

Potable Waste Water

GCSE Chemistry · Written to the shared content for AQA, Edexcel and OCR

Name _____ Class _____ Date _____

1. Worked example

Explain why potable water is not pure water in the chemical sense. (2 marks)

Step 1 · Potable

Potable water is safe to drink: low levels of dissolved salts and microbes.

Step 2 · Not pure

It still contains dissolved substances (salts, and chlorine from treatment), so it is a mixture, not a single compound.

Answer: It still contains dissolved substances

Check: Pure water would be H₂O only.

2. Now try one with the steps

Describe how fresh water from a reservoir is made potable in the UK. (3 marks)

Step 1 · Choose

Step 2 · Filter

Step 3 · Sterilise

Answer:

3. Practice

Show your working. The marks tell you how much is expected.

1. Define potable water. [1]

2. Explain why potable water is not chemically pure. [1]

3. Name two sources of fresh water used in the UK. [2]

4. Name the two main stages used to treat fresh water to make it potable. [2]
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5. Name two sterilising agents used for potable water. [2]
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6. Name two methods of desalination. [2]
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7. Explain why desalination is used only where fresh water is scarce. [1]
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8. Describe the main stages in the treatment of sewage. [4]
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9. State one useful product of the anaerobic digestion of sewage sludge. [1]
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10. Explain why industrial waste water may need extra treatment compared with domestic sewage. [1]
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11. Seawater contains about 35 g of dissolved salts per dm^3 . Calculate the mass, in g, of salts in 4.0 dm^3 . [1]
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12. A works supplies 120 000 m^3 of water a day and each person uses 150 dm^3 a day. Calculate the number of people supplied. ($1 \text{ m}^3 = 1000 \text{ dm}^3$) [2]
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13. Suggest which is easiest to make potable: ground water, waste water or salt water. Explain. [2]
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14. Explain why the UK obtains most of its drinking water from fresh water rather than by desalination. [2]

4. Before you hand it in

"Potable water is pure water."

Potable = safe to drink; pure = one substance only.

"Filtration kills bacteria."

Sterilisation (chlorine, ozone or UV) kills microbes.

Mixing up sludge and effluent

Sludge (solid) → anaerobic digestion; effluent (liquid) → aerobic treatment.