



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

COIMBATORE-35.



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Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai.

DEPARTMENT OF AUTOMOBILE ENGINEERING

COURSE NAME : 19AUB301 – AUTOMOTIVE FUELS AND LUBRICANTS

III YEAR / V SEMESTER

Unit 1- Manufacture of Fuels and Lubricants

Topic : Petroleum Refining



PETROLEUM REFINING



- Petroleum refining processes are the chemical engineering processes and other facilities used in petroleum refineries **to transform crude oil into useful products.**
- The useful products included liquefied petroleum gas (LPG), gasoline or petrol, kerosene, jet fuel, diesel oil and fuel oils.





STAGES IN PETROLEUM REFINING PROCESS



- The process involves
 - ❖ Removing impurities
 - ❖ Separating petroleum into more useful products





REMOVING IMPURITIES



Step 1: Separation of Water (Cottrell's Process)

- The crude oil from the oil well is an extremely stable emulsion of oil and salt water.
- The process of freeing oil from water consists in allowing the crude to flow between two highly charged electrodes.
- The colloidal water droplets coalesce to form large drops, which separate out from the oil.



REMOVING IMPURITIES

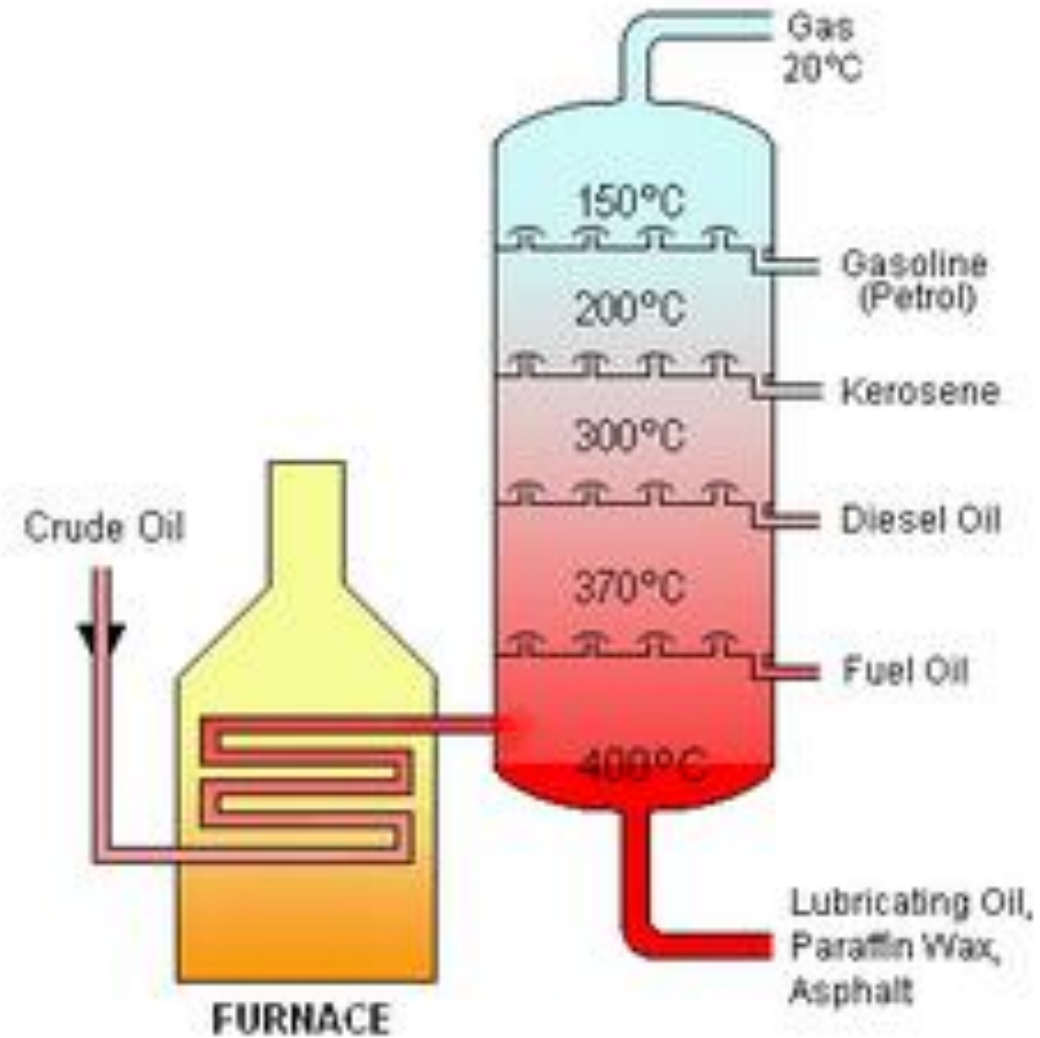


➤ **Step2: Removal of harmful sulphur compounds**

- ❖ It involves in treating oil with copper oxide.
- ❖ A reaction occurs with sulphur compounds, which results in the formation of copper sulphide, which is then removed by filtration.

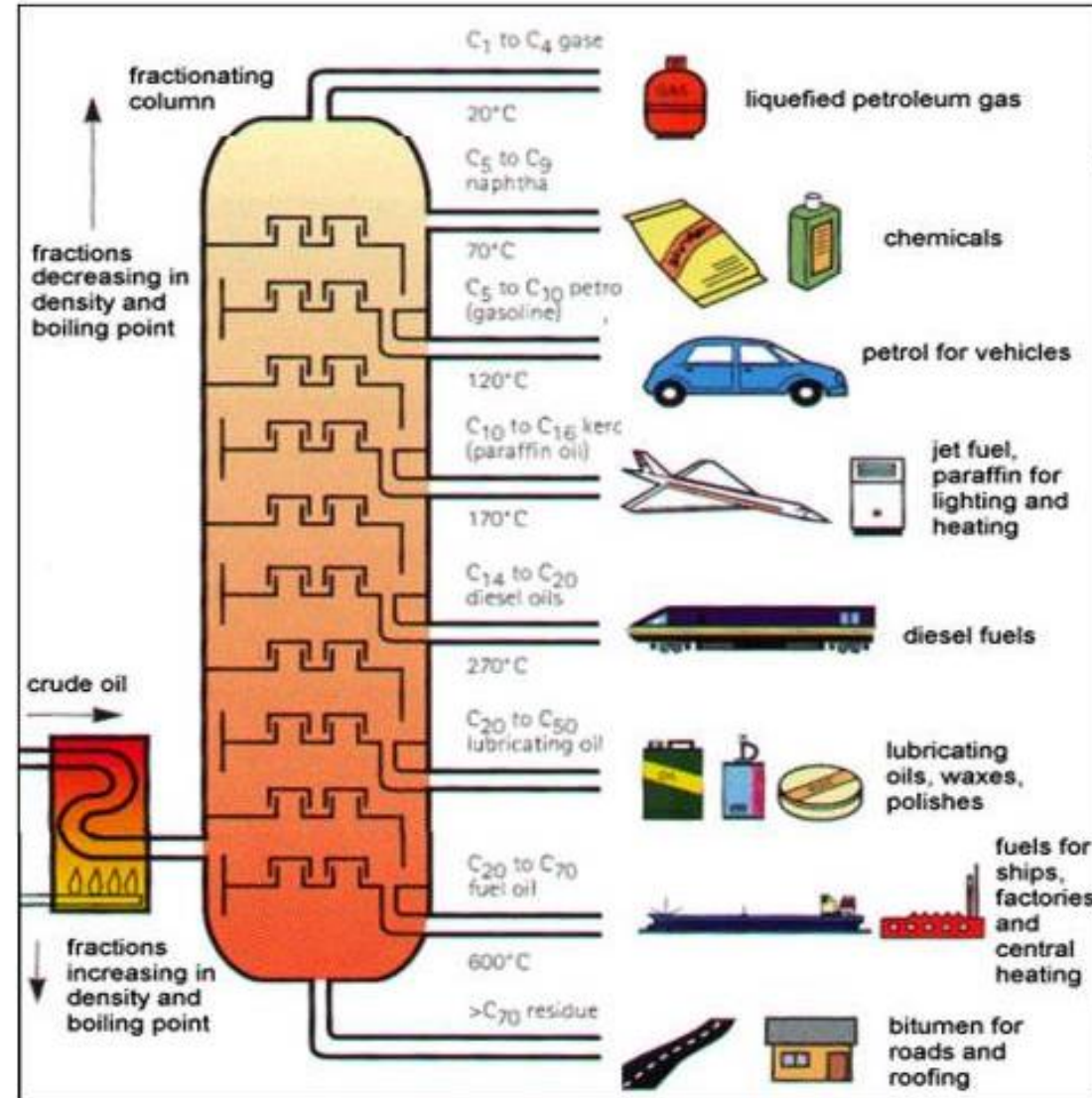


FRACTIONAL DISTILLATION





PRODUCTS OF PETROLEUM REFINING





REFERENCE



- https://en.wikipedia.org/wiki/Fractional_distillation
- <https://www.youtube.com/watch?v=J2-tDV8KYEA>



THANK YOU !!!