

# CPC COOPERATIVE PATENT CLASSIFICATION

## 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

1. This subclass covers:
  - compositions which are:
    - a. 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;
    - b. thermic: compositions included have
      - i. 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
      - ii. 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;
    - c. fuels for rocket engines and intended for reaction with an oxidant, excluding air, in order to provide thrust for motive power purposes;
    - d. 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.
2. In this subclass, the following term is used with the meaning indicated:
  - "nitrated" covers compounds having a nitro group or a nitrate ester group.
3. Methods or apparatus for preparing or treating such compositions are classified according to the particular components of the compositions.
4. In this subclass, the words "based on", with reference to explosive compositions, refer to the explosive ingredient present in the largest proportion by weight
5. 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

#### 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](#))

- 21/0008 . {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](#))}
- 21/0025 . . {the ingredient being a polymer bonded explosive or thermic component}
- 21/0033 . {Shaping the mixture}
- 21/0041 . . {by compression}
- 21/005 . . {By a process involving melting at least part of the ingredients}
- 21/0058 . . {by casting a curable composition, e.g. of the plastisol type}
- 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 ([compositions therefor C06B 23/00](#))}

- 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](#))}

### 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](#))}

- 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](#))}
- 23/002 . {Sensitisers or density reducing agents, foam stabilisers, crystal habit modifiers}
- 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	<ul style="list-style-type: none"> <li>• {Wetting agents, hydrophobing agents, dehydrating agents, antistatic additives, viscosity improvers, antiagglomerating agents, grinding agents and other additives for working up}</li> </ul>	31/02	<ul style="list-style-type: none"> <li>• the salt being an alkali metal or an alkaline earth metal nitrate</li> </ul>
23/02	<ul style="list-style-type: none"> <li>• for neutralising poisonous gases from explosives produced during blasting</li> </ul>	31/04	<ul style="list-style-type: none"> <li>• . . with carbon or sulfur</li> </ul>
23/04	<ul style="list-style-type: none"> <li>• for cooling the explosion gases {including antifouling and flash suppressing agents}</li> </ul>	31/06	<ul style="list-style-type: none"> <li>• . . . with an organic non-explosive or an organic non-thermic component</li> </ul>
<b>25/00</b>	<b>Compositions containing a nitrated organic compound</b>	31/08	<ul style="list-style-type: none"> <li>• . . with a metal oxygen-halogen salt, e.g. inorganic chlorate, inorganic perchlorate</li> </ul>
25/02	<ul style="list-style-type: none"> <li>• the nitrated compound being starch or sugar</li> </ul>	31/10	<ul style="list-style-type: none"> <li>• . . . with carbon or sulfur</li> </ul>
25/04	<ul style="list-style-type: none"> <li>• the nitrated compound being an aromatic</li> </ul>	31/12	<ul style="list-style-type: none"> <li>• . . with a nitrated organic compound</li> </ul>
25/06	<ul style="list-style-type: none"> <li>• . . with two or more nitrated aromatic compounds present</li> </ul>	31/14	<ul style="list-style-type: none"> <li>• . . . the compound being an aromatic</li> </ul>
25/08	<ul style="list-style-type: none"> <li>• . . . at least one of which is nitrated toluene</li> </ul>	31/16	<ul style="list-style-type: none"> <li>• . . . . the compound being a nitrated toluene</li> </ul>
25/10	<ul style="list-style-type: none"> <li>• the compound being nitroglycerine</li> </ul>	31/18	<ul style="list-style-type: none"> <li>• . . . . the compound being a nitrated phenol, e.g. picric acid</li> </ul>
25/12	<ul style="list-style-type: none"> <li>• . . with other nitrated organic compounds</li> </ul>	31/20	<ul style="list-style-type: none"> <li>• . . . the compound being nitroglycerine</li> </ul>
25/14	<ul style="list-style-type: none"> <li>• . . . the other compound being a nitrated aliphatic diol</li> </ul>	31/22	<ul style="list-style-type: none"> <li>• . . . the compound being nitrocellulose</li> </ul>
25/16	<ul style="list-style-type: none"> <li>• . . . the other compound being a nitrated aromatic</li> </ul>	31/24	<ul style="list-style-type: none"> <li>• . . . . with other explosive or thermic component</li> </ul>
25/18	<ul style="list-style-type: none"> <li>• the compound being nitrocellulose present as 10% or more by weight of the total composition</li> </ul>	31/26	<ul style="list-style-type: none"> <li>• . . . . the other component being nitroglycerine</li> </ul>
25/20	<ul style="list-style-type: none"> <li>• . . with a non-explosive or a non-explosive or a non-thermic component</li> </ul>	31/28	<ul style="list-style-type: none"> <li>• the salt being ammonium nitrate</li> </ul>
25/22	<ul style="list-style-type: none"> <li>• . . with a nitrated aromatic compound</li> </ul>	31/285	<ul style="list-style-type: none"> <li>• . {with fuel oil, e.g. ANFO-compositions}</li> </ul>
25/24	<ul style="list-style-type: none"> <li>• . . with nitroglycerine</li> </ul>	31/30	<ul style="list-style-type: none"> <li>• . . with vegetable matter; with resin; with rubber</li> </ul>
25/26	<ul style="list-style-type: none"> <li>• . . . with an organic non-explosive or an organic non-thermic component</li> </ul>	31/32	<ul style="list-style-type: none"> <li>• . . with a nitrated organic compound</li> </ul>
25/28	<ul style="list-style-type: none"> <li>• the compound being nitrocellulose present as less than 10% by weight of the total composition</li> </ul>	31/34	<ul style="list-style-type: none"> <li>• . . . the nitrated compound being starch or sugar</li> </ul>
25/30	<ul style="list-style-type: none"> <li>• . . with nitroglycerine</li> </ul>	31/36	<ul style="list-style-type: none"> <li>• . . . . with other explosive or thermic component</li> </ul>
25/32	<ul style="list-style-type: none"> <li>• the compound being nitrated pentaerythritol</li> </ul>	31/38	<ul style="list-style-type: none"> <li>• . . . the nitrated compound being an aromatic</li> </ul>
25/34	<ul style="list-style-type: none"> <li>• the compound being a nitrated acyclic, alicyclic or heterocyclic amine</li> </ul>	31/40	<ul style="list-style-type: none"> <li>• . . . . with an organic non-explosive or an organic non-thermic component</li> </ul>
25/36	<ul style="list-style-type: none"> <li>• the compound being a nitroparaffin</li> </ul>	31/42	<ul style="list-style-type: none"> <li>• . . . . with other explosive or thermic component</li> </ul>
25/38	<ul style="list-style-type: none"> <li>• . . with other nitrated organic compound</li> </ul>	31/44	<ul style="list-style-type: none"> <li>• . . . the compound being nitroglycerine</li> </ul>
25/40	<ul style="list-style-type: none"> <li>• . . with two or more nitroparaffins present</li> </ul>	31/46	<ul style="list-style-type: none"> <li>• . . . . with a vegetable matter component, e.g. wood pulp, sawdust</li> </ul>
<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>	31/48	<ul style="list-style-type: none"> <li>• . . . . with other explosive or thermic component</li> </ul>
<b>29/00</b>	<b>Compositions containing an inorganic oxygen-halogen salt, e.g. chlorate, perchlorate</b>	31/50	<ul style="list-style-type: none"> <li>• . . . . the other component being a nitrated organic compound</li> </ul>
29/02	<ul style="list-style-type: none"> <li>• of an alkali metal</li> </ul>	31/52	<ul style="list-style-type: none"> <li>• . . . the compound being nitrocellulose present as 10% or more by weight of the total composition</li> </ul>
29/04	<ul style="list-style-type: none"> <li>• . . with an inorganic non-explosive or an inorganic non-thermic component</li> </ul>	31/54	<ul style="list-style-type: none"> <li>• . . . . with other nitrated organic compound</li> </ul>
29/06	<ul style="list-style-type: none"> <li>• . . . the component being a cyanide; the component being an oxide of iron, chromium or manganese</li> </ul>	31/56	<ul style="list-style-type: none"> <li>• . . . the compound being nitrocellulose present as less than 10% by weight of the total composition</li> </ul>
29/08	<ul style="list-style-type: none"> <li>• . . with an organic non-explosive or an organic non-thermic component</li> </ul>	<b>33/00</b>	<b>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</b>
29/10	<ul style="list-style-type: none"> <li>• . . . the component being a dye or a colouring agent</li> </ul>	33/02	<ul style="list-style-type: none"> <li>• with an organic non-explosive or an organic non-thermic component</li> </ul>
29/12	<ul style="list-style-type: none"> <li>• . . with carbon or sulfur</li> </ul>	33/04	<ul style="list-style-type: none"> <li>• the material being an inorganic nitrogen-oxygen salt</li> </ul>
29/14	<ul style="list-style-type: none"> <li>• . . with iodine or an iodide</li> </ul>	33/06	<ul style="list-style-type: none"> <li>• the material being an inorganic oxygen-halogen salt</li> </ul>
29/16	<ul style="list-style-type: none"> <li>• . . with a nitrated organic compound</li> </ul>	33/08	<ul style="list-style-type: none"> <li>• with a nitrated organic compound</li> </ul>
29/18	<ul style="list-style-type: none"> <li>• . . . the compound being nitrated toluene or a nitrated phenol</li> </ul>	33/10	<ul style="list-style-type: none"> <li>• . . the compound being an aromatic</li> </ul>
29/20	<ul style="list-style-type: none"> <li>• . . . the compound being nitrocellulose</li> </ul>	33/12	<ul style="list-style-type: none"> <li>• the material being two or more oxygen-yielding compounds</li> </ul>
29/22	<ul style="list-style-type: none"> <li>• the salt being ammonium perchlorate</li> </ul>	33/14	<ul style="list-style-type: none"> <li>• . . at least one being an inorganic nitrogen-oxygen salt</li> </ul>
<b>31/00</b>	<b>Compositions containing an inorganic nitrogen-oxygen salt</b>	<b>35/00</b>	<b>Compositions containing a metal azide</b>
		<b>37/00</b>	<b>Compositions containing a metal fulminate</b>
		37/02	<ul style="list-style-type: none"> <li>• with a nitrated organic compound or an inorganic oxygen-halogen salt</li> </ul>

<b>39/00</b>	<b>Compositions containing free phosphorus or a binary compound of phosphorus, except with oxygen</b>	45/36	<ul style="list-style-type: none"> <li>the component base containing both an organic explosive or thermic component and an inorganic explosive or thermic component</li> </ul>
39/02	<ul style="list-style-type: none"> <li>with an inorganic oxygen-halogen salt</li> </ul>		
39/04	<ul style="list-style-type: none"> <li>with a binary compound of phosphorus, except with oxygen</li> </ul>	<b>47/00</b>	<b>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</b>
39/06	<ul style="list-style-type: none"> <li>with free metal, alloy, boron, silicon, selenium or tellurium</li> </ul>		<b>NOTE</b>
<b>41/00</b>	<b>Compositions containing a nitrated metallo-organic compound</b>		{ This group also covers emulsion type explosives in which a solid component is not compulsory }
41/02	<ul style="list-style-type: none"> <li>the compound containing lead</li> </ul>	47/02	<ul style="list-style-type: none"> <li>the component comprising a binary propellant</li> </ul>
41/04	<ul style="list-style-type: none"> <li>with an organic explosive or an organic thermic component</li> </ul>	47/04	<ul style="list-style-type: none"> <li>a component containing a nitrogen oxide or acid thereof</li> </ul>
41/06	<ul style="list-style-type: none"> <li>with an inorganic explosive or an inorganic thermic component</li> </ul>	47/06	<ul style="list-style-type: none"> <li>a component being a liquefied normally gaseous material supplying oxygen (<a href="#">C06B 47/04</a> takes precedence)</li> </ul>
41/08	<ul style="list-style-type: none"> <li>with a metal azide or a metal fulminate</li> </ul>	47/08	<ul style="list-style-type: none"> <li>a component containing hydrazine or a hydrazine derivative</li> </ul>
41/10	<ul style="list-style-type: none"> <li>with other nitrated metallo-organic compound</li> </ul>	47/10	<ul style="list-style-type: none"> <li>a component containing free boron, an organic borane or a binary compound of boron, except with oxygen</li> </ul>
<b>43/00</b>	<b>compositions characterised by explosive or thermic constituents not provided for in groups <a href="#">C06B 25/00</a> - <a href="#">C06B 41/00</a></b>	47/12	<ul style="list-style-type: none"> <li>a component being a liquefied normally gaseous fuel</li> </ul>
<b>45/00</b>	<b>Compositions or products which are defined by structure or arrangement of component of product (explosive charges of particular form or shape <a href="#">F42B 1/00</a>, <a href="#">F42B 3/00</a>)</b>	47/14	<ul style="list-style-type: none"> <li>comprising a solid component and an aqueous phase</li> </ul>
45/02	<ul style="list-style-type: none"> <li>comprising particles of diverse size or shape</li> </ul>	47/145	<ul style="list-style-type: none"> <li>{ Water in oil emulsion type explosives in which a carbonaceous fuel forms the continuous phase }</li> </ul>
45/04	<ul style="list-style-type: none"> <li>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}</li> </ul>	<b>49/00</b>	<b>Use of single substances as explosives</b>
45/06	<ul style="list-style-type: none"> <li>the solid solution or matrix containing an organic component</li> </ul>		
45/08	<ul style="list-style-type: none"> <li>the dispersed solid containing an inorganic explosive or an inorganic thermic component</li> </ul>		
45/10	<ul style="list-style-type: none"> <li>the organic component containing a resin</li> </ul>		
45/105	<ul style="list-style-type: none"> <li>{ The resin being a polymer bearing energetic groups or containing a soluble organic explosive }</li> </ul>		
45/12	<ul style="list-style-type: none"> <li>having contiguous layers or zones</li> </ul>		
45/14	<ul style="list-style-type: none"> <li>a layer or zone containing an inorganic explosive or an inorganic explosive or an inorganic thermic component</li> </ul>		
45/16	<ul style="list-style-type: none"> <li>the layer or zone containing at least one inorganic component from the group of azide, fulminate, phosphorus and phosphide</li> </ul>		
45/18	<ul style="list-style-type: none"> <li>comprising a coated component (particles dispersed in a matrix <a href="#">C06B 45/04</a>; coated explosive charges <a href="#">F42B</a>)</li> </ul>		
45/20	<ul style="list-style-type: none"> <li>the component base containing an organic explosive or an organic thermic component</li> </ul>		
45/22	<ul style="list-style-type: none"> <li>the coating containing an organic compound</li> </ul>		
45/24	<ul style="list-style-type: none"> <li>the compound being an organic explosive or an organic thermic component</li> </ul>		
45/26	<ul style="list-style-type: none"> <li>the compound being a nitrated toluene</li> </ul>		
45/28	<ul style="list-style-type: none"> <li>the component base containing nitrocellulose and nitroglycerine</li> </ul>		
45/30	<ul style="list-style-type: none"> <li>the component base containing an inorganic explosive or an inorganic thermic component</li> </ul>		
45/32	<ul style="list-style-type: none"> <li>the coating containing an organic compound</li> </ul>		
45/34	<ul style="list-style-type: none"> <li>the compound being an organic explosive or an organic thermic component</li> </ul>		