

SAFETY DATA SHEET

1. Identification

Product identifier: AMMONIUM DICHROMATE

Other means of identification

Product No.: 0688

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax:
Contact Person: Environmental Health & Safety
e-mail: info@avantormaterials.com

Emergency telephone number:

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Oxidizing solids	Category 2
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Health Hazards

Acute toxicity (Oral)	Category 2
Acute toxicity (Dermal)	Category 3
Acute toxicity (Inhalation - dust and mist)	Category 1
Skin Corrosion/Irritation	Category 1B
Serious Eye Damage/Eye Irritation	Category 1
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 1B
Toxic to reproduction	Category 1B
Specific Target Organ Toxicity - Repeated Exposure	Category 1

Environmental Hazards

Chronic hazards to the aquatic environment	Category 1
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Label Elements

Hazard Symbol:



Signal Word: Danger

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

Precautionary Statement

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep/Store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles. Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection. Avoid release to the environment.

Response: IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. IF exposed or concerned: Get medical advice/attention. Collect spillage.

Storage: Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
AMMONIUM BICHROMATE		7789-09-5	100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information:	Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
Ingestion:	Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Inhalation:	Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration.
Skin Contact:	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention immediately.

Most important symptoms/effects, acute and delayed

Symptoms:	Fatal if swallowed. Fatal if inhaled. Toxic in contact with skin. Causes severe skin and eye burns.
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Indication of immediate medical attention and special treatment needed

Treatment:	Treat symptomatically. Symptoms may be delayed.
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5. Fire-fighting measures

General Fire Hazards:	Oxidizing material.
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Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Flood with water from a distance.
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Unsuitable extinguishing media:	Dry chemical, CO ₂ , halon.
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Specific hazards arising from the chemical:	Strong oxidizer - contact with other material may cause fire. Fire may produce irritating, corrosive and/or toxic gases.
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Special protective equipment and precautions for firefighters

Special fire fighting procedures:	Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.
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Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures: Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Use personal protective equipment as required. Do not get in eyes, on skin, on clothing. Do not breathe mist or vapor. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the SDS for Personal Protective Equipment.

Conditions for safe storage, including any incompatibilities: Do not store in metal containers. Keep in a cool, well-ventilated place. Store in a dry place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
AMMONIUM BICHROMATE - as Cr	TWA	0.05 mg/m ³	US. ACGIH Threshold Limit Values (2011)
AMMONIUM BICHROMATE - as Cr(VI)	REL	0.001 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
AMMONIUM BICHROMATE	TWA	0.005 mg/m ³	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) (02 2006)
	OSHA_ACT	0.0025 mg/m ³	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) (02 2006)
AMMONIUM BICHROMATE - as CrO ₃	Ceiling	0.1 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
AMMONIUM BICHROMATE	Ceiling	0.1 mg/m ³	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
AMMONIUM BICHROMATE (Total chromium: Sampling time: End of shift at end of work week.)	25 µg/l (Urine)	ACGIH BEL (03 2013)
AMMONIUM BICHROMATE (Total chromium: Sampling time: Increase during shift.)	10 µg/l (Urine)	ACGIH BEL (03 2013)

Appropriate Engineering Controls

No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

Eye/face protection: Wear safety glasses with side shields (or goggles) and a face shield. Use tight fitting goggles if dust is generated.

Skin Protection

Hand Protection: Chemical resistant gloves

Other: Wear suitable protective clothing.

Respiratory Protection: In case of inadequate ventilation use suitable respirator.

Hygiene measures: Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned. Do not get this material in contact with skin. Do not get in eyes. Do not breathe dust/fume/gas/mist/vapors/spray.

9. Physical and chemical properties

Appearance

Physical state:	Solid
Form:	Crystals or powder.
Color:	Orange, Red
Odor:	Odorless
Odor threshold:	No data available.
pH:	3.95 (1% solution) 3.45 (10% solution)
Melting point/freezing point:	180 °C Decomposes
Initial boiling point and boiling range:	No data available.
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	8.7 AIR=1
Relative density:	2.15 (20 °C)
Solubility(ies)	
Solubility in water:	364 g/l (20 °C)
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	190 °C
Decomposition temperature:	No data available.
Viscosity:	No data available.
Other information	
Bulk density:	1,313.5 kg/m ³
Molecular weight:	252.07 g/mol (Cr ₂ H ₂ O ₇ .2H ₃ N)

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	Hazardous polymerization does not occur.
Conditions to Avoid:	Heat, sparks, flames. Contact with incompatible materials.
Incompatible Materials:	Strong reducing agents. Contact with combustibles. Alcohols. Organic compounds. Strong Acid Contact
Hazardous Decomposition Products:	Thermal decomposition may produce oxides of nitrogen. ammonia

11. Toxicological information

Information on likely routes of exposure

Ingestion:	Fatal if swallowed.
Inhalation:	Fatal if inhaled. May cause respiratory allergy.

Skin Contact: Causes skin burns. May cause an allergic skin reaction.

Eye contact: Causes eye burns.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: LD 50 (Rat, Female): 19 mg/kg
LD 50 (Rat, Male): 22 mg/kg

Dermal

Product: LD 50 (Rabbit, Female): 549 mg/kg
LD 50 (Rabbit, Male): 763 mg/kg

Inhalation

Product: LC 50 (Rat, Female, 4 h): 0.045 mg/l
LC 50 (Rat, Male, 4 h): 0.082 mg/l

Repeated Dose Toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: Causes skin burns.

Serious Eye Damage/Eye Irritation

Product: Causes severe eye burns.

Respiratory or Skin Sensitization

Product: May cause allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carcinogenicity

Product: May cause cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

AMMONIUM BICHROMATE Overall evaluation: 1. Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

AMMONIUM BICHROMATE Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No mutagenic components identified

In vivo

Product: No mutagenic components identified

Reproductive Toxicity

Product: May damage fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: Causes damage to organs through prolonged or repeated exposure.

Aspiration Hazard

Product: Not classified

Other Effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: There are no data on the degradability of this product.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in Soil: The product is water soluble and may spread in water systems.

Other Adverse Effects: Toxic to aquatic life with long lasting effects.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even

after container is emptied.

14. Transport information

DOT

UN Number:	UN 1439
UN Proper Shipping Name:	Ammonium dichromate
Transport Hazard Class(es)	
Class(es):	5.1
Label(s):	5.1
Packing Group:	II
Marine Pollutant:	No

IMDG

UN Number:	UN 1439
UN Proper Shipping Name:	AMMONIUM DICHROMATE
Transport Hazard Class(es)	
Class(es):	5.1
Label(s):	5.1
EmS No.:	F-H, S-Q
Packing Group:	II
Marine Pollutant:	No

IATA

UN Number:	UN 1439
Proper Shipping Name:	Ammonium dichromate
Transport Hazard Class(es):	
Class(es):	5.1
Label(s):	5.1
Marine Pollutant:	No
Packing Group:	II

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

AMMONIUM BICHROMATE Reportable quantity: 10 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Acute (Immediate) Chronic (Delayed) Fire Reactive Pressure Generating

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

Chemical Identity	RQ
AMMONIUM BICHROMATE	10 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
AMMONIUM BICHROMATE	500 lbs

SARA 313 (TRI Reporting)

Chemical Identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
AMMONIUM BICHROMATE	10000 lbs	25000 lbs.
	10000 lbs	25000 lbs.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

AMMONIUM BICHROMATE Reportable quantity: 10 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

AMMONIUM BICHROMATE	Carcinogenic.
AMMONIUM BICHROMATE	Male reproductive toxin.
AMMONIUM BICHROMATE	Female reproductive toxin.
AMMONIUM BICHROMATE	Developmental toxin.

US. New Jersey Worker and Community Right-to-Know Act

AMMONIUM BICHROMATE Listed

US. Massachusetts RTK - Substance List

AMMONIUM BICHROMATE Listed

US. Pennsylvania RTK - Hazardous Substances

AMMONIUM BICHROMATE Listed

US. Rhode Island RTK

AMMONIUM BICHROMATE Listed

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe
OX: Oxidizing agent

Issue Date: 01-19-2015
Revision Date: No data available.
Version #: 2.0
Further Information: No data available.

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