Claims

1. A method for producing naphthenic process oils that have a carbon distribution C_A to C_N to C_P of 0-30 wt% to 20-65 wt% to 20-55 wt%, determined in accordance with ASTM D 2140, and a content of polycyclic aromatics (PCAs) of less than 3 wt%, in accordance with IP 346,
characterized in that
a process oil educt that has a content of polycyclic aromatics of at least 3 wt%, determined in accordance with IP 346, and a content of naphthenic carbon atoms $C_N \leq 25$ wt%,
is hydrogenated with hydrogen using a metal catalyst at temperatures of 200-400°C and pressures of 80-250 bar.

2. A method as in Claim 1, characterized in that the hydrogenation is carried out at temperatures of 250-400°C, preferably 300-375°C.

3. A method as in one of Claims 1 or 2, characterized in that the metal catalyst [is] based on a nickel, cobalt, molybdenum, chromium, vanadium, nickel-molybdenum, chromium-vanadium catalyst, a metal oxide, a metal sulfide, or a mixture thereof.

4. A method as in one of the preceding claims, characterized in that the naphthenic process oil that is produced has a content of naphthenic carbon atoms C_N of 30-65 wt%.

5. A method as in one of the preceding claims, characterized in that the average residence time is 6-60 min.

6. A method as in one of the preceding claims, characterized in that the process oil educt that is used is a secondary extract from the production of TDAE or MES.

7. A method as in one of Claims 1-5, characterized in that the process oil product that is used is a DAE.

8. A method as in one of Claims 1-5, characterized in that the process oil educt that is used is a mixture of [secondary extract] and DAE, preferably a mixture of 75 wt% to 25 wt% up to 25 wt% to 75 wt% secondary extract to DAE.

9. A method as in one of the preceding claims, characterized in that the aniline point of the naphthenic process oil is between 30 and 115°C, determined in accordance with DIN ISO 2977.

10. The use of a process oil produced as in one of the preceding claims as a plasticizer or extender oil for rubbers or rubber mixtures that are based on natural or synthetic rubbers, or for thermoplastic elastomers, for industrial fat production, as a raw material for industrial or medicinal white oils, printing ink oils, release agents in building protection, transformer oils, or special metalworking oils.

Claims

1. A method for producing naphthenic process oils that have a carbon distribution C_A to C_N to C_P of 0-30 wt% to 20-65 wt% to 20-55 wt%, determined in accordance with ASTM D 2140, and a content of polycyclic aromatics (PCAs) of less than 3 wt%, in accordance with IP 346,
characterized in that
a process oil educt that has a content of polycyclic aromatics of at least 3 wt%, determined in accordance with IP 346, and a content of naphthenic carbon atoms $C_N \leq 25$ wt%,
is hydrogenated with hydrogen using a metal catalyst at temperatures of 200-400°C and pressures of 80-250 bar.

2. A method as in Claim 1, characterized in that the hydrogenation is carried out at temperatures of 250-400°C, preferably 300-375°C.

3. A method as in one of Claims 1 or 2, characterized in that the metal catalyst [is] based on a nickel, cobalt, molybdenum, chromium, vanadium, nickel-molybdenum, chromium-vanadium catalyst, a metal oxide, a metal sulfide, or a mixture thereof.

4. A method as in one of the preceding claims, characterized in that the average residence time is 6-60 min.

5. A method as in one of the preceding claims, characterized in that the process oil educt that is used is a secondary extract from the production of TDAE or MES.

6. A method as in one of Claims 1-4, characterized in that the process oil product that is used is a DAE.

7. A method as in one of Claims 1-4, characterized in that the process oil educt that is used is a mixture of [secondary extract] and DAE, preferably a mixture of 75 wt% to 25 wt% up to 25 wt% to 75 wt% secondary extract to DAE.

8. The use of a process oil produced as in one of the preceding claims as a plasticizer or extender oil for rubbers or rubber mixtures that are based on natural or synthetic rubbers, or for thermoplastic elastomers, for industrial fat production, as a raw material for industrial or medicinal white oils, printing ink oils, release agents in building protection, transformer oils, or special metalworking oils.