

MSDS- Ammonium Dichromate

MATERIAL SAFETY DATA SHEET (MSDS) / SAFETY DATA SHEET (SDS)

1. Identification

Product Name: Ammonium Dichromate

Chemical Name: Ammonium Dichromate

Synonyms: Ammonium bichromate

Chemical Formula: $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$

Molecular Weight: 252.07 g/mol

Recommended Use: Laboratory reagent, oxidizing agent

Restrictions on Use: Not for consumer use

2. Hazard(s) Identification

GHS Classification:

Oxidizing Solid – Category 2

Acute Toxicity (Oral) – Category 3

Acute Toxicity (Inhalation) – Category 3

Skin Corrosion/Irritation – Category 1B

Serious Eye Damage – Category 1

Respiratory Sensitizer – Category 1

Skin Sensitizer – Category 1

Carcinogenicity – Category 1A

Germ Cell Mutagenicity – Category 1B

Reproductive Toxicity – Category 1B

Specific Target Organ Toxicity (Repeated Exposure) – Category 1

Hazardous to the Aquatic Environment (Acute & Chronic) – Category 1

Signal Word: DANGER

Hazard Statements:

Strong oxidizer; may intensify fire

Toxic if swallowed or inhaled

Causes severe skin burns and eye damage

May cause allergy or asthma symptoms if inhaled

May cause cancer and genetic defects

May damage organs through prolonged exposure

Very toxic to aquatic life with long-lasting effects

3. Composition / Information on Ingredients

Component	CAS Number	Concentration
Ammonium Dichromate	7789-09-5	≥ 99%

4. First-Aid Measures

Inhalation: Move to fresh air immediately. Seek medical attention.

Skin Contact: Remove contaminated clothing. Rinse skin with water for at least 15 minutes. Seek medical attention.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Seek immediate medical attention.

Ingestion: Do NOT induce vomiting. Rinse mouth. Seek immediate medical attention.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Water spray (large amounts), foam

Specific Hazards: Strong oxidizer; releases toxic chromium fumes and nitrogen oxides when heated

Protective Equipment: Full protective gear and self-contained breathing apparatus

6. Accidental Release Measures

Evacuate area and provide ventilation

Avoid dust formation

Wear protective equipment

Collect material using non-combustible tools

Dispose as hazardous waste

Prevent release into environment

7. Handling and Storage

Handling:

Handle under fume hood
Avoid inhalation and contact with skin/eyes
Do not mix with organic materials or reducing agents

Storage:

Store in tightly closed container
Keep away from heat, combustible materials, and incompatible substances

Store in corrosion-resistant container

8. Exposure Controls / Personal Protection

Exposure Limits (as Cr(VI)):

OSHA PEL: 0.005 mg/m³

ACGIH TLV: 0.0002 mg/m³

Engineering Controls: Fume hood, local exhaust ventilation

Personal Protective Equipment (PPE):

Respirator approved for chromium compounds

Chemical-resistant gloves

Protective clothing

Safety goggles / face shield

9. Physical and Chemical Properties

Appearance: Orange crystalline solid

Odour: Odourless

pH: Acidic (aqueous solution)

Melting Point: ~180 °C (decomposes)

Solubility: Soluble in water

Oxidizing Properties: Strong oxidizer

10. Stability and Reactivity

Stability: Stable under normal conditions

Reactivity: Strong oxidizer

Incompatible Materials: Organic compounds, reducing agents, sulphur, phosphorus, metals

Hazardous Decomposition Products: Chromium oxides, nitrogen oxides

11. Toxicological Information

Routes of Exposure: Inhalation, ingestion, skin contact

Acute Effects: Severe irritation, burns, respiratory distress

Chronic Effects: Cancer, organ damage, allergic sensitization

Carcinogenicity: Known human carcinogen (Cr(VI) compounds)

12. Ecological Information

Very toxic to aquatic organisms

Long-lasting environmental effects

Bio accumulative chromium compounds

13. Disposal Considerations

Dispose of as hazardous waste according to local, national, and international regulations

Do not discharge into drains or environment

14. Transport Information

UN Number: UN 1439

Proper Shipping Name: Ammonium dichromate

Hazard Class: 5.1 (Oxidizer), 6.1 (Toxic)

Packing Group: II

15. Regulatory Information

Listed as carcinogenic and toxic under OSHA, EPA, and international regulations

Subject to strict occupational exposure limits

16. Other Information

Prepared for: Educational / reference purposes

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