Edexcel iGCSE Chemistry Checklist

Section D20: **Useful products from crude oil**

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| ***I can***  | ☺ | 😐 | ☹ |
| understand that crude oil is a mixture of hydrocarbons |  |  |  |
| describe and explain how the industrial process of fractional distillation separates crude oil into fractions |  |  |  |
| recall the names and uses of the main fractions obtained from crude oil: refinery gases, gasoline, kerosene, diesel, fuel oil and bitumen |  |  |  |
| describe the trend in boiling point and viscosity of the main fractions |  |  |  |
| understand that incomplete combustion of fuels may produce carbon monoxide and explain that carbon monoxide is poisonous because it reduces the capacity of the blood to carry oxygen |  |  |  |
| understand that, in car engines, the temperature reached is high enough to allow nitrogen and oxygen from air to react, forming nitrogen oxides |  |  |  |
| understand that nitrogen oxides and sulfur dioxide are pollutant gases which contribute to acid rain, and describe the problems caused by acid rain |  |  |  |
| understand that fractional distillation of crude oil produces more long-chain hydrocarbons than can be used directly and fewer short-chain hydrocarbons than required and explain why this makes cracking necessary  |  |  |  |
| describe how long-chain alkanes are converted to alkenes and shorter-chain alkanes by catalytic cracking, using silica or alumina as the catalyst and a temperature in the range of 600–700oC. |  |  |  |
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