

CPC COOPERATIVE PATENT CLASSIFICATION

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 macromoleculeAre 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 group is not used in the CPC system. Subject matter covered by this group is classified in the following CPC groups:

[C08K 5/5445](#)

covered by

[C08K 5/544](#)

3/00	Use of inorganic ingredients	3/0066	. . {Antistatics}
3/0008	. {Inorganic ingredients according to more than one of the "one dot" groups of C08K 3/02 - C08K 3/40 }	3/0075	. {Metal containing compounds according to more than one of the "one dot" groups of C08K 3/10 - C08K 3/40 }
3/0016	. . {Crosslinking or vulcanising agents, including accelerators}	3/0083	. . {Compounds containing metals of the 1st to 3rd Group of the Periodic system}
3/0025	. . {Additives activating the degradation of the macromolecular compound}	3/0091	. . {Compounds containing metals of the 4th to 8th Group of the Periodic system, e.g. nickel compounds}
3/0033	. . {Fillers, pigments, reinforcing additives}	3/02	. Elements
3/0041	. . {Stabilisers against oxidation, heat, light, ozone}	2003/023	. . {Silicon}
3/005	. . {Biocides; (macromolecular substances as carriers for biocide material A01N 25/10)}	2003/026	. . {Phosphorus}
3/0058	. . {Flame-proofing or flame-retarding additives}		

3/04	. . Carbon	3/24	. . Acids; Salts thereof {(C08K 3/16 takes precedence)}
2003/045	. . . {Fullerenes}	3/26	. . . Carbonates; Bicarbonates
3/06	. . Sulfur	2003/262	. . . . {Alkali metal carbonates}
3/08	. . Metals	2003/265	. . . . {Calcium, strontium or barium carbonate}
2003/0806	. . . {Silver}	2003/267	. . . . {Magnesium carbonate}
2003/0812	. . . {Aluminium}	3/28	. Nitrogen-containing compounds
2003/0818	. . . {Alkali metal}	2003/282	. . {Binary compounds of nitrogen with aluminium}
2003/0825	. . . . {Potassium}	2003/285	. . {Ammonium nitrates}
2003/0831	. . . {Gold}	2003/287	. . {Calcium, strontium or barium nitrates}
2003/0837	. . . {Bismuth}	3/30	. Sulfur-, selenium- or tellurium-containing compounds
2003/0843	. . . {Cobalt}	2003/3009	. . {Sulfides}
2003/085	. . . {Copper}	2003/3018	. . . {of magnesium, calcium, strontium or barium}
2003/0856	. . . {Iron}	2003/3027	. . . {of cadmium}
2003/0862	. . . {Nickel}	2003/3036	. . . {of zinc}
2003/0868	. . . {Osmium}	2003/3045	. . {Sulfates}
2003/0875	. . . {Antimony}	2003/3054	. . . {Ammonium sulfates}
2003/0881	. . . {Titanium}	2003/3063	. . . {Magnesium sulfate}
2003/0887	. . . {Tungsten}	2003/3072	. . . {Iron sulfates}
2003/0893	. . . {Zinc}	2003/3081	. . . {Aluminum sulfate}
3/10	. Metal compounds	2003/309	. . {Sulfur containing acids}
3/12	. . Hydrides	3/32	. Phosphorus-containing compounds
3/14	. . Carbides	2003/321	. . {Phosphates}
3/16	. Halogen-containing compounds	2003/322	. . . {Ammonium phosphate}
2003/162	. . {Calcium, strontium or barium halides, e.g. calcium, strontium or barium chloride}	2003/323	. . . . {Ammonium polyphosphate}
2003/164	. . {Aluminum halide, e.g. aluminium chloride}	2003/324	. . . {Alkali metal phosphate}
2003/166	. . {Magnesium halide, e.g. magnesium chloride}	2003/325	. . . {Calcium, strontium or barium phosphate}
2003/168	. . {Zinc halides}	2003/326	. . . {Magnesium phosphate}
3/18	. Oxygen-containing compounds, e.g. metal carbonyls	2003/327	. . . {Aluminium phosphate}
3/20	. . Oxides; Hydroxides	2003/328	. . . {Phosphates of heavy metals}
3/22	. . . of metals	2003/329	. . {Phosphorus containing acids}
2003/2203	. . . . {of lithium}	3/34	. Silicon-containing compounds
2003/2206	. . . . {of calcium, strontium or barium}	2003/343	. . {Peroxyhydrates, peroxyacids or salts thereof}
2003/221	. . . . {of rare earth metal}	3/346	. . {Clay}
2003/2213	. . . . . {of cerium}	3/36	. . Silica
2003/2217	. . . . . {of magnesium}	3/38	. Boron-containing compounds
2003/222	. . . . . {Magnesia, i.e. magnesium oxide}	2003/382	. . {and nitrogen}
2003/2224	. . . . . {Magnesium hydroxide}	2003/385	. . . {Binary compounds of nitrogen with boron}
2003/2227	. . . . . {of aluminium}	2003/387	. . {Borates}
2003/2231	. . . . . {of tin}	3/40	. Glass
2003/2234	. . . . . {of lead}	5/00	Use of organic ingredients
2003/2237	. . . . . {of titanium}	5/0008	. {Organic ingredients according to more than one of the "one dot" groups of C08K 5/01 - C08K 5/59}
2003/2241	. . . . . {Titanium dioxide}	5/0016	. . {Plasticisers}
2003/2244	. . . . . {of zirconium}	5/0025	. . {Crosslinking or vulcanising agents; including accelerators}
2003/2248	. . . . . {of copper}	5/0033	. . {Additives activating the degradation of the macromolecular compound}
2003/2251	. . . . . {of chromium}	5/0041	. . {Optical brightening agents, organic pigments}
2003/2255	. . . . . {of molybdenum}	5/005	. . {Stabilisers against oxidation, heat, light, ozone}
2003/2258	. . . . . {of tungsten}	5/0058	. . {Biocides; (macromolecular substances as carriers for biocide material A01N 25/10)}
2003/2262	. . . . . {of manganese}	5/0066	. . {Flame-proofing or flame-retarding additives}
2003/2265	. . . . . {of iron}	5/0075	. . {Antistatics}
2003/2268	. . . . . {Ferrous oxide (FeO)}	5/0083	. . {Nucleating agents promoting the crystallisation of the polymer matrix}
2003/2272	. . . . . {Ferric oxide (Fe ₂ O ₃)}	5/0091	. . {Complexes with metal-heteroatom-bonds}
2003/2275	. . . . . {Ferroso-ferric oxide (Fe ₃ O ₄)}	5/01	. Hydrocarbons {(C08K 5/0091 takes precedence)}
3/2279	. . . . . {of antimony}	5/02	. Halogenated hydrocarbons {(C08K 5/0091 takes precedence)}
2003/2282	. . . . . {Antimonates}		
2003/2286	. . . . . {of silver}		
2003/2289	. . . . . {of cobalt}		
2003/2293	. . . . . {of nickel}		
2003/2296	. . . . . {of zinc}		

- 5/03 . . aromatic, {e.g. $\text{C}_6\text{H}_5\text{-CH}_2\text{-Cl}$ }
- 5/04 . Oxygen-containing compounds {(C08K 5/0091 takes precedence)}
- 5/05 . . Alcohols; Metal alcoholates
- 5/053 . . . Polyhydroxylic alcohols
- 5/057 . . . Metal alcoholates {(metal enolates C08K 5/0091)}
- 5/06 . . Ethers; Acetals; Ketals; Ortho-esters
- 5/07 . . Aldehydes; Ketones
- 5/08 . . . Quinones
- 5/09 . . Carboxylic acids; Metal salts thereof; Anhydrides thereof
- 5/092 . . . Polycarboxylic acids
- 5/095 . . . Carboxylic acids containing halogens
- 5/098 . . . Metal salts of carboxylic acids
- 5/10 . . Esters; Ether-esters
- 5/101 . . . of monocarboxylic acids
- 5/103 with polyalcohols
- 5/105 with phenols
- 5/107 with polyphenols
- 5/109 . . . of carbonic acid, {e.g. R-O-C(=O)-O-R }
- 5/11 . . . of acyclic polycarboxylic acids
- 5/12 . . . of cyclic polycarboxylic acids
- 5/13 . . Phenols; Phenolates
- 5/132 . . . Phenols containing keto groups, {e.g. benzophenones}
- 5/134 . . . Phenols containing ester groups
- 5/1345 {Carboxylic esters of phenolcarboxylic acids}
- 5/136 . . . Phenols containing halogens
- 5/138 . . . Phenolates
- 5/14 . . Peroxides
- 5/15 . . Heterocyclic compounds having oxygen in the ring
- 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 $\begin{array}{c} \text{O} \\ \parallel \\ -\text{O}-\text{C}-\text{N} \end{array}$ 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. $\text{R-(S)}_x\text{-R'}$ }
- 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 $-\text{X-C(=X)}-$ 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 $\begin{array}{c} \text{N} \quad \text{S} \\ \parallel \quad \parallel \\ -\text{C}-[\text{S}]_x-\text{C}-\text{N} \\ \parallel \quad \parallel \\ \text{S} \quad \text{S} \end{array}$ groups}
- 5/405 . . . Thioureas; Derivatives thereof

5/41	. . Compounds containing sulfur bound to oxygen	5/55	. Boron-containing compounds {(C08K 5/0091 takes precedence)}
5/42	. . . Sulfonic acids; Derivatives thereof	5/56	. Organo-metallic compounds, i.e. organic compounds containing a metal-to-carbon bond
5/43	. . Compounds containing sulfur bound to nitrogen	5/57	. . Organo-tin compounds
5/435	. . . Sulfonamides	5/58	. . . containing sulfur
5/44	. . . Sulfenamides	5/59	. Arsenic- or antimony-containing compounds
5/45	. . Heterocyclic compounds having sulfur in the ring	7/00	Use of ingredients characterised by shape
5/46	. . . with oxygen or nitrogen in the ring	7/02	. Fibres or whiskers
5/47	. . . . Thiazoles	7/04	. . Inorganic
5/48	. . Selenium- or tellurium-containing compounds	7/06	. . . Elements
5/49	. Phosphorus-containing compounds {(C08K 5/0091 takes precedence)}	7/08	. . . Oxygen-containing compounds
5/50	. . Phosphorus bound to carbon only	7/10	. . . Silicon-containing compounds
5/51	. . Phosphorus bound to oxygen	7/12	. . . . Asbestos
5/52	. . . Phosphorus bound to oxygen only	7/14	. . . Glass
5/5205	. . . . {Salts of P-acids with N-bases}	7/16	. Solid spheres
5/521	. . . . Esters of phosphoric acids, e.g. of H ₃ PO ₄	7/18	. . Inorganic
5/523	. . . . . with hydroxyaryl compounds	7/20	. . . Glass
5/524	. . . . Esters of phosphorous acids, e.g. of H ₃ PO ₃	7/22	. Expanded, porous or hollow particles
5/526	. . . . . with hydroxyaryl compounds	7/24	. . Inorganic
5/527	. . . . Cyclic esters	7/26	. . . Silicon- containing compounds
5/529	. . . . Esters containing heterocyclic rings not representing cyclic esters of phosphoric or phosphorous acids	7/28	. . . Glass
5/53	. . . bound to oxygen and to carbon only	9/00	Use of pretreated ingredients
5/5313	. . . . Phosphinic compounds, e.g. R ₂ =P(:O)OR'	9/02	. Ingredients treated with inorganic substances
5/5317	. . . . Phosphonic compounds, e.g. R-P(:O)(OR') ₂	9/04	. Ingredients treated with organic substances {(treated with macromolecular compounds C08K 9/08)}
5/5333	. . . . . Esters of phosphonic acids	9/06	. . with silicon-containing compounds
5/5337	. . . . . containing also halogens	9/08	. Ingredients agglomerated by treatment with a binding agent
5/5353	. . . . . containing also nitrogen	9/10	. Encapsulated ingredients
5/5357	. . . . . cyclic	9/12	. Adsorbed ingredients {, e.g. ingredients on carriers}
5/5373	. . . . . containing heterocyclic rings not representing cyclic esters of phosphonic acids	11/00	Use of ingredients of unknown constitution, e.g. undefined reaction products
5/5377	. . . . Phosphinous compounds, e.g. R ₂ =P-OR'	11/005	. {Waste materials, e.g. treated or untreated sewage sludge}
5/5393	. . . . Phosphonous compounds, e.g. R-P(OR') ₂	13/00	Use of mixtures of ingredients not covered by one single of the preceding main groups, each of these compounds being essential
5/5397	. . . . Phosphine oxides	13/02	. Organic and inorganic ingredients
5/5398	. . Phosphorus bound to sulfur	13/04	. Ingredients characterised by their shape and organic or inorganic ingredients
5/5399	. . Phosphorus bound to nitrogen	13/06	. Pretreated ingredients and ingredients covered by the main groups C08K 3/00 - C08K 7/00
5/54	. Silicon-containing compounds {(C08K 5/0091 takes precedence)}	13/08	. Ingredients of unknown constitution and ingredients covered by the main groups C08K 3/00 - C08K 9/00
5/5403	. . {containing no other elements than carbon or hydrogen}	2201/00	Specific properties of additives
5/5406	. . {containing elements other than oxygen or nitrogen}	2201/001	. Conductive additives
5/541	. . containing oxygen	2201/002	. Physical properties
5/5415	. . . containing at least one Si-O bond	2201/003	. . Additives being defined by their diameter
5/5419	. . . containing at least one Si-C bond	2201/004	. . Additives being defined by their length
5/5425	. . . containing at least one C=C bond	2201/005	. . Additives being defined by their particle size in general
5/5435	. . . containing oxygen in a ring	2201/006	. . Additives being defined by their surface area
5/544	. . containing nitrogen	2201/007	. Fragrance additive
5/5442	. . . {containing nitrogen in a heterocyclic ring}	2201/008	. Additives improving gas barrier properties
5/5455	. . . containing at least one $\begin{array}{c} \text{O} \\ \parallel \\ >\text{N}-\text{C}- \end{array}$ group {(C08K 5/5442 takes precedence)}	2201/009	. Additives being defined by their hardness
5/5465	. . . containing at least one C=N bond {(C08K 5/5442 takes precedence)}	2201/01	. Magnetic additives
5/5475	. . . containing at least one C-N {triple} bond {(C08K 5/5442 takes precedence)}	2201/011	. Nanostructured additives
5/548	. . containing sulfur {(C08K 5/5442 takes precedence)}	2201/012	. Additives improving oxygen scavenging properties
5/549	. . containing silicon in a ring		

- 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