Here's a **comprehensive list of chloride compounds**, categorized by element type, with key examples and applications:

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1. Alkali Metal Chlorides

Compound	Formula	Key Uses
Sodium chloride	NaCl	Table salt, food preservation, de-icing roads
Potassium chloride	KCl	Fertilizer, medical IV fluids
Lithium chloride	LiCl	Air dehumidifiers, battery electrolytes

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2. Alkaline Earth Metal Chlorides

Compound	Formula	Key Uses
Magnesium chloride	$MgCl_2$	Dust control, tofu coagulant, supplement
Calcium chloride	$CaCl_2$	De-icing, food additive, concrete accelerator
Barium chloride	$BaCl_2$	Laboratory reagent, fireworks (green flame)

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3. Transition Metal Chlorides

Compound	Formula	Key Uses
Iron(II) chloride	$FeCl_2$	Water treatment, dye production
Iron(III) chloride	$FeCl_3$	PCB etching, wastewater treatment
Copper(II) chloride	$CuCl_2$	Pigments, wood preservative
Zinc chloride	$ZnCl_2$	Soldering flux, disinfectant

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4. Post-Transition Metal Chlorides

Compound	Formula	Key Uses
Aluminum chloride	$AlCl_3$	Petroleum refining (catalyst), antiperspirant
Lead(II) chloride	$PbCl_2$	Lead refining, mineral specimen
Tin(II) chloride	$SnCl_2$	Electroplating, food preservative (rare)

5. Non-Metal Chlorides

Compound	Formula	Key Uses
Hydrogen chloride	HCl	Industrial acid, PVC production
Ammonium chloride	NH_4Cl	Fertilizer, dry cell batteries
Phosphorus trichloride	PCl_3	Pesticides, plasticizers

6. Rare Earth & Actinide Chlorides

Compound	Formula	Key Uses
Lanthanum chloride	$LaCl_3$	Optical glass, catalysts
Uranyl chloride	UO_2Cl_2	Nuclear fuel processing

7. Organic Chlorides

Compound	Formula	Key Uses
Chloroform	$CHCl_3$	Former anesthetic, solvent
Methylene chloride	CH_2Cl_2	Paint stripper, decaffeination

Key Properties & Safety Notes

- **Solubility**: Most chlorides are water-soluble (except AgCl, $PbCl_2$).
- **Toxicity**: Heavy metal chlorides (e.g., $PbCl_2$, $CdCl_2$) are toxic.

- **Hygroscopic**: Many absorb moisture (e.g., $CaCl_2$ for dehumidification).

Need details on **specific reactions** or **industrial processes**? Let me know!

Here's a **comprehensive list of all known chloride compounds**, organized by element groups, with their chemical formulas and primary applications:

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1. Alkali Metal Chlorides

Compound	Formula	Key Uses
Lithium chloride	LiCl	Air dehumidifiers, lithium extraction
Sodium chloride	NaCl	Table salt, road de-icing, food preservation
Potassium chloride	KCl	Fertilizer, medical IV fluids
Rubidium chloride	RbCl	Spectroscopy, research
Cesium chloride	CsCl	Density gradient centrifugation, optics

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2. Alkaline Earth Metal Chlorides

Compound	Formula	Key Uses
Beryllium chloride	$BeCl_2$	Catalyst in organic synthesis
Magnesium chloride	$MgCl_2$	Dust control, tofu coagulant
Calcium chloride	$CaCl_2$	De-icing, food additive, concrete accelerator
Strontium chloride	$SrCl_2$	Toothpaste for sensitive teeth
Barium chloride	$BaCl_2$	Laboratory reagent, green fireworks
Radium chloride	$RaCl_2$	Historical radiotherapy (now obsolete)

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3. Transition Metal Chlorides

Compound	Formula	Key Uses
Titanium(III) chloride	$TiCl_3$	Polypropylene catalyst
Titanium(IV) chloride	$TiCl_4$	TiO_2 production, smoke screens
Vanadium(II/III/IV) chloride	VCl_2/VCl_3/VCl_4	Redox catalysts, battery research
Chromium(II/III) chloride	$CrCl_2$/$CrCl_3$	Metal plating, dye mordant
Manganese(II) chloride	$MnCl_2$	Fertilizer, dry cell batteries
Iron(II/III) chloride	$FeCl_2$/$FeCl_3$	Water treatment, PCB etching
Cobalt(II) chloride	$CoCl_2$	Humidity indicator (color-changing silica gel)
Nickel(II) chloride	$NiCl_2$	Electroplating, catalysts
Copper(I/II) chloride	CuCl/$CuCl_2$	Pigments, wood preservative
Zinc chloride	$ZnCl_2$	Soldering flux, disinfectant
Silver chloride	AgCl	Photographic paper, antimicrobial coatings
Cadmium chloride	$CdCl_2$	Electroplating (toxic, restricted)
Mercury(I/II) chloride	Hg_2Cl_2/$HgCl_2$	Calomel electrodes (historical)

4. Post-Transition Metal Chlorides

Compound	Formula	Key Uses
Aluminum chloride	$AlCl_3$	Friedel-Crafts catalyst, antiperspirant
Gallium chloride	$GaCl_3$	Semiconductor doping
Indium chloride	$InCl_3$	LCD screens, solar cells
Tin(II/IV) chloride	$SnCl_2$/$SnCl_4$	Glass coatings, PVC stabilizers
Lead(II/IV) chloride	$PbCl_2$/$PbCl_4$	Lead-acid batteries (limited due to toxicity)
	$BiCl_3$	Pepto-Bismol synthesis, catalysts

Compound	Formula	Key Uses
Bismuth chloride		

5. Non-Metal Chlorides

Compound	Formula	Key Uses
Hydrogen chloride	HCl	Industrial acid, PVC production
Ammonium chloride	NH_4Cl	Fertilizer, dry cell batteries
Phosphorus(III/V) chloride	PCl_3/PCl_5	Pesticides, plasticizers
Sulfur(II/IV) chloride	S_2Cl_2/ $SOCl_2$	Rubber vulcanization, lithium battery electrolytes

6. Rare Earth & Actinide Chlorides

Compound	Formula	Key Uses
Lanthanum chloride	$LaCl_3$	Optical glass, catalysts
Cerium(III/IV) chloride	$CeCl_3$/ $CeCl_4$	Polishing compounds, OLEDs
Uranium(III/IV) chloride	UCl_3/UCl_4	Nuclear fuel processing

7. Organic Chlorides

Compound	Formula	Key Uses
Methyl chloride	CH_3Cl	Refrigerant, silicone production
Chloroform	$CHCl_3$	Former anesthetic, solvent
Carbon tetrachloride	CCl_4	Historical fire extinguisher (toxic, banned)
Vinyl chloride	C_2H_3Cl	PVC plastic production

Key Notes

- **Solubility**: Most are water-soluble (exceptions: AgCl, $PbCl_2$, Hg_2Cl_2).

- **Toxicity**: Heavy metal chlorides (e.g., $CdCl_2$, $PbCl_2$) are highly regulated.
- **Industrial Scale**: NaCl, HCl, and $AlCl_3$ are produced in millions of tons annually.

Need **reaction mechanisms** or **environmental impact data** for any specific chloride? Let me know!

Chlorides, compounds containing chlorine, have been known since ancient times and were referred to by various historical names before modern chemical nomenclature was established. Here are some notable examples:

1. Common Salt (Sodium Chloride, NaCl)

- **Historical Names:**
  - **Sal** (Latin) – Used in alchemy and early chemistry.
  - **Halite** – Derived from the Greek *hals* (salt).
  - **Rock Salt** – Used in mining and geology.
  - **Table Salt** or **Sea Salt** – Common names in everyday usage.

2. Mercury(II) Chloride ($HgCl_2$)

- **Historical Names:**
  - **Corrosive Sublimate** – Named for its sublimation property and toxicity.
  - **Mercury Bichloride** – Older systematic name.
  - **Sublimate** – Used in alchemy.

3. Mercury(I) Chloride (Hg_2Cl_2)

- **Historical Names:**
  - **Calomel** – From Greek *kalos* (beautiful) and *melas* (black), as it turns black when mixed with ammonia.
  - **Sweet Mercury** – Due to its less corrosive nature compared to $HgCl_2$.

4. Ammonium Chloride (NH_4Cl)

- **Historical Names:**
  - **Sal Ammoniac** – Derived from the Temple of Jupiter Ammon in Libya, where it was first obtained from camel dung.
  - **Nushadir Salt** – Arabic/Persian name.

5. Potassium Chloride (KCl)

- **Historical Names:**
  - **Muriate of Potash** – From *muria* (Latin for brine).
  - **Potash** – General term for potassium salts derived from wood ash.

6. Hydrogen Chloride (HCl)

- **Historical Names:**
  - **Spirit of Salt** or **Acid Spirit** – When dissolved in water (hydrochloric acid).
  - **Muriatic Acid** – From Latin *muria* (brine).

7. Silver Chloride (AgCl)

- **Historical Names:**
  - **Horn Silver** or **Cerargyrite** – Naturally occurring mineral form.
  - **Luna Cornea** – Alchemical name ("horned moon," referring to its horn-like appearance when fused).

8. Lead(II) Chloride ($PbCl_2$)

- **Historical Names:**
  - **Plumbum Corneum** – Alchemical term ("horn-like lead").
  - **Lead Butter** – Due to its soft, buttery appearance when freshly precipitated.

9. Antimony Trichloride ($SbCl_3$)

- **Historical Names:**
  - **Butter of Antimony** – Due to its soft, buttery consistency.
  - **Caustic Antimony** – For its corrosive properties.

10. Gold Chloride ($AuCl_3$)

- **Historical Names:**
  - **Auric Chloride** – Older systematic name.
  - **Gold Trichloride** – Descriptive name.

General Historical Terms for Chlorides:

- **Muriate** – An old term for chloride (from *muria*, Latin for brine).
- **Spiritus Salis** – Alchemical term for hydrochloric acid or chloride solutions.

These names reflect the pre-modern understanding of chemistry, often based on appearance, origin, or alchemical properties rather than systematic composition. The modern IUPAC naming system standardized these terms in the 19th and 20th centuries.

Would you like details on a specific chloride compound?