

Activity AC5.25 Chemical compounds

To answer

- 1 The table provides some information about different chemicals. In each of the following questions, there may be more than one answer.

Name	Formula	Melting point (°C)	Boiling point (°C)
carbon monoxide	CO	-205	-191
magnesium chloride	MgCl ₂	714	1418
methane	CH ₄	-182	-161
nitrogen	N ₂	-210	-196
nitrogen monoxide	NO	-163	-151
oxygen	O ₂	-219	-183
potassium bromide	KBr	730	1435
sodium chloride	NaCl	808	1465
sulfur dioxide	SO ₂	-75	-10
water	H ₂ O	0	100

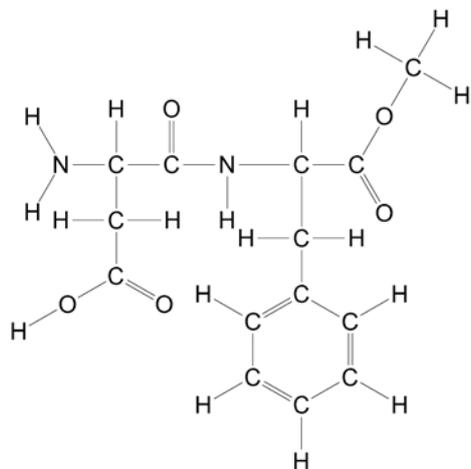
Which of the chemicals is:

- a a non-metallic element?
- b a compound made from two non-metallic elements?
- c a compound made from a metal and a non-metal?
- d a gas at room temperature, 15 °C?
- e a solid at 15 °C?
- f a liquid at 15 °C?
- g made up of small molecules?
- h made of a giant ionic structure?
- i a good conductor of electricity when liquid?

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- 2 Study the picture of a molecule of the chemical aspartame, which has a sweet taste. It is a bigger and more complicated molecule than the small molecules that make up air – but its atoms are held together by covalent bonds in exactly the same way as the atoms in N_2 , O_2 , and CO_2 .

Remember, each line represents a covalent bond (a pair of shared electrons).



Aspartame

Complete these sentences.

- This molecule contains carbon atoms.
- Each carbon atom makes covalent bonds to other atoms.
- This molecule contains hydrogen atoms.
- Each hydrogen atom makes covalent bonds to other atoms.
- This molecule contains nitrogen atoms.
- This molecule contains oxygen atoms.
- Each oxygen atom makes covalent bonds to other atoms.
- Each nitrogen atom makes covalent bonds to other atoms.
- Write the correct molecular formula for aspartame.
(For example, the molecular formula for water is H_2O .)