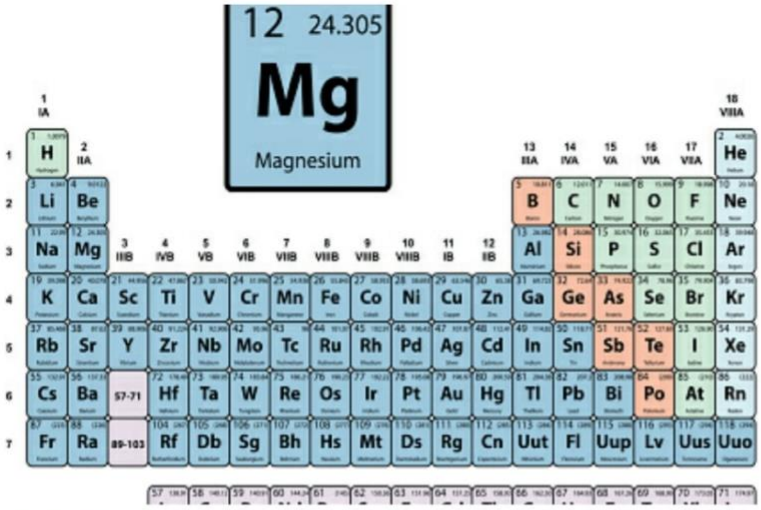
MAGNESIUM

BY ANANYA BANKA XII A

DISCOVERY

Joseph Black recognized magnesium an an element in 1755. It was isolated by Sir Humphry Davy (1778-1829) in 1808 almost 200 years after its discovery .He electrolysised mixture of magnesia (MgO+HgO). Micheal Faraday produced magnesium metal by electrolysis of fused anhydrous MgCl in 1833
The name magnesium comes from Magnesia, a district of Greece were it was first found.

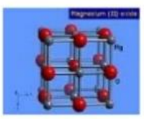


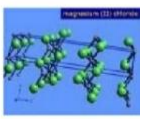
ISOTOPES

Magnesium (12 Mg) naturally occurs in 3 stable isotopes (24 Mg , 25 Mg and 26 Mg) whereas there are 18 radioactive isotopes that have been discovered ranging from 19 Mg to 40Mg. The longest lived radioisotope is 28Mg with a half life of 20.9 hours. The shortest lived is 19Mg with a half life of 5 pico seconds.
The lighter isotopes decay to isotopes of Na and the heavier isotopes decay to isotopes of Al.

Natural Isotopes

Name	Mass	Abundance
• ^{24}Mg	23.9850423(8)	78.99(4)
• ^{25}Mg	24.9858374(8)	10.00(1)
• ^{26}Mg	25.9825937(8)	11.01(3)





POSITION IN P.T

Group 2
Period 2
Block s
Atomic number 12
state at room temp. - solid
electronic config. -[Ne]3s2
Density (g cm-3) 1.74
Relative atomic mass 24.3
Melting pot. 605°C
Boiling pot. 1090 °C

UNIQUENESS

- found at center of every chlorophyll molecule
- 9th most abundant element
- 11th most abundant in human body
- necessary for biochemical reactions
- Mg ions taste sour

PHYSICAL PROPERTIES

- GREY WHITE LIGHT WEIGHT METAL
- TWO- THIRD DENSITY OF AL
- LOWEST MELTING POINT AND BOILING POINT OUT IF ALL ALKALINE EARTH METALS
- POLYCRYSTALLINE MAGNESIUM IS BRITTLE ,BECOMES DUCTILE WHEN ALLOYED WITH SMALL AMOUNTS OF OTHER METALS

CHEMICAL PROPERTIES

- TARNISHES WHEN EXPOSED TO AIR
- PROTECTED BY A THIN LAYER OF OXIDE
- REACTS WITH WATER AT ROOM TEMPERATURE
- WHEN SUBMERGED IN WATER ,HYDROGEN BUBBLES FORM SLOWLY ON THE SURFACE
- REACTS FASTER AT HIGH TEMPERATURE

Daily Life Usage

- IMPROVES MECHANICAL, FABRICATION AND WELDING CHARACTERISTICS OF ALUMINUM
- USED IN PRODUCTS THAT BENEFIT FROM BEING LIGHT WEIGHT
- IGNITES EASILY IN AIR,THUS USED IN FIRECRACKES SPARKELS AND FLARES
- MAGNESIUM SULPHATE USED AS MORDANT FOR DYES
- MAGNESIUM HYDROXIDE ADDED TO PLASTIC TO MAKE THEM FIRE RETARDANT
- MAGNESIUM OXIDE USED TO MAKE HEAT RESISTANT BRICKS FOR FIREPLACE
- ADDED TO CATTLE FEED AND FERTILIZER
- USED AS MILK OF MAGNESIA TO CURE ACIDITY
- USED IN GRIGNARD REAGENTS