

~~GCSE Chemistry. Greenhouse Gases. AQA, OCR, Edexcel. Questions~~

**AQA, OCR, Edexcel**

**GCSE Science**

# GCSE Chemistry

Haber Process

Answers

**M M E**

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Total Marks: /17

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### ***The Haber process***

Q1: What is the Haber process used for?

A= it is used to manufacture ammonia/ nitrogen based fertilisers.

(1 mark)

Q2. List the two raw materials used for the Haber process.

1. A= nitrogen

2. A= hydrogen

(2 marks)

Q3: Describe the Haber process.

A= the purified gases are passed over a catalyst of iron at a high temperature (450 degrees Celsius) (1 mark) and a high pressure (200 atmospheres) (1 mark). Some of the hydrogen and nitrogen react to form (ammonia) (1 mark). On cooling the ammonia liquefies and is removed (1 mark). Unused gases are recycled (1 mark)

(4 marks)

Q4: There is a reversible reaction that occurs during the Haber process. Write it below.

Nitrogen + hydrogen  $\rightleftharpoons$  Ammonia

(2 marks)

### ***Production and use of NPK fertilisers***

Q5: Compounds of which elements are commonly used as fertilisers to improve agricultural productivity?

A=Nitrogen, phosphorous and potassium

(3 marks)

Q6: NPK fertilisers contain which elements?

A= Nitrogen, phosphorous and potassium (1 mark)

(1 mark)

Q7: How are NPK fertilisers produced?

A=A variety of raw materials (1 mark) in several processes (1 mark).

(2 marks)

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Q8: How is phosphate rock treated to be used as a fertiliser?

A= it is treated with nitric acid or sulphuric acid (1 mark) to produce soluble salts (1 mark)

(2 marks)