
HL Paper 3

Nitrogen dioxide and sulfur dioxide are two air pollutants.

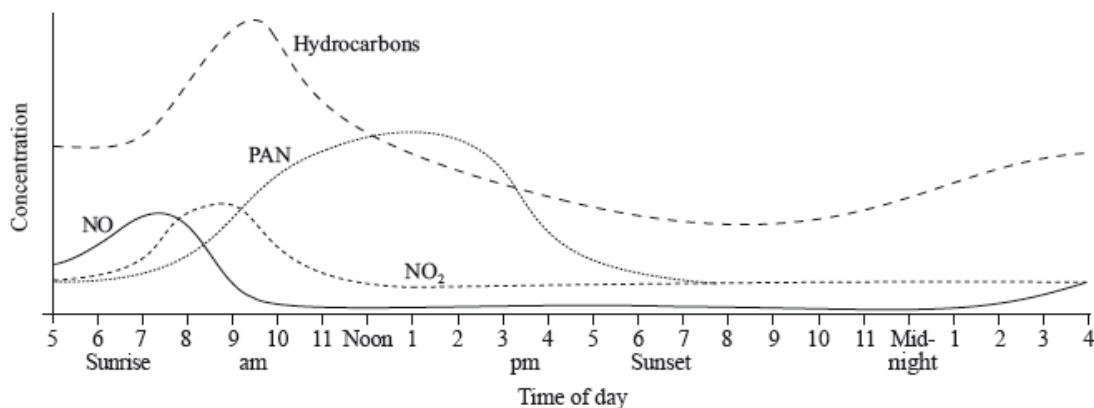
Both of these air pollutants also contribute to acid deposition. Outline mechanisms for the formation of HNO_3 and SO_3 .

Acid deposition is a consequence of industrial processes.

- State what is meant by the term acid deposition. [1]
- Describe, using equations, the mechanism of acid deposition caused by the oxides of nitrogen, including their initial formation. [3]
- All shellfish have a calcium carbonate shell. Discuss, including a balanced equation, the long-term effect of acid deposition on these organisms. [2]

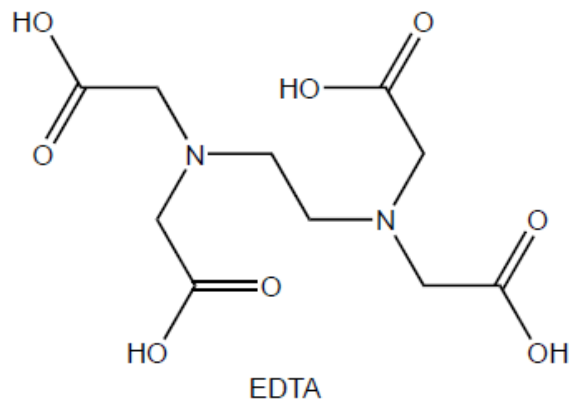
Balanced equation:

The concentration of some pollutants in a city was measured over a 24 hour period. The results are shown below.



Outline the cause of the increase in NO levels between 5 and 8 am.

EDTA is produced by reacting ethane-1,2-diamine with chloroethanoic acid, ClCH_2COOH .



a. Identify the other product formed.

[1]

b. Explain why EDTA, a chelating agent, is more effective in removing heavy metal ions from solution than monodentate ligands.

[3]
