09 Many shopping bags are made from plastic. Some shopping bags are made from paper. **Table 2** contains information from a life cycle assessment comparing paper and plastic bags.

| | Paper bags | Plastic bags |
|----------------------------|---|--|
| Raw materials | Trees/wood | Crude oil |
| Manufacturing process | The wood is collected and pulped. The chemical is digested with a mixture of limestone and acid. The pulp is washed and bleached. This requires 400 parts water for every 1 part pulp. | Crude oil is fractionally distilled. Large alkanes undergo cracking to make ethene. Ethene is polymerised at 200 °C and 2000 atmospheres pressure. |
| Use during its lifetime | Can be used until the bag splits or breaks. Breaks down more easily than plastic. | Can be used until the bag splits or breaks. Will not break down. |
| Disposal | Landfill: biodegradable. Recycling: can be recycled. Burning: can be disposed of by burning. | Landfill: non-biodegradable. Recycling: difficult to recycle. Burning: can be disposed of by burning. |

Table 2

Use the information from **Table 2** and your own knowledge to evaluate the advantages and disadvantages of the two types of shopping bag.

[6 marks]