

# 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 41/0009](#)})

##### 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

##### WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

21/00	<b>Apparatus or methods for working-up explosives, e.g. forming, cutting, drying</b>	21/005	. . {By a process involving melting at least part of the ingredients}
	<b><u>NOTE</u></b>	21/0058	. . {by casting a curable composition, e.g. of the plastisol type}
	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 <a href="#">C06B 21/0075</a> ]	21/0066	. . {by granulation, e.g. flaking}
		21/0075	. . {by extrusion}
		21/0083	. {Treatment of solid structures, e.g. for coating or impregnating with a modifier ( <a href="#">compositions therefor C06B 23/00</a> )}
21/0008	. {Compounding the ingredient}	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; ( <a href="#">porous inert particles or chemicals compounded for these purposes C06B 23/00</a> )}
21/0016	. . {the ingredient being nitrocellulose or oranitro cellulose based propellant; Working up; gelatinising; stabilising ( <a href="#">stabilising of explosives in general C06B 21/0091</a> )}		
21/0025	. . {the ingredient being a polymer bonded explosive or thermic component}		
21/0033	. {Shaping the mixture}		
21/0041	. . {by compression}		

<b>23/00</b>	<b>Compositions characterised by non-explosive or non-thermic constituents</b> {(in combination with specific explosives <a href="#">C06B 25/20</a> , <a href="#">C06B 25/26</a> , <a href="#">C06B 29/04</a> , <a href="#">C06B 29/08</a> , <a href="#">C06B 31/06</a> , <a href="#">C06B 31/40</a> , <a href="#">C06B 33/02</a> )}	<b>27/00</b>	<b>Compositions containing a metal, boron, silicon, selenium or tellurium or mixtures, intercompounds or hydrides thereof, and hydrocarbons or halogenated hydrocarbons</b>
23/001	. {Fillers, gelling and thickening agents (e.g. fibres), absorbents for nitroglycerine (binders, plasticisers for propellants <a href="#">C06B 45/10</a> ; crosslinking or curing agents <a href="#">C06B 45/10</a> )}	<b>29/00</b>	<b>Compositions containing an inorganic oxygen-halogen salt, e.g. chlorate, perchlorate</b>
23/002	. {Sensitisers or density reducing agents, foam stabilisers, crystal habit modifiers}	29/02	. of an alkali metal
23/003	. . {Porous or hollow inert particles (preparation <a href="#">C06B 21/0091</a> )}	29/04	. . with an inorganic non-explosive or an inorganic non-thermic component
23/004	. . {Chemical sensitisers}	29/06	. . . the component being a cyanide; the component being an oxide of iron, chromium or manganese
23/005	. {Desensitisers, phlegmatisers (coolants for mining explosives <a href="#">C06B 23/04</a> ; deactivating <a href="#">C06B 21/0091</a> )}	29/08	. . with an organic non-explosive or an organic non-thermic component
23/006	. {Stabilisers (e.g. thermal stabilisers) (processes <a href="#">C06B 21/0091</a> ; foam stabilisers <a href="#">C06B 23/002</a> )}	29/10	. . . the component being a dye or a colouring agent
23/007	. {Ballistic modifiers, burning rate catalysts, burning rate depressing agents, e.g. for gas generating}	29/12	. . with carbon or sulfur
23/008	. {Tagging additives}	29/14	. . with iodine or an iodide
23/009	. {Wetting agents, hydrophobing agents, dehydrating agents, antistatic additives, viscosity improvers, antiagglomerating agents, grinding agents and other additives for working up}	29/16	. . with a nitrated organic compound
23/02	. for neutralising poisonous gases from explosives produced during blasting	29/18	. . . the compound being nitrated toluene or a nitrated phenol
23/04	. for cooling the explosion gases {including antifouling and flash suppressing agents}	29/20	. . . the compound being nitrocellulose
<b>25/00</b>	<b>Compositions containing a nitrated organic compound</b>	29/22	. the salt being ammonium perchlorate
25/02	. the nitrated compound being starch or sugar	<b>31/00</b>	<b>Compositions containing an inorganic nitrogen-oxygen salt</b>
25/04	. the nitrated compound being an aromatic	31/02	. the salt being an alkali metal or an alkaline earth metal nitrate
25/06	. . with two or more nitrated aromatic compounds present	31/04	. . with carbon or sulfur
25/08	. . . at least one of which is nitrated toluene	31/06	. . . with an organic non-explosive or an organic non-thermic component
25/10	. the compound being nitroglycerine	31/08	. . with a metal oxygen-halogen salt, e.g. inorganic chlorate, inorganic perchlorate
25/12	. . with other nitrated organic compounds	31/10	. . . with carbon or sulfur
25/14	. . . the other compound being a nitrated aliphatic diol	31/12	. . with a nitrated organic compound
25/16	. . . the other compound being a nitrated aromatic	31/14	. . . the compound being an aromatic
25/18	. the compound being nitrocellulose present as 10% or more by weight of the total composition	31/16	. . . . the compound being a nitrated toluene
25/20	. . with a non-explosive or a non-explosive or a non-thermic component	31/18	. . . . the compound being a nitrated phenol, e.g. picric acid
25/22	. . with a nitrated aromatic compound	31/20	. . . the compound being nitroglycerine
25/24	. . with nitroglycerine	31/22	. . . the compound being nitrocellulose
25/26	. . . with an organic non-explosive or an organic non-thermic component	31/24	. . . . with other explosive or thermic component
25/28	. the compound being nitrocellulose present as less than 10% by weight of the total composition	31/26	. . . . . the other component being nitroglycerine
25/30	. . with nitroglycerine	31/28	. the salt being ammonium nitrate
25/32	. the compound being nitrated pentaerythritol	31/285	. . {with fuel oil, e.g. ANFO-compositions}
25/34	. the compound being a nitrated acyclic, alicyclic or heterocyclic amine	31/30	. . with vegetable matter; with resin; with rubber
25/36	. the compound being a nitroparaffin	31/32	. . with a nitrated organic compound
25/38	. . with other nitrated organic compound	31/34	. . . the nitrated compound being starch or sugar
25/40	. . with two or more nitroparaffins present	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**