CHEMISTRY

C13 SUGAR INDUSTRY

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]
20/002 . . using alkaline earth metal compounds
20/004 . . followed by saturation
20/006 . . . with carbon dioxide or sulfur dioxide
20/008 . . 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]
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