

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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MIXING, DISPERSING, EMULSIFYING	
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other mixers.....	11/00, 13/00
accessories.....	15/00
EMULSIFYING OR DISPERSING AGENTS.....	17/00

1/00	Dissolving (separating by dissolving B01D; dissolving to effect cooling F25D 5/00) [2]	5/16	• • Turbo-mixers
		5/18	• Spray-mixers
3/00	Mixing, e.g. dispersing, emulsifying, according to the phases to be mixed	5/20	• • with nozzles
3/02	• gases with gases or vapours	5/22	• • with rotary discs
3/04	• gases or vapours with liquids (mixing non-alcoholic beverages with gases A23L 2/54)	5/24	• Falling particle mixers with repeated action
3/06	• gases or vapours with solids	5/26	• Falling particle mixers with moving means, e.g. stirrers for increasing the mixing
3/08	• liquids with liquids; Emulsifying	7/00	Mixers with rotary stirring devices in fixed receptacles; Kneaders (B01F 13/04 takes precedence)
3/10	• • Mixing very viscous liquids	7/02	• with stirrers rotating about a horizontal or inclined axis
3/12	• liquids with solids (displacing one liquid by another in dispersions of solids in liquids B01D 12/00)	7/04	• • with paddles or arms
3/14	• • Mixing very viscous liquids with solids	7/06	• • with propellers
3/18	• solid with solids	7/08	• • with helices
3/20	• Pretreatment of the materials to be mixed	7/10	• • with rotary discs
3/22	• Aftertreatment of the mixture	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
5/00	Flow mixers (sprayers, atomisers B05B); Mixers for falling materials, e.g. solid particles (B01F 13/04 takes precedence; centrifugal mixers B04)	9/00	Mixers with rotating receptacles (B01F 13/04 takes precedence)
5/02	• Jet mixers	9/02	• rotating about a horizontal or inclined axis, e.g. drum mixers
5/04	• Injector mixers	9/04	• • without bars
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		

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9/06	• • with fixed bars	17/02	• Alkyl sulfonates or sulfuric acid ester salts derived from monohydric alcohols
9/08	• • with rotating stirring devices	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)
9/10	• rotating about a vertical axis	17/06	• Esters of higher fatty acids with hydroxyalkylated sulfonic acids or salts thereof
9/12	• • with paddles or arms	17/08	• Sulfation or sulfonation products of fats, oils, waxes, or higher fatty acids or esters thereof with monovalent alcohols
9/14	• • with propellers	17/10	• Derivatives of low-molecular-weight sulfocarboxylic acids or sulfopolycarboxylic acids
9/16	• • with helices	17/12	• Sulfonates of aromatic or alkylated aromatic compounds
9/18	• • with rotary discs	17/14	• Derivatives of phosphoric acid
9/20	• • with cylinders	17/16	• Amines or polyamines
9/22	• with stirrers having planetary motion	17/18	• Quaternary ammonium compounds
11/00	Mixers with shaking, oscillating, or vibrating mechanisms (B01F 13/04 takes precedence)	17/20	• Phosphonium and sulfonium compounds
11/02	• Mixing by means of ultrasonic vibrations	17/22	• Amides or hydrazides
11/04	• with pendulum stirrers	17/24	• • Amides of higher fatty acids with aminoalkylated sulfonic acids
13/00	Other mixers; Mixing plant, including combinations of dissimilar mixers	17/26	• Sulfonamides
13/02	• Mixers with gas agitation, e.g. with air supply tubes	17/28	• Aminocarboxylic acids (protein hydrolysates B01F 17/30)
13/04	• Mixers combined with safety devices	17/30	• Proteins; Protein hydrolysates
13/06	• Mixers adapted for working at sub- or super-atmospheric pressure	17/32	• Heterocyclic compounds
13/08	• Magnetic mixers	17/34	• Higher-molecular-weight carboxylic acid esters (B01F 17/06 takes precedence)
13/10	• Mixing plant, including combinations of dissimilar mixers	17/36	• • Esters of polycarboxylic acids
15/00	Accessories for mixers	17/38	• Alcohols, e.g. oxidation products of paraffins
15/02	• Feed or discharge mechanisms	17/40	• Phenols
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)	17/42	• Ethers, e.g. polyglycol ethers of alcohols or phenols
15/06	• Heating or cooling systems	17/44	• • Ether carboxylic acids
<hr/>		17/46	• • Ethers of aminoalcohols
17/00	Use of substances as emulsifying, wetting, dispersing, or foam-producing agents (flotation agents B03D 1/001; used for particular applications, <u>see</u> the relevant classes, e.g. use of substances as detergents C11D) [3, 5]	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