

molymod® molecular models

Art. Nr. MMS-024 Calotte/Compact model Set

Type: COMPACT MODEL – 58 atoms

Contents:

Qty	Element	colour	holes / type	Ø mm
16	Hydrogen H	white	Atomlink.Calotte	14
2	Hydrogen H	white	1	17
8	Carbon C	black	4 tetrahedral sp ³	23
2	Carbon C	black	3 trigonal sp ²	23
2	Carbon C	black	2 linear sp	23
1	Carbon C	black	1 hole for CO	23
3	Oxygen O	red	2 angular	23
3	Oxygen O	red	1	23
1	Nitrogen N	blue	4 tetrahedral	23
1	Nitrogen N	blue	3 pyramidal	23
1	Nitrogen N	blue	3 trigonal	23
1	Nitrogen N	blue	2 angular	23
2	Nitrogen N	blue	1 for N ₂	23
1	Sulphur S	yellow	4 tetrahedral	23
1	Sulphur S	yellow	2 angular	23
1	Phosphorus P	purple	4 tetrahedral	23
2	Fluorine F	green	1	17
2	Chlorine Cl	green	1	20
2	Bromine	orange	1	23
2	Iodine	purple	1	23
2	Metal	grey	1	17
2	Metal	grey	6	23
30	Short Link	NV	translucent	1 / 9 *
2	Link remover	Tool		

Example structures, which can be made from this set, include:

Hydrogen H₂

Ozone O₃

Nitrogen N₂



Hydrogen chloride HCl Water H₂O Ammonia NH₃



Carbon monoxide CO

Carbon dioxide CO₂



Sulphuric acid H₂SO₄



Ethyne C₂H₂

Ethene C₂H₄

Ethane C₂H₆



Other examples.

Oxygen O₂, Chlorine Cl₂, Sulphur dioxide SO₂

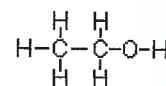
Nitric oxide NO, Nitrogen dioxide NO₂, Nitric acid HNO₃

Hydrogen peroxide H₂O₂, Methane CH₄.

Molecular, and Structural Formulae

The **Molecular Formula** shows the exact number of atoms of each element which are present in one molecule, e.g. **Ethanol** C₂H₆O 2 Carbon, 6 Hydrogen, 1 Oxygen

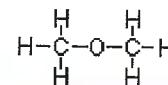
The **Structural Formula** is a plan view of the arrangement of the atoms in a molecule using symbols for atoms and lines for the links which represent the bonds between the atoms in the molecule.



The **Constitutional Formula** is an abbreviated version of a molecule and shows groups of atoms. For example, CH₃.CH₂.OH is an abbreviated version for the formula of ethanol.

Structural Isomerism

It is possible using the molecular formula C₂H₆O to make a different structure when the same atoms are arranged with the Oxygen atom between the two Carbon atoms. This formula represents a different substance called **Dimethyl ether**.



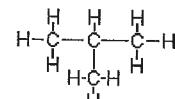
When two or more substances have the same number and kind of atoms but different structures they are called **Isomers**.

Another example of Structural Isomerism

Butane has the molecular formula C₄H₁₀. Its structural formula is CH₃.CH₂.CH₂.CH₃



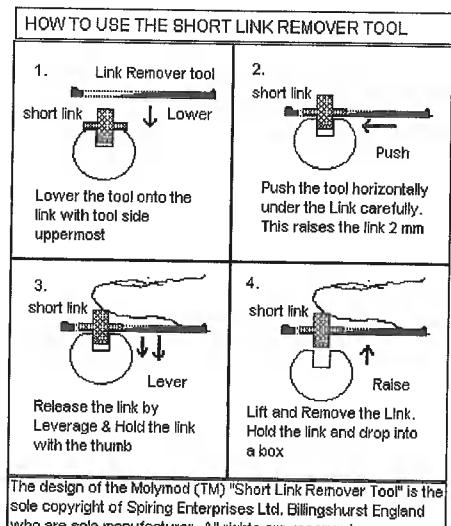
The same atoms can be rearranged to make a different structure named **iso-butane** which is shown in the photo across. The structural formula of iso-butane is:



Compact models are made using the short links.

Disassembly of Compact models

Please read the instructions and the diagrams for the recommended use of the link remover tool



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