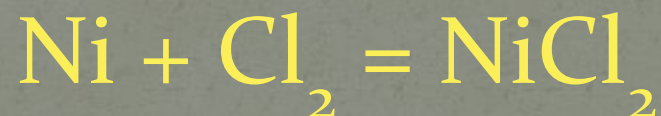
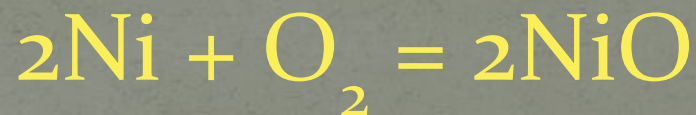
Has a face-centered cubic lattice

In its pure form is very plastic and
easy to work pressure.

Density (at n. Y.) = 8.902 g / cm^3

Melting point = 1726 K

CHEMICAL PROPERTIES



BIOLOGICAL FUNCTION

It is one of trace elements necessary for the normal development of living organisms.

It takes part in enzymatic reactions in animals and plants.

In the body, it accumulates in animal dead skin tissues, especially in the feathers.

Hf

HISTORY OF DISCOVERY

1923

French chemist

Jean Urbain

Danish chemist:

Dirk Coster and

Georg de Hevesy

PHYSICAL PROPERTIES

silvery-white, having a surface with a bright luster is not fading

At ordinary temperatures it has a hexagonal lattice

Density = 13.09 g/cm^3 (20°C)

refractory metal, its melting temperature = 2222°C

One of the rare natural isotopes of hafnium, ^{174}Hf , exhibits a weak alpha activity (half-life of 2.1015 years)

CHEMICAL PROPERTIES



Other reactions that occur under the influence of very high temperatures and in practice. It also remains unclear their mechanism.

BIOLOGICAL FUNCTION

not

installed

He

HISTORY OF DISCOVERY

August 18, 1868

French scientist

Pierre Janssen

October 20, 1868

English

astronomer

Norman Lockyer

PHYSICAL PROPERTIES

practically inert chemical element.

nontoxic

is colorless, odorless and tasteless

Under normal conditions - monatomic
gas

Its boiling point ($T = 4,215 \text{ K}$ for ^4He)
the lowest of all the simple substances

CHEMICAL PROPERTIES

inert gas

BIOLOGICAL FUNCTION

At the moment, the
biological role is not clear

YOU HAVE VIEWED THE
PRESENTATION OF SOME
CHEMICAL ELEMENTS.
SLIDES PREPARED FOR YOU
KOBETS TIMOPHEY,
DEPARTMENT OF CHEMISTRY,
THE GROUP "MXO-12"