

# CPC COOPERATIVE PATENT CLASSIFICATION

## C CHEMISTRY; METALLURGY

(NOTES omitted)

### CHEMISTRY

#### C13 SUGAR INDUSTRY

(NOTE omitted)

#### C13B PRODUCTION OF SUCROSE; APPARATUS SPECIALLY ADAPTED THEREFOR

(chemically synthesised sugars or sugar derivatives [C07H](#); fermentation or enzyme-using processes for preparing compounds containing saccharide radicals [C12P 19/00](#))

##### NOTE

In this subclass, the following terms or expressions are used with the meanings indicated :

- "sugar" is used in its non-scientific meaning and refers to sucrose, also called "table sugar" or saccharose", a white crystalline disaccharide;
- "sugar juices" are solutions of sugar, essentially comprising sucrose, which are derived from different plants, e.g. beet, cane or maple;
- "syrups" are highly concentrated sugar juices.

##### 5/00 Reducing the size of material from which sugar is to be extracted (for extraction of starch [C08B 30/02](#))

- 5/02 . Cutting sugar cane
- 5/04 . Shredding sugar cane
- 5/06 . Slicing sugar beet
- 5/08 . Knives; Adjustment or maintenance thereof

##### 10/00 Production of sugar juices (tapping of tree-juices [A01G 23/10](#); tapping-spouts, receptacles for juices [A01G 23/14](#))

- 10/003 . {using chemicals other than extracting agents}
- 10/006 . {Conservation of sugar juices}
- 10/02 . Expressing juice from sugar cane or similar material, e.g. sorghum saccharatum
- 10/025 . . {Treatment of sugar cane before extraction ([C13B 5/00](#) takes precedence)}
- 10/04 . . combined with imbibition
- 10/06 . . Sugar-cane crushers
- 10/08 . Extraction of sugar from sugar beet with water
- 10/083 . . {Treatment of sugar beet before extraction ([C13B 5/00](#) takes precedence)}
- 10/086 . . {Processes or apparatus with discontinuous loading}
- 10/10 . . Continuous processes
- 10/102 . . . {having rotatable means for agitation or transportation}
- 10/105 . . . . {Rotating apparatus}
- 10/107 . . . {with transportation in the form of thin layers, e.g. by endless chains}
- 10/12 . . Details of extraction apparatus, e.g. arrangements of pipes or valves
- 10/14 . using extracting agents other than water, e.g. alcohol or salt solutions

##### 15/00 Expressing water from material from which sugar has been extracted (from starch-extracted material [C08B 30/10](#))

- 15/02 . between perforated moving belts

##### 20/00 Purification of sugar juices

##### NOTE

When classifying in this group, classification is also made in group [B01D 15/08](#) insofar as subject matter of general interest relating to chromatography is concerned

- 20/002 . {using microorganisms or enzymes}
- 20/005 . {using chemicals not provided for in groups [C13B 20/02](#) - [C13B 20/14](#)}
- 20/007 . . {Saturation with gases or fumes, e.g. carbon dioxide}
- 20/02 . using alkaline earth metal compounds
- 20/04 . . followed by saturation
- 20/06 . . . with carbon dioxide or sulfur dioxide
- 20/08 . by oxidation or reduction
- 20/10 . . using sulfur dioxide or sulfites
- 20/12 . using adsorption agents, e.g. active carbon
- 20/123 . . {Inorganic agents, e.g. active carbon}
- 20/126 . . {Organic agents, e.g. polyelectrolytes}
- 20/14 . using ion-exchange materials
- 20/142 . . {Mixed bed ([C13B 20/148](#) takes precedence)}
- 20/144 . . {using only cationic ion-exchange material ([C13B 20/148](#) takes precedence)}
- 20/146 . . {using only anionic ion-exchange material ([C13B 20/148](#) takes precedence)}
- 20/148 . . {for fractionating, adsorption or ion exclusion processes combined with elution or desorption of a sugar fraction}
- 20/16 . by physical means, e.g. osmosis or filtration
- 20/165 . . {using membranes, e.g. osmosis, ultrafiltration ([electrodialysis \[C13B 20/18\]\(#\)](#))}
- 20/18 . by electrical means
- 25/00 Evaporators or boiling pans specially adapted for sugar juices; Evaporating or boiling sugar juices
- 25/001 . {with heating tubes or plates}
- 25/003 . {with heating plates}

## C13B

- 25/005 . {with heating coils}
- 25/006 . {rotating apparatus}
- 25/008 . {with direct contact between heating medium and sugar solution}
- 25/02 . Details, e.g. for preventing foaming or for catching juice
- 25/04 . . Heating equipment
- 25/06 . combined with measuring instruments for effecting control of the process

### **30/00 Crystallisation; Crystallising apparatus; Separating crystals from mother liquors {; Evaporating or boiling sugar juice}**

- 30/002 . {Evaporating or boiling sugar juice}
- 30/005 . . {using chemicals}
- 30/007 . . {Multiple effect evaporation}
- 30/02 . Crystallisation; Crystallising apparatus
- 30/021 . . {using chemicals}
- 30/022 . . {Continuous processes, apparatus therefor [\(C13B 30/028 takes precedence\)](#)}
- 30/023 . . . {having rotatable means for agitation or transportation}
- 30/025 . . . {combined with measuring instruments for effecting control of the process}
- 30/026 . . {Discontinuous processes or apparatus therefor [\(C13B 30/028 takes precedence\)](#)}
- 30/027 . . . {combined with measuring instruments for effecting control of the process}
- 30/028 . . {obtaining sugar crystals by drying sugar syrup or sugar juice, e.g. spray-crystallisation}
- 30/04 . Separating crystals from mother liquor
- 30/06 . . by centrifugal force
- 30/08 . . Washing residual mother liquor from crystals
- 30/10 . . . in centrifuges
- 30/12 . . Recycling mother liquor or wash liquors
- 30/14 . . Dissolving or refining raw sugar

### **35/00 Extraction of sucrose from molasses**

- 35/005 . {using microorganisms or enzymes}
- 35/02 . by chemical means
- 35/04 . . by precipitation as alkaline earth metal saccharates
- 35/06 . . using ion exchange
- 35/08 . by physical means, e.g. osmosis

### **40/00 Drying sugar**

- 40/002 . {Drying sugar or syrup in bulk}
- 40/005 . . {combined with agglomeration}
- 40/007 . {Drying sugar in compacted form, e.g. cubes}

### **45/00 Cutting machines specially adapted for sugar**

- 45/02 . in combination with sorting and packing machines

### **50/00 Sugar products, e.g. powdered, lump or liquid sugar; Working-up of sugar [\(C13B 40/00, C13B 45/00 take precedence; confectionery A23G 3/00\)](#)**

- 50/002 . {Addition of chemicals or other foodstuffs}
- 50/004 . {Agglomerated sugar products; Agglomeration}
- 50/006 . {Molasses; Treatment of molasses [\(extraction of sucrose C13B 35/00\)](#)}
- 50/008 . . {Drying}
- 50/02 . formed by moulding sugar

### **99/00 Subject matter not provided for in other groups of this subclass**