

# CPC COOPERATIVE PATENT CLASSIFICATION

## C CHEMISTRY; METALLURGY

(NOTES omitted)

### CHEMISTRY

#### C06 EXPLOSIVES; MATCHES

#### C06B EXPLOSIVES OR THERMIC COMPOSITIONS (blasting [F42D](#)); MANUFACTURE THEREOF; USE OF SINGLE SUBSTANCES AS EXPLOSIVES (compounds in general [C01](#), [C07](#) or [C08](#); {demolition agents based on cementitious or like materials [C04B 41/009](#)})

##### NOTES

- This subclass covers:
  - compositions which are:
    - explosive: compositions included are those containing both a fuel and sufficient oxidiser so that, upon initiation, they are capable of undergoing a chemical change of a relatively high rate of speed, resulting in the production of usable force for blasting, firearms, propelling missiles, or the like;
    - thermic: compositions included have
      - a consumable fuel component which consists of any element which is a metal, B, Si, Se or Te, or mixtures, intercompounds, or hydrides thereof; and
      - in combination an oxidant component which is either a metal oxide or a salt (organic or inorganic) capable of yielding a metal oxide on decomposition;
    - fuels for rocket engines and intended for reaction with an oxidant, excluding air, in order to provide thrust for motive power purposes;
    - for use in affecting the explosion environment, e.g. for neutralising the poisonous gases of explosives, for cooling the explosion gases, or the like;
  - methods or apparatus for preparing or treating such compositions not otherwise provided for;
  - methods of using single substances as explosives.
- In this subclass, the following term is used with the meaning indicated:
  - "nitrated" covers compounds having a nitro group or a nitrate ester group.
- Methods or apparatus for preparing or treating such compositions are classified according to the particular components of the compositions.
- In this subclass, the words "based on", with reference to explosive compositions, refer to the explosive ingredient present in the largest proportion by weight
- In the absence of an indication to the contrary a composition is classified in the last place that provides for an ingredient

**21/00 Apparatus or methods for working-up explosives, e.g. forming, cutting, drying**

21/0075 . . {by extrusion}

21/0083 . {Treatment of solid structures, e.g. for coating or impregnating with a modifier ([compositions therefor C06B 23/00](#))}

##### NOTE

In the absence of an indication to the contrary a process is classified in the last appropriate place, e.g. granulation by extrusion and chopping ([C06B 21/0075](#))

21/0091 . {Elimination of undesirable or temporary components of an intermediate or finished product, e.g. making porous or low density products, purifying, stabilising, drying; Deactivating; Reclaiming; ([porous inert particles or chemicals compounded for these purposes C06B 23/00](#))}

21/0008 . {Compounding the ingredient}

21/0016 . . {the ingredient being nitrocellulose or oranitro cellulose based propellant; Working up; gelatinising; stabilising ([stabilising of explosives in general C06B 21/0091](#))}

**23/00 Compositions characterised by non-explosive or non-thermic constituents** {(in combination with specific explosives [C06B 25/20](#), [C06B 25/26](#), [C06B 29/04](#), [C06B 29/08](#), [C06B 31/06](#), [C06B 31/40](#), [C06B 33/02](#))}

21/0025 . . {the ingredient being a polymer bonded explosive or thermic component}

21/0033 . {Shaping the mixture}

23/001 . {Fillers, gelling and thickening agents (e.g. fibres), absorbents for nitroglycerine ([binders, plasticisers for propellants C06B 45/10](#); [crosslinking or curing agents C06B 45/10](#))}

21/0041 . . {by compression}

21/005 . . {By a process involving melting at least part of the ingredients}

23/002 . {Sensitisers or density reducing agents, foam stabilisers, crystal habit modifiers}

21/0058 . . {by casting a curable composition, e.g. of the plastisol type}

21/0066 . . {by granulation, e.g. flaking}

- 23/003 . . {Porous or hollow inert particles (preparation C06B 21/0091)}
- 23/004 . . {Chemical sensitisers}
- 23/005 . {Desensitisers, phlegmatisers (coolants for mining explosives C06B 23/04; deactivating C06B 21/0091)}
- 23/006 . {Stabilisers (e.g. thermal stabilisers) (processes C06B 21/0091; foam stabilisers C06B 23/002)}
- 23/007 . {Ballistic modifiers, burning rate catalysts, burning rate depressing agents, e.g. for gas generating}
- 23/008 . {Tagging additives}
- 23/009 . {Wetting agents, hydrophobing agents, dehydrating agents, antistatic additives, viscosity improvers, antiagglomerating agents, grinding agents and other additives for working up}
- 23/02 . for neutralising poisonous gases from explosives produced during blasting
- 23/04 . for cooling the explosion gases {including antifouling and flash suppressing agents}
- 25/00 Compositions containing a nitrated organic compound**
- 25/02 . the nitrated compound being starch or sugar
- 25/04 . the nitrated compound being an aromatic
- 25/06 . . with two or more nitrated aromatic compounds present
- 25/08 . . . at least one of which is nitrated toluene
- 25/10 . the compound being nitroglycerine
- 25/12 . . with other nitrated organic compounds
- 25/14 . . . the other compound being a nitrated aliphatic diol
- 25/16 . . . the other compound being a nitrated aromatic
- 25/18 . the compound being nitrocellulose present as 10% or more by weight of the total composition
- 25/20 . . with a non-explosive or a non-explosive or a non-thermic component
- 25/22 . . with a nitrated aromatic compound
- 25/24 . . with nitroglycerine
- 25/26 . . . with an organic non-explosive or an organic non-thermic component
- 25/28 . the compound being nitrocellulose present as less than 10% by weight of the total composition
- 25/30 . . with nitroglycerine
- 25/32 . the compound being nitrated pentaerythritol
- 25/34 . the compound being a nitrated acyclic, alicyclic or heterocyclic amine
- 25/36 . the compound being a nitroparaffin
- 25/38 . . with other nitrated organic compound
- 25/40 . . with two or more nitroparaffins present
- 27/00 Compositions containing a metal, boron, silicon, selenium or tellurium or mixtures, intercompounds or hydrides thereof, and hydrocarbons or halogenated hydrocarbons**
- 29/00 Compositions containing an inorganic oxygen-halogen salt, e.g. chlorate, perchlorate**
- 29/02 . of an alkali metal
- 29/04 . . with an inorganic non-explosive or an inorganic non-thermic component
- 29/06 . . . the component being a cyanide; the component being an oxide of iron, chromium or manganese
- 29/08 . . with an organic non-explosive or an organic non-thermic component
- 29/10 . . . the component being a dye or a colouring agent
- 29/12 . . with carbon or sulfur
- 29/14 . . with iodine or an iodide
- 29/16 . . with a nitrated organic compound
- 29/18 . . . the compound being nitrated toluene or a nitrated phenol
- 29/20 . . . the compound being nitrocellulose
- 29/22 . the salt being ammonium perchlorate
- 31/00 Compositions containing an inorganic nitrogen-oxygen salt**
- 31/02 . the salt being an alkali metal or an alkaline earth metal nitrate
- 31/04 . . with carbon or sulfur
- 31/06 . . . with an organic non-explosive or an organic non-thermic component
- 31/08 . . with a metal oxygen-halogen salt, e.g. inorganic chlorate, inorganic perchlorate
- 31/10 . . . with carbon or sulfur
- 31/12 . . with a nitrated organic compound
- 31/14 . . . the compound being an aromatic
- 31/16 . . . . the compound being a nitrated toluene
- 31/18 . . . . the compound being a nitrated phenol, e.g. picric acid
- 31/20 . . . the compound being nitroglycerine
- 31/22 . . . the compound being nitrocellulose
- 31/24 . . . . with other explosive or thermic component
- 31/26 . . . . . the other component being nitroglycerine
- 31/28 . the salt being ammonium nitrate
- 31/285 . . {with fuel oil, e.g. ANFO-compositions}
- 31/30 . . with vegetable matter; with resin; with rubber
- 31/32 . . with a nitrated organic compound
- 31/34 . . . the nitrated compound being starch or sugar
- 31/36 . . . . with other explosive or thermic component
- 31/38 . . . the nitrated compound being an aromatic
- 31/40 . . . . with an organic non-explosive or an organic non-thermic component
- 31/42 . . . . with other explosive or thermic component
- 31/44 . . . the compound being nitroglycerine
- 31/46 . . . . with a vegetable matter component, e.g. wood pulp, sawdust
- 31/48 . . . . with other explosive or thermic component
- 31/50 . . . . . the other component being a nitrated organic compound
- 31/52 . . . the compound being nitrocellulose present as 10% or more by weight of the total composition
- 31/54 . . . . with other nitrated organic compound
- 31/56 . . . the compound being nitrocellulose present as less than 10% by weight of the total composition
- 33/00 Compositions containing particulate metal, alloy, boron, silicon, selenium or tellurium with at least one oxygen supplying material which is either a metal oxide or a salt, organic or inorganic, capable of yielding a metal oxide**
- 33/02 . with an organic non-explosive or an organic non-thermic component
- 33/04 . the material being an inorganic nitrogen-oxygen salt
- 33/06 . the material being an inorganic oxygen-halogen salt
- 33/08 . with a nitrated organic compound
- 33/10 . . the compound being an aromatic

- 33/12 . the material being two or more oxygen-yielding compounds
- 33/14 . . at least one being an inorganic nitrogen-oxygen salt
- 35/00 Compositions containing a metal azide**
- 37/00 Compositions containing a metal fulminate**
- 37/02 . with a nitrated organic compound or an inorganic oxygen-halogen salt
- 39/00 Compositions containing free phosphorus or a binary compound of phosphorus, except with oxygen**
- 39/02 . with an inorganic oxygen-halogen salt
- 39/04 . . with a binary compound of phosphorus, except with oxygen
- 39/06 . with free metal, alloy, boron, silicon, selenium or tellurium
- 41/00 Compositions containing a nitrated metallo-organic compound**
- 41/02 . the compound containing lead
- 41/04 . . with an organic explosive or an organic thermic component
- 41/06 . . . with an inorganic explosive or an inorganic thermic component
- 41/08 . . with a metal azide or a metal fulminate
- 41/10 . . with other nitrated metallo-organic compound
- 43/00 Compositions characterised by explosive or thermic constituents not provided for in groups [C06B 25/00](#) - [C06B 41/00](#)**
- 45/00 Compositions or products which are defined by structure or arrangement of component of product (explosive charges of particular form or shape [F42B 1/00](#), [F42B 3/00](#))**
- 45/02 . comprising particles of diverse size or shape
- 45/04 . comprising solid particles dispersed in solid solution or matrix {not used for explosives where the matrix consists essentially of nitrated carbohydrates or a low molecular organic explosive}
- 45/06 . . the solid solution or matrix containing an organic component
- 45/08 . . . the dispersed solid containing an inorganic explosive or an inorganic thermic component
- 45/10 . . . the organic component containing a resin
- 45/105 . . . . {The resin being a polymer bearing energetic groups or containing a soluble organic explosive}
- 45/12 . having contiguous layers or zones
- 45/14 . . a layer or zone containing an inorganic explosive or an inorganic explosive or an inorganic thermic component
- 45/16 . . . the layer or zone containing at least one inorganic component from the group of azide, fulminate, phosphorus and phosphide
- 45/18 . comprising a coated component (particles dispersed in a matrix [C06B 45/04](#); coated explosive charges [F42B](#))
- 45/20 . . the component base containing an organic explosive or an organic thermic component
- 45/22 . . . the coating containing an organic compound
- 45/24 . . . . the compound being an organic explosive or an organic thermic component
- 45/26 . . . . . the compound being a nitrated toluene
- 45/28 . . . the component base containing nitrocellulose and nitroglycerine
- 45/30 . . the component base containing an inorganic explosive or an inorganic thermic component
- 45/32 . . . the coating containing an organic compound
- 45/34 . . . . the compound being an organic explosive or an organic thermic component
- 45/36 . . the component base containing both an organic explosive or thermic component and an inorganic explosive or thermic component
- 47/00 Compositions in which the components are separately stored until the moment of burning or explosion, e.g. "Sprengel"-type explosives; Suspensions of solid component in a normally non-explosive liquid phase, including a thickened aqueous phase**
- NOTE**
- {This group also covers emulsion type explosives in which a solid component is not compulsory}
- 47/02 . the components comprising a binary propellant
- 47/04 . . a component containing a nitrogen oxide or acid thereof
- 47/06 . . a component being a liquefied normally gaseous material supplying oxygen ([C06B 47/04](#) takes precedence)
- 47/08 . . a component containing hydrazine or a hydrazine derivative
- 47/10 . . a component containing free boron, an organic borane or a binary compound of boron, except with oxygen
- 47/12 . . a component being a liquefied normally gaseous fuel
- 47/14 . comprising a solid component and an aqueous phase
- 47/145 . . {Water in oil emulsion type explosives in which a carbonaceous fuel forms the continuous phase}
- 49/00 Use of single substances as explosives**