

(Inorganic Chemistry)

OXIDE ORE:

* ZnO	→	Zincite	* Fe ₂ O ₃	→	Haematite
* Fe ₃ O ₄	→	Magnetite	* AlO _x (OH) _{3-2x}	→	Bauxite (where 0 < x < 1)
* Al ₂ (OH) ₄ Si ₂ O ₅	→	Kaolinite (a form of clay)	* Fe ₂ O ₃ ·3H ₂ O	→	Limonite
* Cu ₂ O	→	Cuprite or Ruby copper	MnO ₂	→	Pyrolusite
SnO ₂	→	Tinstone or Cassiterite	TiO ₂	→	Rutile
Fe·Cr ₂ O ₄	→	(FeO+Cr ₂ O ₃) Chromite ore	Na ₂ B ₄ O ₇ ·10H ₂ O	→	Borax or Tincal
Ca ₂ B ₆ O ₁₁ ·5H ₂ O	→	Colemanite	U ₃ O ₈	→	Pitch Blende
FeO·TiO ₂	→	Ilmenite			

SULPHURISED ORE:

* PbS	→	Galena	HgS	→	Cinnabar
* ZnS	→	Zinc blende/sphalerite	* Cu ₂ S	→	Copper glance/Chalcocite
CuFeS ₂	→	Copper Pyrite (Chalcopyrite)	* FeS ₂	→	Iron pyrite or Fool's gold
Ag ₂ S	→	Silver glance or Argentite			

HALIDE ORE:

NaCl	→	Rock Salt	KCl	→	Sylvite / silvine
CaF ₂	→	Fluorspar	Na ₃ AlF ₆	→	Cryolite
AgCl	→	Horn Silver			
KCl·MgCl ₂ ·6H ₂ O	→	Camallite			
Mixture of KCl and NaCl	→	(sylvinitite)			

OXYSALT ORE

(1) CARBONATE ORE:

CaCO ₃	→	Lime stone	MgCO ₃	→	Magnesite
CaCO ₃ ·MgCO ₃	→	Dolomite	* FeCO ₃	→	Siderite
* ZnCO ₃	→	Calamine	* Cu(OH) ₂ ·CuCO ₃	→	Malachite or Basic Copper Carbonate
Cu(OH) ₂ ·2CuCO ₃	→	Azurite	PbCO ₃	→	Cerrusite

(2) SULPHATE ORE:

CaSO ₄ ·2H ₂ O	→	Gypsum	MgSO ₄ ·7H ₂ O	→	Epsom Salt
PbSO ₄	→	Anglesite	BaSO ₄	→	Baryte
Na ₂ SO ₄ ·10H ₂ O	→	Glauber Salt			

(3) NITRATE ORE:

KNO ₃	→	Indian Salt petre	NaNO ₃	→	Chile Salt petre
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(Inorganic Chemistry)**METALS IN LIVING ENTITIES :**

- Magnesium** is found in chlorophyll.
- Potassium** is present in plant roots.
- Manganese, iron and copper** are present in chloroplast.
- Zinc** is present in eyes of cats and cows.
- Iron** is present in haemoglobin.
- Calcium** is present in bones.
- Vanadium** is present in cucumbers.
- Chromium** is present in prown.
- Cobalt** is present in cynocobalamin (Vitamine-B₁₂)

ALLOYS

	NAME OF THE ALLOY	COMPOSITION	USES
1.	Magnelium	Al : 98%, Mg : 2%	For making balance
2.	Duralumin	Al: 95%, Cu : 4 % Mg : 0.5 %, Mn : 0.5%	Air craft parts boat machinary
3.	Aluminium bronze	Al : 10%, Cu : 90 %	Making coins, photo frames utensils, golden paints
4.	Almica	Al : 20%, Ni : 20 % Co: 10%, Steel : 50%	For making permanent magnet
5.	γ -Alloy	Al : 92%, Cu : 4% Mg : 1.5 %, Ni : 2.5 %	Pistons and machine parts
6.	Nickeloy	Al : 95%, Cu : 4 %, Ni : 1%	Air craft parts
7.	Pewter	Pb : 20, Sn : 80	Utensils
8.	Solder	Pb : 60, Sn : 40	Soldering
9.	Type metal	Pb : 75, Sn : 5, Sb:20	Printing type
10.	Bell metal	Cu : 80, Sn : 20	Bells making
11.	Babbitt metal	Sn : 90, Sb : 7, Cu : 3	Bearing of machinary
12.	Frery metal	Pb : 97%, Ba: 2%, Ca: 1%	Bearing of machine
13.	Lino type metal	Pb : 83%, Sn : 3%, Sb:14%	Printing type
14.	Brass	Cu:70%, Zn:30%	making utensils condenses tube making
15.	Bronze	Cu: 88-96%, Sn 4-12%	utensils, coins, statues
16.	Monel metal	Cu: 27%, Ni : 68%, Fe : 5%	making pumps, turbines of ships, boilers etc.
17.	German silver	Cu: 50%, Zn: 30%, Ni: 20%	Flower Vase & ornaments
18.	Dutch metal	Cu: 80%, Zn: 20%	Golden yellow colour used for decorative purpose
19.	Nichrome	Ni, Cr, Fe	
20.	Gun Metal	Cu : 87%, Zn:3%, Sn :10%	
21.	Alnico	Al, Ni, Co	
22.	Con Stantan	Cu : 60% , Ni : 40%	
23.	Artifical Gold	Cu : 90%, Al : 10%	
24.	14 Carat Gold	Au : 54%, Ag : 14% to 30%, Cu : 12-28%	
25.	24 Carat Gold	100% Au	

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26. Elektron Mg (major part), Al (< 9.5%), Y (5.25%), Nd (2.7%) Ag (2.5%) Gd (1.3%) Zn (0.9%) Zr (0.6%) Mn (0.5%) and other rare earth metals
Uses of elektron : Parts of aeroplane and motor cars

27. Stellite : Typical chemical composition of stellite 1 :

Elements	Content
Cobalt, Co	57%
Chromium, Cr	28 – 32%
Tungsten, W	11 – 13%
Carbon, C	2 – 3%

ALLOY OF STEEL

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|-------------------------|----------------------------|
| 1. Vanadium | V : 0.2-1% |
| 2. Chromium | Cr : 2- 4% |
| 3. Nickel Ni : | 3-5% |
| 4. Manganese steel Mn : | 10-18% |
| 5. Stainless steel | Cr : 12-14 % and Ni : 2-4% |
| 6. Tunguston | W : 10-20% |
| 7. Invar | Ni : 36% |