

## STUDENT A

Read passages A to Student B and translate the Polish phrases in brackets into English. Student B is going to check your translation. Then listen to Student B reading their passages aloud.

### BROMINE

Adapted from <http://en.wikipedia.org/wiki/Bromine>

- A. **Bromine** is a chemical element with the symbol **Br**, an **1.** ..... (liczba atomowa) of 35, and an atomic mass of 79.904. It is in the halogen element group. The element was isolated independently by two chemists in 1825-26. Elemental bromine is a fuming red-brown liquid **2.** ..... (w temperaturze pokojowej), corrosive and toxic, **3.** ..... (o właściwościach) between those of chlorine and **4.** ..... (jodu). Free bromine does not occur in nature, but occurs as **5.** ..... (bezbarwne, rozpuszczalne) crystalline mineral halide salts, analogous to table salt.
- B. Bromine is rarer than about three-quarters of elements in **6. the Earth's crust**, however the high solubility of **7. bromide ions** has caused its accumulation in the oceans, and **8.commercially** the element is easily extracted from brine pools, mostly in the United States, Israel, and China. About 556,000 metric tons were produced in 2007, an amount similar to the far more **9. abundant** element magnesium.
- A. At high temperatures, organobromine compounds are easily converted to free bromine atoms, a process which acts to terminate free radical chemical **10.** ..... (reakcje łańcuchowe). This makes such compounds useful fire retardants and this is bromine's primary industrial use, consuming more than half of world production of the element. The same property allows **11.** ..... (łatwe) organobromine compounds, under the action of sunlight, to form free bromine atoms in the atmosphere which are highly effective in **12.** ..... (zmniejszanie się warstwy ozonowej). This unwanted side-effect has caused many common volatile brominated organics like **13.** ..... (bromek metylu), a pesticide that was formerly a large industrial bromine consumer, to be abandoned.
- B. Elemental bromine exists as a **14. diatomic molecule**, Br<sub>2</sub>. It is a dense, mobile, slightly **15. transparent** reddish-brown liquid, that evaporates easily at standard temperature and pressure to give a red **16. vapor** (its color resembles nitrogen dioxide) that has a strongly disagreeable odor resembling that of chlorine. It is the only nonmetallic element that is liquid at room temperature, and one of only two elements on the **17. periodic table** that are liquid at room temperature (**18. mercury** is the other).

## STUDENT B

Listen to Student A reading passages A aloud and check their translation of the phrases in bold. Then read passages B to Student A and translate the Polish phrases in brackets into English.

## BROMINE

Adapted from <http://en.wikipedia.org/wiki/Bromine>

- A. **Bromine** is a chemical element with the symbol **Br**, an **1. atomic number** of 35, and an atomic mass of 79.904. It is in the halogen element group. The element was isolated independently by two chemists in 1825-26. Elemental bromine is a fuming red-brown liquid **2. at room temperature**, corrosive and toxic, **3. with properties** between those of chlorine and **4. iodine**. Free bromine does not occur in nature, but occurs as **5. colorless soluble** crystalline mineral halide salts, analogous to table salt.
- B. Bromine is rarer than about three-quarters of elements in **6. ....** (skorupie ziemskiej), however the high solubility of **7. ....** (jonów bromku) has caused its accumulation in the oceans, and **8. ....** (w celach komercyjnych) the element is easily extracted from brine pools, mostly in the United States, Israel, and China. About 556,000 metric tons were produced in 2007, an amount similar to the far more **9. ....** (powszechnie występujący) element magnesium.
- A. At high temperatures, organobromine compounds are easily converted to free bromine atoms, a process which acts to terminate free radical chemical **10. chain reactions**. This makes such compounds useful fire retardants and this is bromine's primary industrial use, consuming more than half of world production of the element. The same property allows **11. volatile** organobromine compounds, under the action of sunlight, to form free bromine atoms in the atmosphere which are highly effective in **12. ozone depletion**. This unwanted side-effect has caused many common volatile brominated organics like **13. methyl bromide**, a pesticide that was formerly a large industrial bromine consumer, to be abandoned.
- B. Elemental bromine exists as a **14. ....** (cząsteczka dwuatomowa), Br<sub>2</sub>. It is a dense, mobile, slightly **15. ....** (przeźroczysty) reddish-brown liquid, that evaporates easily at standard temperature and pressure to give a red **16. ....** (para) (its color resembles nitrogen dioxide) that has a strongly disagreeable odor resembling that of chlorine. It is the only nonmetallic element that is liquid at room temperature, and one of only two elements on the **17. ....** (układ okresowy) that are liquid at room temperature (**18. ....** (rtęć) is the other).