

Worksheet 12.4

Sodium metabisulfite

Sodium metabisulfite, $\text{Na}_2\text{S}_2\text{O}_5$, is a chemical with many uses. It is used in wine making and in water treatment.

When it is added to water, this reaction happens:



- 1 How could you test to show the presence of sulfur dioxide?

Test:

Result:

- 2 Sulfur dioxide solution is a weak acid. How could you show this?

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- 3 Sulfur dioxide is added to wine to help to preserve it. Suggest why it helps to preserve the wine.

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- 4 Sodium metabisulfite is a reducing agent. What does the term 'reducing agent' mean?

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Sodium metabisulfite is added to water containing compounds of chromium(VI). It reduces them to compounds of chromium(III). These compounds can be precipitated by adding sodium hydroxide.

- 5 How could the precipitate formed be removed from the water?

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- 6 What colour of precipitate is formed when sodium hydroxide is added to a solution containing chromium(III) ions? What is its formula?

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- 7 Why would it not be a good idea to add excess sodium hydroxide to the water being treated?

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