

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.18.2014

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Ammonium Dichromate

SECTION 1 : Identification of the substance/mixture and of the supplier

Product name : Ammonium Dichromate

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: S25169B

Recommended uses of the product and uses restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific
9 Barnhart Drive, Hanover, PA 17331

Supplier Details:

Fisher Science Education
15 Jet View Drive, Rochester, NY 14624

Emergency telephone number:

Fisher Science Education Emergency Telephone No.: 800-535-5053

SECTION 2 : Hazards identification

Classification of the substance or mixture:

Health hazard



Specific target organ toxicity following repeated exposure, category 1
Respiratory sensitization, category 1
Carcinogenicity, category 1B
Germ cell mutagenicity, category 1B
Reproductive toxicity, category 1B

Corrosive



Skin corrosion, category 1B
Serious eye damage, category 1

Irritant



Skin sensitization, category 1
Acute toxicity (oral, dermal, inhalation), category 4

Environmentally Damaging



Acute hazards to the aquatic environment, category 1
Chronic hazards to the aquatic environment, category 1

Oxidizing



Oxidizing solids, category 2

Toxic



Acute toxicity (oral, dermal, inhalation), category 2
Acute toxicity (oral, dermal, inhalation), category 3

AcTox Dermal 4

Ox Sol. 2

Resp. Sens. 1

Aquatic ChrTox 1

Skin Sens. 1

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Carc. 1B
AcTox Inhaln 2
Skin Corr. 1B
Eye Damage. 1
Germ cell Muta. 1B
Reprod Tox. 1B
AcTox Oral 3
STOT RE 1
Aquatic AcTox. 1

Signal word :Danger

Hazard statements:

May intensify fire; oxidizer
Toxic if swallowed
Causes damage to organs through prolonged or repeated exposure
May damage fertility or the unborn child
Harmful in contact with skin
Fatal if inhaled
Causes severe skin burns and eye damage
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
May cause genetic defects
May cause cancer
Very toxic to aquatic life with long lasting effects

Precautionary statements:

If medical advice is needed, have product container or label at hand
Keep out of reach of children
Read label before use
Keep away from heat/sparks/open flames/hot surfaces. No smoking
Do not eat, drink or smoke when using this product
Avoid release to the environment
Wear protective gloves/protective clothing/eye protection/face protection
Do not handle until all safety precautions have been read and understood
Take any precaution to avoid mixing with combustibles
Keep/Store away from clothing/combustible materials
Wash skin thoroughly after handling
Use only outdoors or in a well-ventilated area
Contaminated work clothing should not be allowed out of the workplace
Wear respiratory protection
Do not breathe dust/fume/gas/mist/vapours/spray
Obtain special instructions before use
If skin irritation or a rash occurs: Get medical advice/attention
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
Collect spillage
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Specific treatment is urgent (see ... on this label)
In case of fire: Use agents recommended in section 5 for extinction
Immediately call a POISON CENTER or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.
Continue rinsing

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IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Store in a well ventilated place. Keep container tightly closed
Store locked up
Dispose of contents and container as instructed in Section 13

Hazards Not Otherwise Classified (HNOC)::

Combustible Dust

Combustible Dust Hazard::

May form combustible dust concentrations in air (during processing).

Specific Concentration Limits::

Resp. Sens. 1 H334: C \geq 0.2%; Skin Sens. 1 H317: C \geq 0.2%; STOT SE 3 H335: C \geq 5% The concentration stated is the percentage by weight of chromate ions dissolved in water calculated with reference to the total weight of the mixture.

Other Non-GHS Classification:

WHMIS



NFPA/HMIS



NFPA SCALE (0-4)

Health	3
Flammability	0
Physical Hazard	2
Personal Protection	X

HMIS RATINGS (0-4)

SECTION 3 : Composition/information on ingredients

Ingredients:

CAS 7789-09-5

Ammonium Dichromate

99 %

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Percentages are by weight

SECTION 4 : First aid measures

Description of first aid measures

After inhalation: Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. If not breathing give artificial respiration. Immediately get medical assistance. If breathing is difficult, give oxygen. Poisonous material

After skin contact: Take victim to hospital immediately. Remove contaminated clothing and shoes. Wash off with soap and plenty of water. Consult a physician. Flush with water for 15 minutes. Get medical assistance if irritation develops.

After eye contact: Rinse or flush exposed eye gently using water for 15-20 minutes. Protect unexposed eye. If able remove contact lenses while rinsing. Rinse or flush eye gently with water for at least 30 minutes, lifting upper and lower lids. Seek immediate medical attention (ophthalmologist)

After swallowing: Dilute with milk and water. Rinse mouth with water. Call poison control center. Do not induce vomiting. Immediately call POISON CONTROL center for advice. Seek immediate medical attention

Most important symptoms and effects, both acute and delayed:

Poison if ingested. May be fatal if swallowed or inhaled. Irritation. Nausea. Headache. Shortness of breath. Causes tissue burns-all routes of exposure. May cause blindness. May cause allergic reaction. May cause deep ulcers and dermatitis. Causes gastrointestinal tract burns. May cause asthmatic attack, ulcers, and holes through nasal cavity. Causes chemical burns to respiratory tract. Prolonged inhalation may cause nosebleeds, nasal congestion, chest pain, erosion of teeth, holes in nasal cavity, bronchitis. Prolonged eye contact may cause conjunctivitis. May cause kidney and liver damage. May cause cancer in humans. Risk of harm to unborn children and impair fertility.

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician. Notes to Physician: Treat symptomatically.

SECTION 5 : Firefighting measures

Extinguishing media

Suitable extinguishing agents: Use water only. Carbon Dioxide or Halon may provide limited control, and are not the preferred extinguishing media.

For safety reasons unsuitable extinguishing agents: Do not use dry chemical or foam

Special hazards arising from the substance or mixture:

Fire hazard when exposed to heat, friction, or mechanical shock. Dust deposits should not be allowed to accumulate on surfaces. Dust may form an explosive mixture if sufficient concentration is released into the atmosphere.

Advice for firefighters:

Protective equipment: Wear chemical protective clothing and positive pressure self-contained breathing apparatus (SCBA).

Additional information (precautions): Ensure adequate ventilation. Highly water soluble Cr(VI) substances can cause severe skin effects. Fire Fighting Instructions: Use normal procedures. Use protective clothing. Use NIOSH approved breathing equipment. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes, and clothing. Wear protective clothing. Do not inhale gases, fumes, dust, mist, vapor, and aerosols.

SECTION 6 : Accidental release measures

Personal precautions, protective equipment and emergency procedures:

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Do not clean with combustible materials. Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Use spark-proof tools and explosion-proof equipment.

Environmental precautions:

Avoid release to the environment. Do not let product enter drains. Prevent from reaching drains, sewer, or waterway. Collect contaminated soil for characterization per Section 13.

Methods and material for containment and cleaning up:

Place in container for disposal according to local regulations (see section 13). Place into properly labeled containers for recovery or disposal. Sweep up and containerize for disposal. Avoid generating dust. Always obey local regulations. Contain spillage and then collect with an electrically protected vacuum cleaner or by wet-brushing.

Reference to other sections:

SECTION 7 : Handling and storage

Precautions for safe handling:

Avoid contact with skin, eyes, and clothing. Do not eat, drink, smoke, or use personal products when handling chemical substances. Use only in well ventilated areas. Wash hands after handling. Do not inhale gases, fumes, dust, mist, vapor, and aerosols. Follow Chemical Hygiene Plan. Keep product and empty container away from heat and sources of ignition.

Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a cool, dry, and well-ventilated area. Keep away from food, beverages, and feed sources. Protect from freezing and physical damage. Keep product and empty container away from heat and sources of ignition. Store with like hazards. Do not store with combustibles. Do not grind or subject to friction or shock.

SECTION 8 : Exposure controls/personal protection



Control Parameters:

7789-09-5, Ammonium dichromate, OSHA: 1mg/10m³
7789-09-5, Hexavalent chromium (Cr VI), OSHA PEL TWA: 5 ug/m³
7789-09-5, Ammonium dichromate, ACGIH TLV: 0.05mg/m³

Appropriate Engineering controls:

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Use under fume hood.

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Not required under normal conditions of use.

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Protection of skin:

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation.

Eye protection:

Safety Glasses or goggles. Wear a face shield. Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

General hygienic measures:

Keep away from food, beverages, and feed sources. Wash hands before breaks and immediately after handling the product. Wash off with soap and plenty of water. Avoid contact with skin, eyes, and clothing. Remove contaminated clothing and shoes. Before wearing wash contaminated clothing.

SECTION 9 : Physical and chemical properties

Appearance (physical state,color):	Orange-red crystalline	Explosion limit lower: Explosion limit upper:	Not Determined Not Determined
Odor:	Odorless	Vapor pressure:	Not Determined
Odor threshold:	Not Determined	Vapor density:	Not Determined
pH-value:	3.45 (10% solution)	Relative density:	2.15
Melting/Freezing point:	170 °C (338 °F) decomposes	Solubilities:	360 g/L at 20 °C
Boiling point/Boiling range:	Not Determined	Partition coefficient (n-octanol/water):	Not Applicable
Flash point (closed cup):	Not Determined	Auto/Self-ignition temperature:	Not Determined
Evaporation rate:	Not Determined	Decomposition temperature:	Decomposes at 180°C
Flammability (solid,gaseous):	Self-ignite at ~180°C and above. Reaction self sustaining and very exothermic	Viscosity:	a. Kinematic: Not Determined b. Dynamic: Not Determined
Density: 2.15 g/cm ³ at 20 °C Explosive Properties: Explosive if heated in a closed container. Used in pyrotechnics. Does not meet criteria for class I explosive.			

SECTION 10 : Stability and reactivity

Reactivity:

Chemical stability: May be explosive if heated.

Possible hazardous reactions: Hazardous decomposition products formed under fire conditions.

Conditions to avoid: Keep product and empty container away from heat and sources of ignition.

Incompatible materials: Reducing agents. Alcohols. Strong acids. Strong bases. Hydrazine. Sodium nitrate. Carbides. Ethylene glycol.

Hazardous decomposition products: Nitrogen oxides (NO_x). Chromium oxides (CrO, Cr₂O₃, CrO₂, CrO₃, CrO₅). Carbon oxides (CO, CO₂).

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SECTION 11 : Toxicological information

Acute Toxicity:		
Inhalation:	0.156mg/L 4h	LC50 inhalation-rat
Oral:	67.5 mg/kg	LD50 oral-rat
Chronic Toxicity: No additional information.		
Corrosion Irritation:		
Dermal:	CLP	This product is classified to causes severe skin burns.
Ocular:	CLP	This product is classified to causes severe eye damage.
Sensitization:		Product is considered a strong skin and respiratory sensitizer.
Single Target Organ (STOT):		No additional information.
Numerical Measures:		No additional information.
Carcinogenicity:		No additional information.
Mutagenicity:		No additional information.
Reproductive Toxicity:		No additional information.

SECTION 12 : Ecological information

Ecotoxicity Persistence and degradability: Readily degradable in the environment.

Bioaccumulative potential:

Mobility in soil:

Other adverse effects:

SECTION 13 : Disposal considerations

Waste disposal recommendations:

Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Product or containers must not be disposed together with household garbage. Consult federal, state/provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

SECTION 14 : Transport information

UN-Number

1439

UN proper shipping name

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Transport hazard class(es)



Class:

5.1 Oxidizing substances

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Packing group:II

Environmental hazard:

Transport in bulk:

Special precautions for user:

SECTION 15 : Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Reactive, Acute, Fire

SARA Section 313 (Specific toxic chemical listings):

7789-09-5 Ammonium dichromate (ammonium bichromate)

RCRA (hazardous waste code):

None of the ingredients is listed

TSCA (Toxic Substances Control Act):

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

7789-09-5 Ammonium bichromate 10

Proposition 65 (California):

Chemicals known to cause cancer:

7789-09-5 Chromium (hexavalent compounds)

Chemicals known to cause reproductive toxicity for females:

7789-09-5 Chromium (hexavalent compounds)

Chemicals known to cause reproductive toxicity for males:

7789-09-5 Chromium (hexavalent compounds)

Chemicals known to cause developmental toxicity:

7789-09-5 Chromium (hexavalent compounds)

Canada

Canadian Domestic Substances List (DSL):

7789-09-5 Ammonium dichromate

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients is listed

Canadian NPRI Ingredient Disclosure list (limit 1%):

7789-09-5 Ammonium dichromate

SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this

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material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases:

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

PNEC: Predicted No-Effect Concentration (REACH)

CFR: Code of Federal Regulations (USA)

SARA: Superfund Amendments and Reauthorization Act (USA)

RCRA: Resource Conservation and Recovery Act (USA)

TSCA: Toxic Substances Control Act (USA)

NPRI: National Pollutant Release Inventory (Canada)

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

DNEL: Derived No-Effect Level (REACH)

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