SECTION B — PERFORMING OPERATIONS; TRANSPORTING

B01 PHYSICAL OR CHEMICAL PROCESSES OR APPARATUS IN GENERAL

B01F MIXING, e.g. DISSOLVING, EMULSIFYING, DISPERSING (mixing paints B44D 3/06)

Note(s)

In this subclass, the following term or expression is used with the meaning indicated:
- "mixing" covers stirring of a single material.

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DISSOLVING.....1/00
MIXING, DISPERSING, EMULSIFYING
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flow mixers.....5/00
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EMULSIFYING OR DISPERSING AGENTS.....17/00

1/00 **Dissolving** (separating by dissolving B01D; dissolving to effect cooling F25D 5/00) **[2]**

3/00 **Mixing, e.g. dispersing, emulsifying, according to the phases to be mixed**
3/02 • gases with gases or vapours
3/04 • gases or vapours with liquids (mixing non-alcoholic beverages with gases A23L 2/54)
3/06 • gases or vapours with solids
3/08 • liquids with liquids; Emulsifying
3/10 • • Mixing very viscous liquids
3/12 • liquids with solids (displacing one liquid by another in dispersions of solids in liquids B01D 12/00)
3/14 • • Mixing very viscous liquids with solids
3/18 • solid with solids
3/20 • Pretreatment of the materials to be mixed
3/22 • Aftertreatment of the mixture

Mixers

5/00 **Flow mixers** (sprayers, atomisers B05B)**; Mixers for falling materials, e.g. solid particles** (B01F 13/04 takes precedence; centrifugal mixers B04)
5/02 • Jet mixers
5/04 • Injector mixers
5/06 • Mixers in which the components are pressed together through slits, orifices, or screens (turbo-mixers B01F 5/16; colloid-mills B02C; mixing valves F16K 11/00)
5/08 • • Homogenising or emulsifying nozzles
5/10 • Circulation mixers
5/12 • Pump mixers
5/14 • • of the gear type
5/16 • • Turbo-mixers
5/18 • Spray-mixers
5/20 • • with nozzles
5/22 • • with rotary discs
5/24 • Falling particle mixers with repeated action
5/26 • Falling particle mixers with moving means, e.g. stirrers for increasing the mixing

7/00 **Mixers with rotary stirring devices in fixed receptacles; Kneaders** (B01F 13/04 takes precedence)
7/02 • with stirrers rotating about a horizontal or inclined axis
7/04 • • with paddles or arms
7/06 • • with propellers
7/08 • • with helices
7/10 • • with rotary discs
7/12 • • with cylinders
7/14 • • with stirrers having planetary motion
7/16 • with stirrers rotating about a vertical axis
7/18 • • with paddles or arms
7/20 • • • with fixed axis
7/22 • • with propellers
7/24 • • with helices
7/26 • • with rotary discs
7/28 • • with cylinders
7/30 • • with stirrers having planetary motion
7/32 • • with openwork frames or cages

9/00 **Mixers with rotating receptacles** (B01F 13/04 takes precedence)
9/02 • rotating about a horizontal or inclined axis, e.g. drum mixers
9/04 • • without bars

9/06 • • with fixed bars
9/08 • • with rotating stirring devices
9/10 • rotating about a vertical axis
9/12 • • with paddles or arms
9/14 • • with propellers
9/16 • • with helices
9/18 • • with rotary discs
9/20 • • with cylinders
9/22 • with stirrers having planetary motion

11/00 Mixers with shaking, oscillating, or vibrating mechanisms (B01F 13/04 takes precedence)
11/02 • Mixing by means of ultrasonic vibrations
11/04 • with pendulum stirrers

13/00 Other mixers; Mixing plant, including combinations of dissimilar mixers
13/02 • Mixers with gas agitation, e.g. with air supply tubes
13/04 • Mixers combined with safety devices
13/06 • Mixers adapted for working at sub- or super-atmospheric pressure
13/08 • Magnetic mixers
13/10 • Mixing plant, including combinations of dissimilar mixers

15/00 Accessories for mixers
15/02 • Feed or discharge mechanisms
15/04 • Forming a predetermined ratio of the substances to be mixed (controlling ratio of two or more flows of fluid or fluent material G05D 11/02)
15/06 • Heating or cooling systems

17/00 Use of substances as emulsifying, wetting, dispersing, or foam-producing agents (flotation agents B03D 1/001; used for particular applications, see the relevant classes, e.g. use of substances as detergents C11D) **[3, 5]**

17/02 • Alkyl sulfonates or sulfuric acid ester salts derived from monohydric alcohols
17/04 • Sulfonates or sulfuric acid ester salts derived from polyhydric alcohols or amino alcohols or derivatives thereof (sulfated or sulfonated fatty oils B01F 17/08)
17/06 • Esters of higher fatty acids with hydroxyalkylated sulfonic acids or salts thereof
17/08 • Sulfation or sulfonation products of fats, oils, waxes, or higher fatty acids or esters thereof with monovalent alcohols
17/10 • Derivatives of low-molecular-weight sulfocarboxylic acids or sulfopolycarboxylic acids
17/12 • Sulfonates of aromatic or alkylated aromatic compounds
17/14 • Derivatives of phosphoric acid
17/16 • Amines or polyamines
17/18 • Quaternary ammonium compounds
17/20 • Phosphonium and sulfonium compounds
17/22 • Amides or hydrazides
17/24 • • Amides of higher fatty acids with aminoalkylated sulfonic acids
17/26 • Sulfonamides
17/28 • Aminocarboxylic acids (protein hydrolysates B01F 17/30)
17/30 • Proteins; Protein hydrolysates
17/32 • Heterocyclic compounds
17/34 • Higher-molecular-weight carboxylic acid esters (B01F 17/06 takes precedence)
17/36 • • Esters of polycarboxylic acids
17/38 • Alcohols, e.g. oxidation products of paraffins
17/40 • Phenols
17/42 • Ethers, e.g. polyglycol ethers of alcohols or phenols
17/44 • • Ether carboxylic acids
17/46 • • Ethers of aminoalcohols
17/48 • • Cellulose ethers
17/50 • Derivatives of lignin
17/52 • Natural or synthetic resins or their salts
17/54 • Silicon compounds
17/56 • Glucosides; Mucilage; Saponines