MolecModels3D^{TM} Sodium Chloride

Cat. No. 1021012
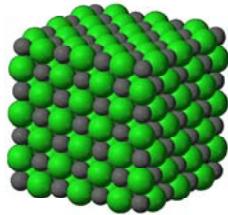
Contents:

Quantity	Atom	Colour	Holes	Type	Angle	Diameter
18	Sodium	Grey	6	octahedral	90°	23 mm
18	Chloride	Green	6	octahedral	90°	23 mm
80		Grey		Medium links		

Sodium chloride, also known as salt, common salt, table salt, or halite, is an ionic compound with the formula NaCl.
Sodium chloride is the salt most responsible for the salinity of the ocean and of the extracellular fluid of many multicellular organisms.
As the major ingredient in edible salt, it is commonly used as a condiment and food preservative.

Sodium chloride forms crystals with face-centered cubic symmetry. In these, the larger chloride ions, shown to the right as green spheres, are arranged in a cubic close-packing, while the smaller sodium ions, shown to the right as silver spheres, fill all the cubic gaps between them. Each ion is surrounded by six ions of the other kind; the surrounding ions are located at the vertices of a regular octahedron.

This same basic structure is found in many other minerals and is commonly known as the halite or rock-salt crystal structure. It can be represented as a face-centered cubic (fcc) lattice with a two atom basis. The first atom is located at each lattice point, and the second atom is located half way between lattice points along the fcc unit cell edge.
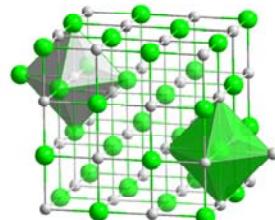

It is held together by an ionic bond which is produced by electrostatic forces arising from the difference in charge between the ions.

Assembly of the Sodium chloride model:

Join the Sodium and Chloride ion alternately to form a cube of 8 ions.

Continue the assembly to make a cube of 36 ions with the alternate green and metal atom-parts as in across.
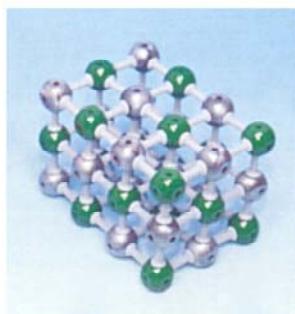
Note:

Sodium chloride is a hard, colourless, crystalline solid and is soluble in water. A practical demonstration of the mechanism of the dissolving process can be done using some water models.
These models are available as an *extra* kit consisting of six water molecule units.

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