

**CPC****COOPERATIVE PATENT CLASSIFICATION****C23G****CLEANING OR DEGREASING OF METALLIC MATERIAL BY CHEMICAL METHODS OTHER THAN ELECTROLYSIS** ([polishing compositions](#) [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 H<sub>2</sub>SO<sub>4</sub>}[C23G 1/083](#)... {solutions containing H<sub>3</sub>PO<sub>4</sub>}[C23G 1/085](#)... {solutions containing HNO<sub>3</sub>}[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 . . . . . {C<sub>2</sub>Cl<sub>3</sub>F<sub>3</sub>}
- C23G 5/02822 . . . . . {C<sub>2</sub>Cl<sub>4</sub>F<sub>2</sub>}
- C23G 5/02825 . . . . {containing hydrogen}

C23G 5/02829	.....	{Ethanes}
C23G 5/02832	.....	{C <sub>2</sub> H <sub>3</sub> Cl <sub>2</sub> F}
C23G 5/02835	.....	{C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub> F <sub>2</sub> }
C23G 5/02838	.....	{C <sub>2</sub> HCl <sub>2</sub> F <sub>3</sub> }
C23G 5/02841	.....	{Propanes}
C23G 5/02845	.....	{C <sub>3</sub> H <sub>3</sub> ClF <sub>4</sub> }
C23G 5/02848	.....	{C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub> F <sub>4</sub> }
C23G 5/02851	.....	{C <sub>2</sub> HCl <sub>2</sub> F <sub>5</sub> }
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