

CPC COOPERATIVE PATENT CLASSIFICATION

C CHEMISTRY; METALLURGY

(NOTES omitted)

CHEMISTRY

C08 ORGANIC MACROMOLECULAR COMPOUNDS; THEIR PREPARATION OR CHEMICAL WORKING-UP; COMPOSITIONS BASED THEREON (manufacture or treatment of artificial threads, fibres, bristles or ribbons [D01](#))

C08K USE OF INORGANIC OR NON-MACROMOLECULAR ORGANIC SUBSTANCES AS COMPOUNDING INGREDIENTS (pesticides, herbicides [A01N](#); pharmaceuticals, cosmetics [A61K](#); explosives [C06B](#); paints, inks, varnishes, dyes, polishes, adhesives [C09](#); lubricants [C10M](#); detergents [C11D](#); artificial filaments or fibres [D01F](#); textile treating compositions [D06](#))

NOTES

1. The use of an ingredient for a specific polymer is classified by adding, in a C-set, to the group symbol of [C08K](#), the subdivision of [C08L 1/00](#) - [C08L 99/00](#). Example: Polystyrene containing a carboxylic amide is classified in ([C08K 5/20](#), [C08L 25/06](#)).
2. From April 2012, the use of an ingredient for a specific polymer is classified by adding, in a C-set, to the group symbol of [C08K](#), the subdivision of [C08L 1/00](#) - [C08L 99/00](#). Example: Polystyrene containing a carboxylic amide is classified in ([C08K 5/20](#), [C08L 25/06](#)).
3. In this subclass, in the absence of an indication to the contrary, an ingredient is classified in the last appropriate place.
4. In this subclass:
 - a mixture of ingredients is classified in the most indented group covering all the essential ingredients of the mixture, e.g.:
 - a mixture of a monohydric and a polyhydric alcohol [C08K 5/05](#)
 - a mixture of two polyhydric alcohols [C08K 5/053](#)
 - a mixture of an alcohol and an ether [C08K 5/04](#)
 - a mixture of an ether and an amine [C08K 5/00](#)
 - a mixture of an amine and a metal [C08K 13/02](#)

{ This note is applied only for mixtures with more than three essential ingredients. Mixtures with two or three ingredients are classified in the appropriate groups of [C08K](#), e.g. a mixture of Al₂O₃, an ether and an amine is classified in [C08K 3/22](#), [C08K 5/06](#) and [C08K 5/17](#)}
 - ammonium salts are classified in the same way as metal salts
5. In this subclass, organic acid salts, alcoholates, phenolates or mercaptides are classified in the groups or subgroups of the parent compounds
6. The use of an ingredient for a specific polymer is classified by adding to the group symbol of [C08K](#) and separated therefrom by a "+" sign, the subdivision of [C08L 1/00](#) - [C08L 99/00](#).
Example: Polystyrene containing a carboxylic amide is classified in [C08K 5/20](#) + [C08L 25/06](#)
7. In this subclass are considered as compounding ingredients:
 - inert additives
 - radical crosslinking agents, e.g. peroxides, S-containing vulcanisation agents
 - coupling agents, i.e. compounds able to improve the adhesion between filler and macromolecule

Are not considered as compounding ingredients:

 - chemical modifying or crosslinking agents which react via a condensation or addition mechanism (for [C08B](#) polymers [C08B](#), for diene rubbers [C08C 19/30](#), for other vinyl polymers [C08F 8/00](#), for polysiloxanes [C08L 83/00](#), for other [C08G](#) polymers [C08G](#))
 - solvents or dispersion agents for making polymer solutions, emulsions or dispersions ([C08J 3/02](#))
 - blowing agents ([C08J 9/04](#))

WARNING

The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[C08K 5/5445](#)

covered by

[C08K 5/544](#)

3/00 Use of inorganic substances as compounding ingredients

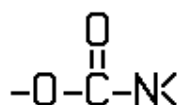
3/011 . . Crosslinking or vulcanising agents, e.g. accelerators

3/01 . characterized by their specific function

3/012	. . Additives activating the degradation of the macromolecular compounds	3/045	. . . {Fullerenes}
3/013	. . Fillers, pigments or reinforcing additives	WARNING	
3/014	. . Stabilisers against oxidation, heat, light or ozone	Group C08K 3/045 is incomplete pending reclassification of documents from groups C08K 3/04 and C08K 7/24 .	
3/015	. . Biocides (macromolecular substances as carriers for biocide material A01N 25/10)	Groups C08K 3/045 , C08K 3/04 and C08K 7/24 should be considered in order to perform a complete search.	
3/016	. . Flame-proofing or flame-retarding additives	3/046	. . . {Carbon nanorods, nanowires, nanoplatelets or nanofibres}
3/017	. . Antistatic agents		
3/02	. Elements		
2003/023	. . {Silicon}		
2003/026	. . {Phosphorus}	WARNING	
3/04	. . Carbon	Group C08K 3/046 is incomplete pending reclassification of documents from groups C08K 3/04 and C08K 7/24 .	
WARNING		Groups C08K 3/046 , C08K 3/04 and C08K 7/24 should be considered in order to perform a complete search.	
Group C08K 3/04 is impacted by reclassification into groups C08K 3/041 , C08K 3/042 , C08K 3/043 , C08K 3/044 , C08K 3/045 and C08K 3/046 .			
All groups listed in this warning should be considered in order to perform a complete search.			
3/041	. . . {Carbon nanotubes}	3/06	. . Sulfur
WARNING		3/08	. . Metals
Group C08K 3/041 is incomplete pending reclassification of documents from groups C08K 3/04 and C08K 7/24 .		2003/0806	. . . {Silver}
Groups C08K 3/041 , C08K 3/04 and C08K 7/24 should be considered in order to perform a complete search.		2003/0812	. . . {Aluminium}
3/042	. . . {Graphene or derivatives, e.g. graphene oxides}	2003/0818	. . . {Alkali metal}
		2003/0825	. . . . {Potassium}
		2003/0831	. . . {Gold}
		2003/0837	. . . {Bismuth}
		2003/0843	. . . {Cobalt}
		2003/085	. . . {Copper}
		2003/0856	. . . {Iron}
		2003/0862	. . . {Nickel}
		2003/0868	. . . {Osmium}
		2003/0875	. . . {Antimony}
2003/0881	. . . {Titanium}		
2003/0887	. . . {Tungsten}		
2003/0893	. . . {Zinc}		
3/043	. . . {Carbon nanocoils}	3/10	. Metal compounds
		3/105	. . Compounds containing metals of Groups 1 to 3 or Groups 11 to 13 of the Periodic system
		3/11	. . Compounds containing metals of Groups 4 to 10 or Groups 14 to 16 of the Periodic system
		3/12	. . Hydrides
		3/14	. . Carbides
		3/16	. Halogen-containing compounds
		2003/162	. . {Calcium, strontium or barium halides, e.g. calcium, strontium or barium chloride}
		2003/164	. . {Aluminum halide, e.g. aluminium chloride}
		2003/166	. . {Magnesium halide, e.g. magnesium chloride}
		2003/168	. . {Zinc halides}
3/044	. . . {Carbon nanohorns or nanobells}	3/18	. Oxygen-containing compounds, e.g. metal carbonyls
		3/20	. . Oxides; Hydroxides {(graphene oxides C08K 3/042)}
WARNING		WARNING	
Group C08K 3/044 is incomplete pending reclassification of documents from groups C08K 3/04 and C08K 7/24 .		Group C08K 3/20 is impacted by reclassification into group C08K 3/042 .	
Groups C08K 3/044 , C08K 3/04 and C08K 7/24 should be considered in order to perform a complete search.		Groups C08K 3/20 , and C08K 3/042 should be considered in order to perform a complete search.	
		3/22	. . . of metals

2003/2203	. . . . {of lithium}	2003/343	. . {Peroxyhydrates, peroxyacids or salts thereof}
2003/2206	. . . . {of calcium, strontium or barium}	3/346	. . {Clay}
2003/221	. . . . {of rare earth metal}	3/36	. . Silica
2003/2213	. . . . . {of cerium}	3/38	. Boron-containing compounds
2003/2217	. . . . . {of magnesium}	2003/382	. . {and nitrogen}
2003/222	. . . . . {Magnesia, i.e. magnesium oxide}	2003/385	. . . {Binary compounds of nitrogen with boron}
2003/2224	. . . . . {Magnesium hydroxide}	2003/387	. . {Borates}
2003/2227	. . . . . {of aluminium}	3/40	. Glass
2003/2231	. . . . . {of tin}	5/00	Use of organic ingredients
2003/2234	. . . . . {of lead}	5/0008	. {Organic ingredients according to more than one of the "one dot" groups of C08K 5/01 - C08K 5/59 }
2003/2237	. . . . . {of titanium}	5/0016	. . {Plasticisers}
2003/2241	. . . . . {Titanium dioxide}	5/0025	. . {Crosslinking or vulcanising agents; including accelerators}
2003/2244	. . . . . {of zirconium}	5/0033	. . {Additives activating the degradation of the macromolecular compound}
2003/2248	. . . . . {of copper}	5/0041	. . {Optical brightening agents, organic pigments}
2003/2251	. . . . . {of chromium}	5/005	. . {Stabilisers against oxidation, heat, light, ozone}
2003/2255	. . . . . {of molybdenum}	5/0058	. . {Biocides; (macromolecular substances as carriers for biocide material A01N 25/10)}
2003/2258	. . . . . {of tungsten}	5/0066	. . {Flame-proofing or flame-retarding additives}
2003/2262	. . . . . {of manganese}	5/0075	. . {Antistatics}
2003/2265	. . . . . {of iron}	5/0083	. . {Nucleating agents promoting the crystallisation of the polymer matrix}
2003/2268	. . . . . {Ferrous oxide (FeO)}	5/0091	. . {Complexes with metal-heteroatom-bonds}
2003/2272	. . . . . {Ferric oxide (Fe ₂ O ₃)}	5/01	. Hydrocarbons {(C08K 5/0091 takes precedence)}
2003/2275	. . . . . {Ferroso-ferric oxide (Fe ₃ O ₄)}	5/02	. Halogenated hydrocarbons {(C08K 5/0091 takes precedence)}
3/2279	. . . . . {of antimony}	5/03	. . aromatic {, e.g. C ₆ H ₅ -CH ₂ -Cl}
2003/2282	. . . . . {Antimonates}	5/04	. Oxygen-containing compounds {(C08K 5/0091 takes precedence)}
2003/2286	. . . . . {of silver}	5/05	. . Alcohols; Metal alcoholates
2003/2289	. . . . . {of cobalt}	5/053	. . . Polyhydroxylic alcohols
2003/2293	. . . . . {of nickel}	5/057	. . . Metal alcoholates {(metal enolates C08K 5/0091)}
2003/2296	. . . . . {of zinc}	5/06	. . Ethers; Acetals; Ketals; Ortho-esters
3/24	. . Acids; Salts thereof {(C08K 3/16 takes precedence)}	5/07	. . Aldehydes; Ketones
3/26	. . . Carbonates; Bicarbonates	5/08	. . . Quinones
2003/262	. . . . {Alkali metal carbonates}	5/09	. . Carboxylic acids; Metal salts thereof; Anhydrides thereof
2003/265	. . . . {Calcium, strontium or barium carbonate}	5/092	. . . Polycarboxylic acids
2003/267	. . . . {Magnesium carbonate}	5/095	. . . Carboxylic acids containing halogens
3/28	. Nitrogen-containing compounds	5/098	. . . Metal salts of carboxylic acids
2003/282	. . {Binary compounds of nitrogen with aluminium}	5/10	. . Esters; Ether-esters
2003/285	. . {Ammonium nitrates}	5/101	. . . of monocarboxylic acids
2003/287	. . {Calcium, strontium or barium nitrates}	5/103	. . . . with polyalcohols
3/30	. Sulfur-, selenium- or tellurium-containing compounds	5/105	. . . . with phenols
2003/3009	. . {Sulfides}	5/107	. . . . . with polyphenols
2003/3018	. . . {of magnesium, calcium, strontium or barium}	5/109	. . . of carbonic acid {, e.g. R-O-C(=O)-O-R}
2003/3027	. . . {of cadmium}	5/11	. . . of acyclic polycarboxylic acids
2003/3036	. . . {of zinc}	5/12	. . . of cyclic polycarboxylic acids
2003/3045	. . {Sulfates}	5/13	. . Phenols; Phenolates
2003/3054	. . . {Ammonium sulfates}	5/132	. . . Phenols containing keto groups {, e.g. benzophenones}
2003/3063	. . . {Magnesium sulfate}	5/134	. . . Phenols containing ester groups
2003/3072	. . . {Iron sulfates}	5/1345	. . . . {Carboxylic esters of phenolcarboxylic acids}
2003/3081	. . . {Aluminum sulfate}	5/136	. . . Phenols containing halogens
2003/309	. . {Sulfur containing acids}	5/138	. . . Phenolates
3/32	. Phosphorus-containing compounds	5/14	. . Peroxides
2003/321	. . {Phosphates}	5/15	. . Heterocyclic compounds having oxygen in the ring
2003/322	. . . {Ammonium phosphate}		
2003/323	. . . . {Ammonium polyphosphate}		
2003/324	. . . {Alkali metal phosphate}		
2003/325	. . . {Calcium, strontium or barium phosphate}		
2003/326	. . . {Magnesium phosphate}		
2003/327	. . . {Aluminium phosphate}		
2003/328	. . . {Phosphates of heavy metals}		
2003/329	. . {Phosphorus containing acids}		
3/34	. Silicon-containing compounds		

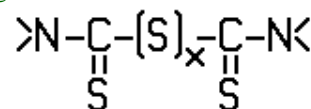
- 5/151 . . . having one oxygen atom in the ring
- 5/1515 Three-membered rings
- 5/1525 Four-membered rings
- 5/1535 Five-membered rings
- 5/1539 Cyclic anhydrides
- 5/1545 Six-membered rings
- 5/156 . . . having two oxygen atoms in the ring
- 5/1565 Five-membered rings
- 5/1575 Six-membered rings
- 5/159 . . . having more than two oxygen atoms in the ring
- 5/16 . Nitrogen-containing compounds [{\(C08K 5/0091 takes precedence\)}](#)
- 5/17 . . Amines; Quaternary ammonium compounds
- 5/175 . . . {containing COOH-groups; Esters or salts thereof}
- 5/18 . . . with aromatically bound amino groups
- 5/19 . . . Quaternary ammonium compounds
- 5/20 . . Carboxylic acid amides
- 5/205 . . Compounds containing



groups, e.g. carbamates

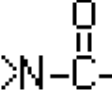
- 5/21 . . Urea; Derivatives thereof, e.g. biuret
- 5/22 . . Compounds containing nitrogen bound to another nitrogen atom
- 5/23 . . . Azo-compounds
- 5/235 {Diazo and polyazo compounds}
- 5/24 . . . Derivatives of hydrazine
- 5/25 Carboxylic acid hydrazides
- 5/26 Semicarbazides
- 5/27 . . . Compounds containing a nitrogen atom bound to two other nitrogen atoms, e.g. diazoamino-compounds
- 5/28 Azides
- 5/29 . . Compounds containing {one or more} carbon-to-nitrogen double bonds
- 5/30 . . . Hydrazones; Semicarbazones
- 5/31 . . . Guanidine; Derivatives thereof
- 5/315 . . Compounds containing carbon-to-nitrogen triple bonds
- 5/3155 . . . {Dicyandiamide}
- 5/32 . . Compounds containing nitrogen bound to oxygen
- 5/33 . . . Oximes
- 5/34 . . Heterocyclic compounds having nitrogen in the ring
- 5/3412 . . . having one nitrogen atom in the ring
- 5/3415 Five-membered rings
- 5/3417 condensed with carbocyclic rings
- 5/3432 Six-membered rings
- 5/3435 Piperidines
- 5/3437 condensed with carbocyclic rings
- 5/3442 . . . having two nitrogen atoms in the ring
- 5/3445 Five-membered rings
- 5/3447 condensed with carbocyclic rings
- 5/3462 Six-membered rings
- 5/3465 condensed with carbocyclic rings
- 5/3467 . . . having more than two nitrogen atoms in the ring
- 5/3472 Five-membered rings
- 5/3475 condensed with carbocyclic rings
- 5/3477 Six-membered rings

- 5/3492 Triazines
- 5/34922 {Melamine; Derivatives thereof}
- 5/34924 {containing cyanurate groups; Tautomers thereof}
- 5/34926 {also containing heterocyclic groups other than triazine groups}
- 5/34928 {Salts}
- 5/3495 condensed with carbocyclic rings
- 5/35 . . . having also oxygen in the ring
- 5/353 Five-membered rings
- 5/357 Six-membered rings
- 5/36 . Sulfur-, selenium-, or tellurium-containing compounds [{\(C08K 5/0091 takes precedence\)}](#)
- 5/37 . . Thiols
- 5/372 . . . Sulfides {, e.g. R-(S)x-R'}
- 5/3725 {containing nitrogen}
- 5/375 . . . containing six-membered aromatic rings [{\(C08K 5/3725 takes precedence\)}](#)
- 5/378 . . . containing heterocyclic rings
- 5/38 . . Thiocarbonic acids; Derivatives thereof, e.g. xanthates {; i.e. compounds containing -X-C(=X)- groups, X being oxygen or sulfur, at least one X being sulfur}
- 5/39 . . Thiocarbamic acids; Derivatives thereof, e.g. dithiocarbamates
- 5/40 . . . Thiurams, {i.e. compounds containing



groups}

- 5/405 . . . Thioureas; Derivatives thereof
- 5/41 . . Compounds containing sulfur bound to oxygen
- 5/42 . . . Sulfonic acids; Derivatives thereof
- 5/43 . . Compounds containing sulfur bound to nitrogen
- 5/435 . . . Sulfonamides
- 5/44 . . . Sulfenamides
- 5/45 . . Heterocyclic compounds having sulfur in the ring
- 5/46 . . . with oxygen or nitrogen in the ring
- 5/47 Thiazoles
- 5/48 . . Selenium- or tellurium-containing compounds
- 5/49 . Phosphorus-containing compounds [{\(C08K 5/0091 takes precedence\)}](#)
- 5/50 . . Phosphorus bound to carbon only
- 5/51 . . Phosphorus bound to oxygen
- 5/52 . . . Phosphorus bound to oxygen only
- 5/5205 {Salts of P-acids with N-bases}
- 5/521 Esters of phosphoric acids, e.g. of H₃PO₄
- 5/523 with hydroxyaryl compounds
- 5/524 Esters of phosphorous acids, e.g. of H₃PO₃
- 5/526 with hydroxyaryl compounds
- 5/527 Cyclic esters
- 5/529 Esters containing heterocyclic rings not representing cyclic esters of phosphoric or phosphorous acids
- 5/53 . . . bound to oxygen and to carbon only
- 5/5313 Phosphinic compounds, e.g. R₂=P(:O)OR'
- 5/5317 Phosphonic compounds, e.g. R—P(:O)(OR')₂
- 5/5333 Esters of phosphonic acids
- 5/5337 containing also halogens
- 5/5353 containing also nitrogen

- 5/5357 cyclic
- 5/5373 containing heterocyclic rings not representing cyclic esters of phosphonic acids
- 5/5377 Phosphinous compounds, e.g. R_2P-OR'
- 5/5393 Phosphonous compounds, e.g. $R-P(OR')_2$
- 5/5397 Phosphine oxides
- 5/5398 . . Phosphorus bound to sulfur
- 5/5399 . . Phosphorus bound to nitrogen
- 5/54 . Silicon-containing compounds {(C08K 5/0091 takes precedence)}
- 5/5403 . . {containing no other elements than carbon or hydrogen}
- 5/5406 . . {containing elements other than oxygen or nitrogen}
- 5/541 . . containing oxygen
- 5/5415 . . . containing at least one Si—O bond
- 5/5419 . . . containing at least one Si—C bond
- 5/5425 . . . containing at least one C=C bond
- 5/5435 . . . containing oxygen in a ring
- 5/544 . . containing nitrogen
- 5/5442 . . . {containing nitrogen in a heterocyclic ring}
- 5/5455 . . . containing at least one  group
{(C08K 5/5442 takes precedence)}
- 5/5465 . . . containing at least one C=N bond
{(C08K 5/5442 takes precedence)}
- 5/5475 . . . containing at least one C-N {triple} bond
{(C08K 5/5442 takes precedence)}
- 5/548 . . containing sulfur {(C08K 5/5442 takes precedence)}
- 5/549 . . containing silicon in a ring
- 5/55 . Boron-containing compounds {(C08K 5/0091 takes precedence)}
- 5/56 . Organo-metallic compounds, i.e. organic compounds containing a metal-to-carbon bond
- 5/57 . . Organo-tin compounds
- 5/58 . . . containing sulfur
- 5/59 . Arsenic- or antimony-containing compounds

7/00 Use of ingredients characterised by shape

- 7/02 . Fibres or whiskers
- 7/04 . . inorganic
- 7/06 . . . Elements
- 7/08 . . . Oxygen-containing compounds
- 7/10 . . . Silicon-containing compounds
- 7/12 Asbestos
- 7/14 . . . Glass
- 7/16 . Solid spheres
- 7/18 . . inorganic
- 7/20 . . . Glass
- 7/22 . Expanded, porous or hollow particles

- 7/24 . . inorganic

WARNING

Group C08K 7/24 is impacted by reclassification into groups C08K 3/041, C08K 3/042, C08K 3/043, C08K 3/044, C08K 3/045 and C08K 3/046.

All groups listed in this warning should be considered in order to perform a complete search.

- 7/26 . . . Silicon- containing compounds

- 7/28 . . . Glass

9/00 Use of pretreated ingredients

- 9/02 . Ingredients treated with inorganic substances
- 9/04 . Ingredients treated with organic substances {(treated with macromolecular compounds C08K 9/08)}
- 9/06 . . with silicon-containing compounds
- 9/08 . Ingredients agglomerated by treatment with a binding agent
- 9/10 . Encapsulated ingredients
- 9/12 . Adsorbed ingredients {, e.g. ingredients on carriers}

11/00 Use of ingredients of unknown constitution, e.g. undefined reaction products

- 11/005 . {Waste materials, e.g. treated or untreated sewage sludge}

13/00 Use of mixtures of ingredients not covered by one single of the preceding main groups, each of these compounds being essential

- 13/02 . Organic and inorganic ingredients
- 13/04 . Ingredients characterised by their shape and organic or inorganic ingredients
- 13/06 . Pretreated ingredients and ingredients covered by the main groups C08K 3/00 - C08K 7/00
- 13/08 . Ingredients of unknown constitution and ingredients covered by the main groups C08K 3/00 - C08K 9/00

2201/00 Specific properties of additives

- 2201/001 . Conductive additives
- 2201/002 . Physical properties
- 2201/003 . . Additives being defined by their diameter
- 2201/004 . . Additives being defined by their length
- 2201/005 . . Additives being defined by their particle size in general
- 2201/006 . . Additives being defined by their surface area
- 2201/007 . Fragrance additive
- 2201/008 . Additives improving gas barrier properties
- 2201/009 . Additives being defined by their hardness
- 2201/01 . Magnetic additives
- 2201/011 . Nanostructured additives
- 2201/012 . Additives improving oxygen scavenging properties
- 2201/013 . Additives applied to the surface of polymers or polymer particles
- 2201/014 . Additives containing two or more different additives of the same subgroup in C08K
- 2201/015 . Additives for heat shrinkable compositions
- 2201/016 . Additives defined by their aspect ratio
- 2201/017 . Additives being an antistatic agent
- 2201/018 . Additives for biodegradable polymeric composition
- 2201/019 . the composition being defined by the absence of a certain additive