

C10C

Working-up tar, pitch, asphalt, bitumen; Pyroligneous acid (compositions of bituminous materials C08L95/00; carbon filaments by decomposition of organic filaments D01F9/14)

Definition statement

This subclass/group covers:

Working-up, e.g. processing, of tar, pitch, asphalt or bitumen, including use of techniques such as distillation, heat-treatment, water removal or extraction with selective solvents.

Working up implies improvement of the material.

Production of pyroligneous acid.

Relationship between large subject matter areas

This application related subclass covers techniques specially adapted to working up of tar, pitch, asphalt or bitumen, or the production of pyroligneous acid, even though some of the techniques per se are covered by subclasses such as [C10B](#), [C10G](#). For example, coking bitumen, tar or the like is covered by [C10B 55/00](#)

[B01D](#) covers distillation in general, e.g. distillation column will be classified in [B01D](#) and a process for working-up tar, by distillation, will be classified in [C10C](#).

References relevant to classification in this subclass

This subclass/group does not cover:

Working up pyroligneous acid for production of acetic acid	(C07C 51/42, C07C 53/08)
Carbonisation of wood	C10B 53/02
Obtaining hydrocarbon oils	C10G
Deasphalting hydrocarbon oils	C10G 21/00
Dewatering of hydrocarbon oils	C10G 33/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Smoke flavours	A23L 1/232
Shaped ceramic products containing a carbonisable binder	C04B 35/532
Coumarone resins	C08F 244/00
Compositions of bituminous materials	C08L 95/00
Coating compositions based on bituminous materials, e.g. asphalt, tar, pitch	C09D 195/00
Obtaining natural resins or turpentine	C09F
Adhesives based on bituminous materials, e.g. asphalt, tar, pitch	C09J 195/00
Anodes for electrolytic production of aluminium	C25C 3/125
Making carbon filaments by decomposition of organic filaments	D01F 9/14
Machines for road construction or repair	E01C

Special rules of classification within this subclass

In the absence of an indication to the contrary, classification is made in the last appropriate place ("last place rule").

The main group [C10C 1/00](#) only covers working-up coal tar.

Working-up petroleum (oil) tar is covered by [C10C 3/00](#).

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Tar	Tar is a black thermoplastic material produced by the destructive distillation of coal – sometimes referred to as coal tar. Is also a residue in the manufacture of coal
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	gas and coke. May also be derived from plants such as pine trees.
Pitch	Pitch is the name of a large number of highly viscous liquids which appear solid. Pitch may be made from petroleum or plant sources. Petroleum derived pitch is also known as bitumen whereas plant derived pitch is known as resin. Pitch derived from plant resin however is known as rosin. Tar and pitch are often used interchangeably. However, pitch is considered to be more solid whilst tar is considered to be more liquid.
Asphalt	Asphalt is a sticky, black and highly viscous liquid or semi solid that is present in crude petroleum and in some natural deposits sometimes termed asphaltum. In US terminology asphalt (or asphalt cement) is the carefully refined residue from the distillation process of selected crude oils. Outside of the US, the product is called bitumen.
Bitumen	Bitumen is a mixture of organic liquids that are highly viscous, black, sticky, entirely soluble in carbon disulfide and composed primarily of highly condensed polycyclic aromatic hydrocarbons.
Pyroligneous acid	Pyroligneous acid, also called wood vinegar, is a dark liquid produced by the destructive distillation of wood. Its principal components are acetic acid and methanol. It was once used as a commercial source for acetic acid.

Synonyms and Keywords

In patent documents the expressions/words "wood vinegar", "pyrolysis oil" and "bio-oil" are often used instead of "pyroligneous acid" which is used in the classification scheme of this group.

C10C 1/00

Working-up tar [N: petroleum (oil) tar C10C3/00]

C10C 3/00

Working-up pitch, asphalt, bitumen [N: compositions of asphalts and other bitumenous materials C08L95/00]

C10C 5/00

Production of pyroligneous acid [N: distillation of wood, dry distillation of organic waste] (carbonisation of wood C10B)]

Definition statement

This subclass/group covers:

- Production of pyroligneous acid
- Distillation or destructive distillation of wood resulting in charcoal and liquid condensates

Relationship between large subject matter areas

Carbonisation of wood resulting in charcoal, main product and volatile constituents being not recovered is classified in [C10B](#)