COOPERATIVE PATENT CLASSIFICATION

CHEMISTRY; METALLURGY

CHEMISTRY

C08 ORGANIC MACROMOLECULAR COMPOUNDS; THEIR PREPARATION OR CHEMICAL WORKING-UP; COMPOSITIONS BASED THEREON

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:

<table>
<thead>
<tr>
<th>IPC Group</th>
<th>CPC Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>C08K 5/5445</td>
<td>covered by C08K 5/544</td>
</tr>
</tbody>
</table>

3/00 Use of inorganic substances as compounding ingredients

3/01 characterized by their specific function

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

3/012 Additives activating the degradation of the macromolecular compounds

3/013 Fillers, pigments or reinforcing additives

3/014 Stabilisers against oxidation, heat, light or ozone
Biocides (macromolecular substances as carriers for biocide material A01N 25/10)

Flame-proofing or flame-retarding additives

Antistatic agents

Elements

Silicon

Phosphorus

Carbon

WARNING


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

Carbon nanotubes

Graphene or derivatives, e.g. graphene oxides

Carbon nanocoils

Carbon nanohorns or nanobells

Fullerenes

Carbon nanorods, nanowires, nanoplatelets or nanofibres

Sulfur

Metals

Silver

Aluminium

Alkali metal

Potassium

Gold

Bismuth

Cobalt

Copper

Iron

Nickel

Osmium

Antimony

Titanium

Tungsten

Zinc

Metal compounds

Compounds containing metals of Groups 1 to 3 or Groups 11 to 13 of the Periodic system

Compounds containing metals of Groups 4 to 10 or Groups 14 to 16 of the Periodic system

Hydrides

Carbides

Halogen-containing compounds

Calcium, strontium or barium halides, e.g. calcium, strontium or barium chloride

Aluminium halide, e.g. aluminium chloride

Magnesium halide, e.g. magnesium chloride

Zinc halides

Oxygen-containing compounds, e.g. metal carboxyls

Oxides; Hydroxides (graphene oxides C08K 3/042)

Metal compounds

Compounds containing metals of Groups 1 to 3 or Groups 11 to 13 of the Periodic system

Groups C08K 3/045 and C08K 7/24 should be considered in order to perform a complete search.

Groups C08K 3/042, C08K 3/04 and C08K 7/24 should be considered in order to perform a complete search.

Groups C08K 3/042, C08K 3/04 and C08K 7/24 should be considered in order to perform a complete search.

Groups C08K 3/042, C08K 3/04 and C08K 7/24 should be considered in order to perform a complete search.
Silicon-containing compounds
Phosphorus-containing compounds
Nitrogen-containing compounds

{ Phosphates }
{ Sulfates }
{ Sulfides }
{ Calcium, strontium or barium nitrates }
{ Ammonium nitrates }
{ Binary compounds of nitrogen with aluminium }

Acids; Salts thereof { ( C08K 3/16 takes precedence ) }

Oxygen-containing compounds { ( C08K 5/0091 takes precedence ) }

Halogenated hydrocarbons { ( C08K 5/0091 takes precedence ) }

Complexes with metal-heteroatom-bonds

Use of organic ingredients

5/008 . [Organic ingredients according to more than one of the “one dot” groups of C08K 5/001 - C08K 5/59]
5/0016 . [Plasticsers]
5/0025 . [Crosslinking or vulcanising agents; including accelerators]
5/0033 . [Additives activating the degradation of the macromolecular compound]
5/0041 . [Optical brightening agents, organic pigments]
5/005 . [Stabilisers against oxidation, heat, light, ozone]
5/0058 . [Biocides; (macromolecular substances as carriers for biocide material A01N 25/10)]
5/0066 . [Flame-proofing or flame-retarding additives]
5/0075 . [Antistatics]
5/0083 . [Nucleating agents promoting the crystallisation of the polymer matrix]
5/0091 . [Complexes with metal-heteroatom-bonds]
5/01 . Hydrocarbons {(C08K 5/0091 takes precedence)}
5/02 . Halogenated hydrocarbons {(C08K 5/0091 takes precedence)}
5/03 . aromatic {, e.g. C₆H₄-CH₂Cl}
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 \(\mathbb{O} \mathbb{C} \mathbb{N}\) 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 . . . [Diazoo 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
5/355 . . . 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 . . . Thiocarbamates; Derivatives thereof, e.g. dithiocarbamates
5/40 . . . Thiram, [i.e. compounds containing \(\mathbb{S} \mathbb{N} \mathbb{C} \mathbb{N}\) 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 . . . Sulfinamides
5/44 . . . Sulfenamides
5/45 . . . Heterocyclic compounds having sulfur in the ring
5/46 . . . with oxygen or nitrogen in the ring
5/47 . . . Thiadiazoles
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 H\(_2\)PO\(_4\)
5/523 . . . with hydroxyaryl compounds
5/524 . . . Esters of phosphoric acids, e.g. of H\(_3\)PO\(_4\)
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 . . . Phosphonic compounds, e.g. \(R=\mathbb{P}(\mathbb{O})\mathbb{O}R'\)
5/5317 . . . Phosphonic compounds, e.g. \(R=\mathbb{P}(\mathbb{O})\mathbb{O}R'\)
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
Use of ingredients characterised by shape

- Fibres or whiskers
- inorganic
- Elements
- Oxxygen-containing compounds
- Silicon-containing compounds
- Asbestos
- Glass
- Solid spheres
- inorganic
- Expanded, porous or hollow particles
- 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.

- Silicon-containing compounds
- Glass

Use of pretreated ingredients

- Ingredients treated with inorganic substances