

**CPC****COOPERATIVE PATENT CLASSIFICATION****C23G****CLEANING OR DEGREASING OF METALLIC MATERIAL BY  
CHEMICAL METHODS OTHER THAN ELECTROLYSIS** (polishingcompositions [C09G](#); detergents in general [C11D](#))**C23G 1/00****Cleaning or pickling metallic material with solutions or molten salts** (with organic solvents [C23G 5/02](#))**C23G 1/02**

. with acid solutions

**C23G 1/025**

.. { acidic pickling pastes }

**C23G 1/04**

.. using inhibitors

**C23G 1/06**

... organic inhibitors

**NOTE**In groups [C23G 1/061](#) to [C23G 1/068](#) an invention is classified in the last appropriate place**C23G 1/061**

.... { nitrogen-containing compounds }

**C23G 1/063**

.... { heterocyclic compounds }

**C23G 1/065**

.... { sulfur-containing compounds }

**C23G 1/066**

.... { phosphorus-containing compounds }

**C23G 1/068**

.... { compounds containing a C=C bond }

**C23G 1/08**

.. Iron or steel

**NOTE**In groups [C23G 1/081](#) to [C23G 1/088](#) an invention is classified in the last appropriate place**C23G 1/081**... { solutions containing  $\text{H}_2\text{SO}_4$  }**C23G 1/083**... { solutions containing  $\text{H}_3\text{PO}_4$  }**C23G 1/085**... { solutions containing  $\text{HNO}_3$  }**C23G 1/086**

... { solutions containing HF }

**C23G 1/088**

... { solutions containing organic acids }

**C23G 1/10**

.. Other heavy metals

**C23G 1/103**

... { copper or alloys of copper }

**C23G 1/106**

... { refractory metals }

**C23G 1/12**

.. Light metals

**C23G 1/125**

... { aluminium }

**C23G 1/14**

. with alkaline solutions

**C23G 1/16**

.. using inhibitors

- C23G 1/18 . . . Organic inhibitors
- C23G 1/19 . . Iron or steel
- C23G 1/20 . . Other heavy metals
- C23G 1/205 . . . { refractory metals }
- C23G 1/22 . . Light metals
- C23G 1/24 . with neutral solutions
- C23G 1/26 . . using inhibitors
- C23G 1/28 . with molten salts
- C23G 1/30 . . using inhibitors
- C23G 1/32 . . Heavy metals
- C23G 1/34 . . Light metals
- C23G 1/36 . Regeneration of waste pickling liquors

**C23G 3/00** **Apparatus for cleaning or pickling metallic material** (with organic solvents [C23G 5/04](#); { apparatus for continuously conveying articles into baths [B65G](#) })

- C23G 3/02 . for cleaning wires, strips, filaments continuously
- C23G 3/021 . . { by dipping }
- C23G 3/022 . . . { the objects following a helicoidal path }
- C23G 3/023 . . { by spraying }
- C23G 3/024 . . { by a combination of dipping and spraying }
- C23G 3/025 . . { Details of the apparatus, e.g. linings or sealing means }
- C23G 3/026 . . . { for guiding the objects }
- C23G 3/027 . . { Associated apparatus, e.g. for pretreating or after-treating }
- C23G 3/028 . . . { for thermal or mechanical pretreatment }
- C23G 3/029 . . . { for removing the pickling fluid from the objects }
- C23G 3/04 . for cleaning pipes

**C23G 5/00** **Cleaning or de-greasing metallic material by other methods; Apparatus for cleaning or de-greasing metallic material with organic solvents**

**NOTE**

Mixtures of organic solvents are classified according to the major component

- C23G 5/02 . using organic solvents
- C23G 5/024 . . containing hydrocarbons
- C23G 5/028 . . containing halogenated hydrocarbons
- C23G 5/02803 . . . { containing fluorine }

C23G 5/02806	...	{ containing only chlorine as halogen atom }
C23G 5/02809	...	{ containing chlorine and fluorine }
C23G 5/02812	....	{ Perhalogenated hydrocarbons }
C23G 5/02816	.....	{ Ethanes }
C23G 5/02819	.....	{ C2Cl3F3 }
C23G 5/02822	.....	{ C2Cl4F2 }
C23G 5/02825	....	{ containing hydrogen }
C23G 5/02829	.....	{ Ethanes }
C23G 5/02832	.....	{ C2H3Cl2F }
C23G 5/02835	.....	{ C2H2Cl2F2 }
C23G 5/02838	.....	{ C2HCl2F3 }
C23G 5/02841	.....	{ Propanes }
C23G 5/02845	.....	{ C3H3ClF4 }
C23G 5/02848	.....	{ C2H2Cl2F4 }
C23G 5/02851	.....	{ C2HCl2F5 }
C23G 5/02854	...	{ characterised by the stabilising or corrosion inhibiting additives }
C23G 5/02858	....	{ Hydrocarbons }
C23G 5/02861	....	{ Oxygen-containing compounds }
C23G 5/02864	.....	{ Alcohols }
C23G 5/02867	.....	{ aliphatic }
C23G 5/0287	.....	{ aromatic }
C23G 5/02874	.....	{ Aldehydes or ketones }
C23G 5/02877	.....	{ Ethers }
C23G 5/0288	.....	{ Epoxy compounds }
C23G 5/02883	....	{ Nitrogen-containing compounds }
C23G 5/02887	.....	{ Nitro-compounds }
C23G 5/0289	.....	{ N-heterocyclics }
C23G 5/02893	....	{ Sulfur-containing compounds }
C23G 5/02896	....	{ Phosphorus-containing compounds }
C23G 5/032	..	containing oxygen-containing compound
C23G 5/036	...	having also nitrogen
C23G 5/04	..	Apparatus
C23G 5/06	.	using emulsions