

Chemical properties of the sea Water

BY

Dr N Manoharan

Assistant Proffessor

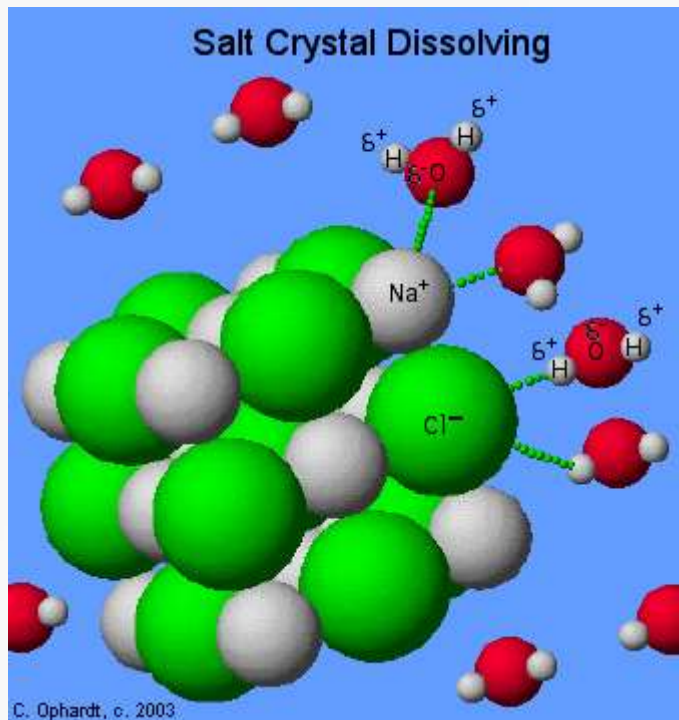
Department Of Marine Science

Bharathidasan University

Tiruchirapalli -24

Solubility

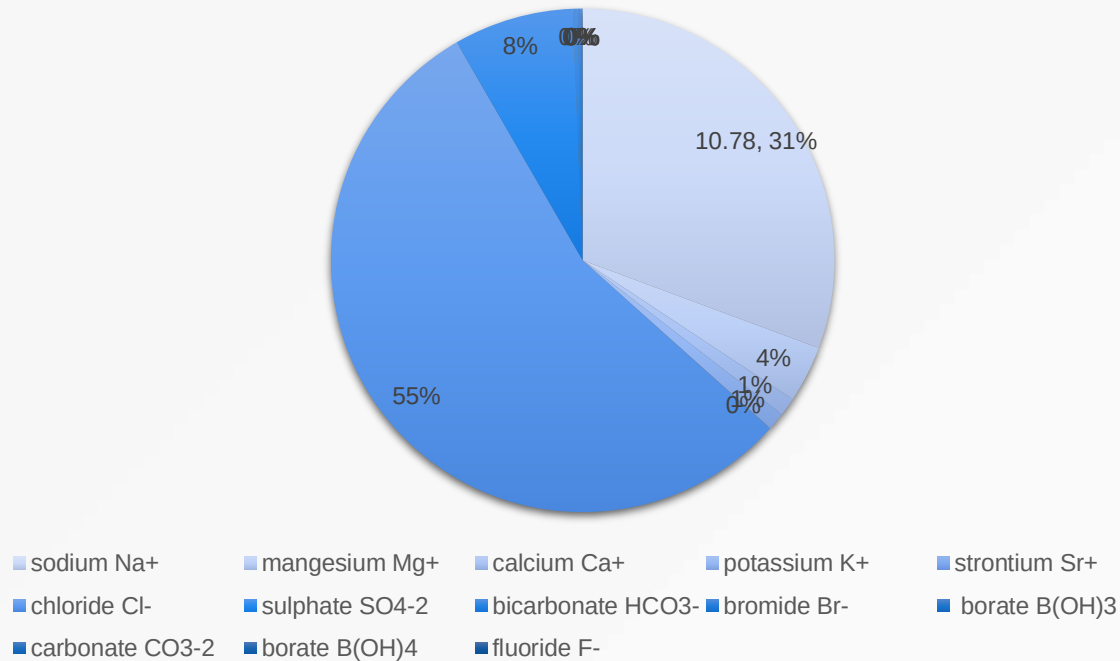
solubility Is the ability of the solute to dissolve in the given solvent. The water having high soluble capacity than any other solvent, especially ionic compound. High solubility due to the atomic structure of the water molecule.



Major Ions

- Major ions in the sea water are those which contribute more for the salinity in the sea water.
- The concentration is more than 1 ppm.
- Primarily they exist in free state.
- primary source is riverine out put.

Major Elements In sea water ((g/kg)

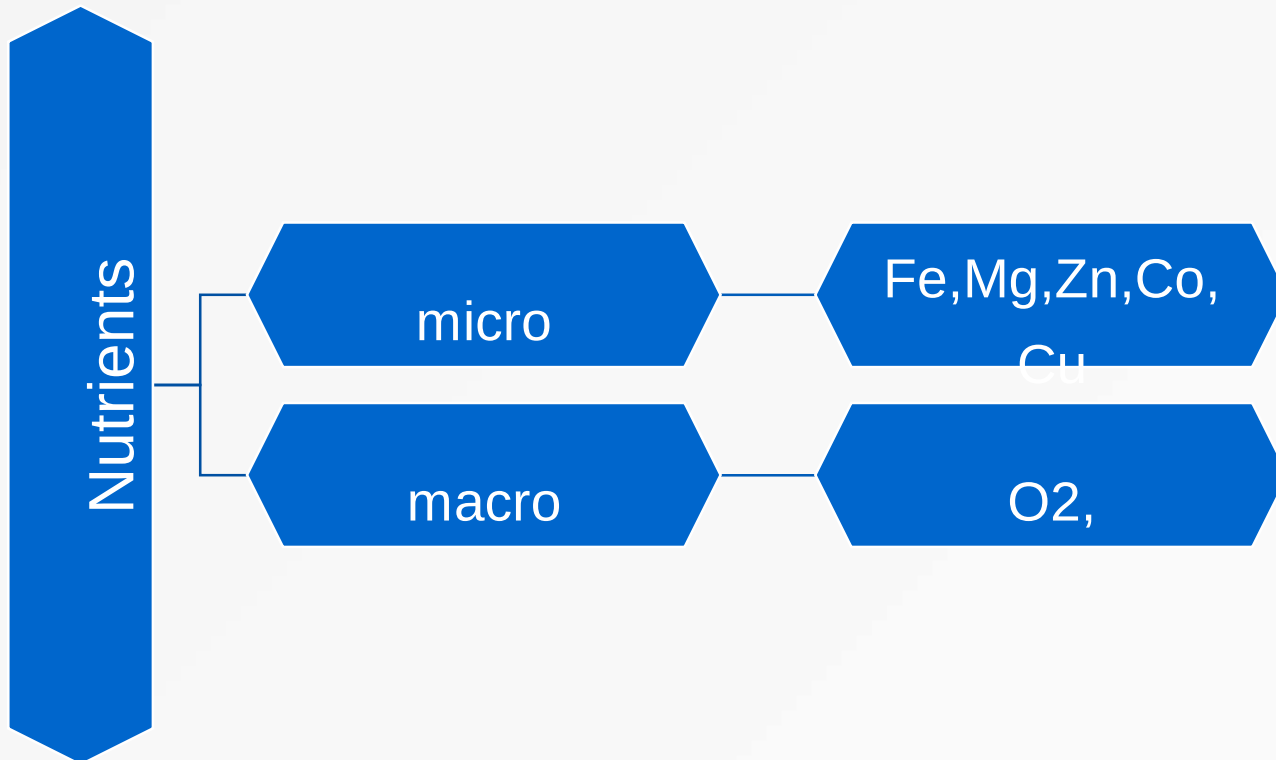


Trace element

- the elements whose concentration is less than 1 ppm are trace elements.
- It is involved in a wide range of chemical reactions and enters into the biogeochemical cycle of the ocean.
- The major sources include riverine input and secondary input includes ice transport and atmospheric dust.
- Many of these trace elements are essential for the survival of the marine organism..

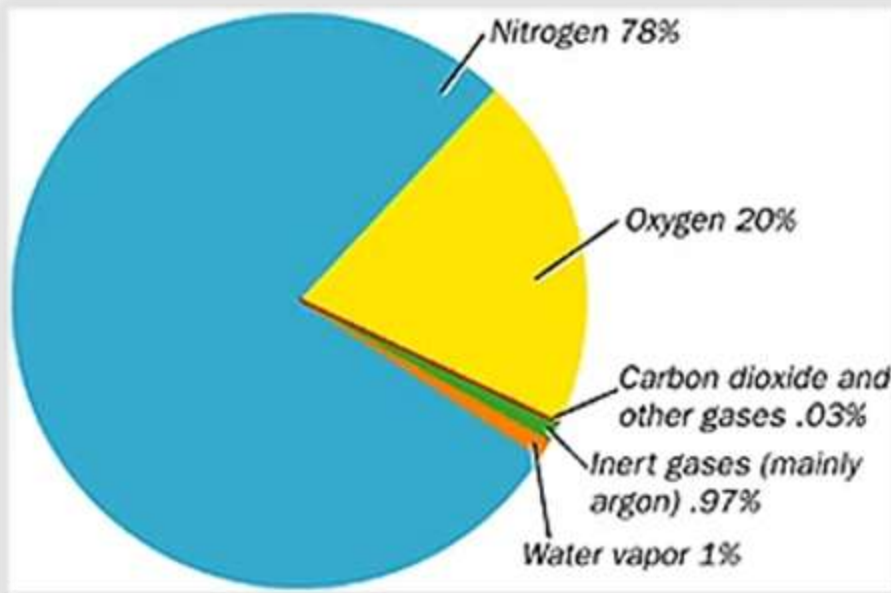
Nutrients

The inorganic compound involved in the oceanic life process very easily .
These are the primary metabolizable compounds.



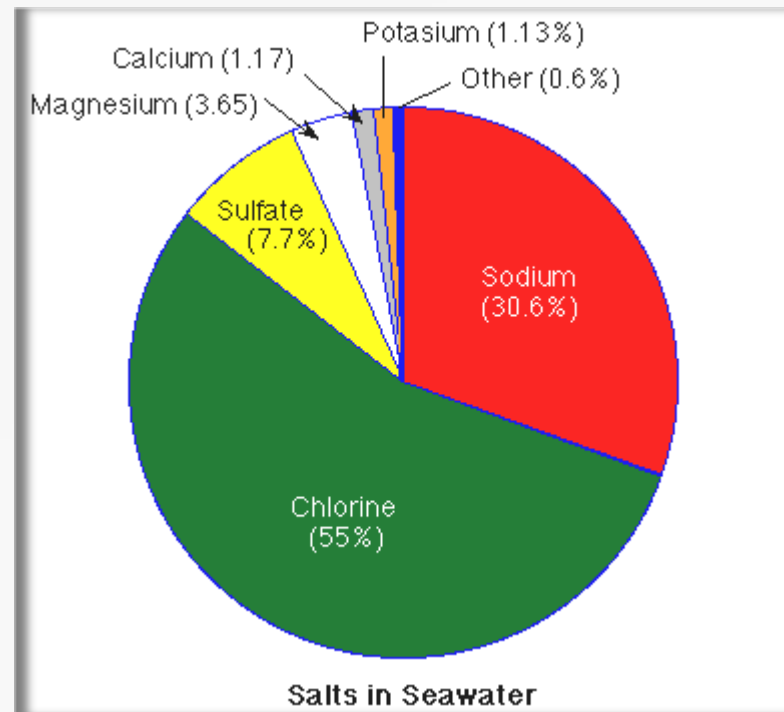
Dissolved gases

- ❑ Every atmospheric gaseous present in the ocean also.
- ❑ The primary source is atmosphere.
- ❑ The gas dissolved in the ocean by wave action and ocean atmospheric interaction.
- ❑ The ocean is the largest carbon sink.



Salinity

- ❖ Salinity is the weight in grams of the dissolved inorganic matter in the sea water
- ❖ It is the measure of all the salt dissolved in the water.
- ❖ the amount of salinity in sea water is approximately 35ppt.
- ❖ The main salt include the sodium and chlorine.



<http://omp.gso.uri.edu/ompweb/doe/science/physical/chsal1.htm>

pH

- ✓ pH is the negative logarithm of hydrogen ion concentration.
- ✓ If the pH is neutral and higher than 7 is basic and less than 7 then acidic.
- ✓ The ocean water is basic and pH is 7.5 to 8.2 vary from place to place but average pH is considered as 8.2.
- ✓ The basic character is due to the presence of salt.

