SAFETY DATA SHEET SPECTRUM®



Revision date 08-December-2022

Revision Number 2

1. Identification

Product identifier

Product Name AMMONIUM DICHROMATE, PURIFIED

Other means of identification

Product Code(s) A1179

UN/ID no UN1439

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use No information available

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Address

Spectrum Chemical Mfg. Corp. 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000

Emergency telephone number

Emergency Telephone Chemtrec 1-800-424-9300

2. Hazard(s) identification

Classification

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 2
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1A
Skin sensitization	Category 1A
Germ cell mutagenicity	Category 1A
Carcinogenicity	Category 1A
Reproductive toxicity	Category 1A
Specific target organ toxicity (repeated exposure)	Category 1
Oxidizing solids	Category 2

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Danger

Hazard statements

Toxic if swallowed

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

May damage fertility or the unborn child

Causes damage to organs through prolonged or repeated exposure

May intensify fire; oxidizer



Appearance Crystals or Crystalline powder or powder

Physical state Solid

Odor No information available

Precautionary Statements - Prevention

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Wear protective gloves/protective clothing/eye protection/face protection

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear respiratory protection

Contaminated work clothing must not be allowed out of the workplace

Keep away from heat

Keep/Store away from clothing/ combustible materials

Take any precaution to avoid mixing with combustibles

Precautionary Statements - Response

Specific treatment (see .? on this label)

Specific treatment is urgent (see .? on this label)

Immediately call a POISON CENTER or doctor

Specific treatment (see .? on this label)

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 or doctor

Call a POISON CENTER or doctor if you feel unwell

IF ON SKIN (or hair): 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

IF SWALLOWED: Immediately call a POISON CENTER or doctor

Rinse mouth

Do NOT induce vomiting

In case of fire: Use CO2, dry chemical, or foam to extinguish

Precautionary Statements - Storage

Store locked up.

Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Unknown acute toxicity

Other information

Very toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

3. Composition/information on ingredients

Substance

Chemical name	CAS No	Weight-%
Ammonium Dichromate	7789-09-5	100

4. First-aid measures

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is

required. IF exposed or concerned: Get medical advice/attention.

Inhalation If breathing has stopped, give artificial respiration. Get medical attention immediately.

Remove to fresh air. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. May cause allergic respiratory reaction. Avoid direct

contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present

and easy to do. Continue rinsing. Get immediate medical advice/attention.

Skin contact IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water

before removing clothes. IF ON SKIN: Wash with plenty of water. Wash contaminated clothing before reuse. Get immediate medical advice/attention. May cause an allergic skin

reaction.

Ingestion Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water.

Never give anything by mouth to an unconscious person. Get immediate medical

advice/attention. May produce an allergic reaction.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination. Use personal protective

equipment as required. See section 8 for more information. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory

medical device. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Burning sensation. May cause allergy or

asthma symptoms or breathing difficulties if inhaled. Itching. Rashes. Hives.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause

sensitization in susceptible persons. Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media Use water. Do not use dry chemicals or foams. CO 2 or Halon may provide limited control.

Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Dry chemical. Foam.

Specific hazards arising from the chemical

These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May ignite combustibles (wood paper, oil, clothing, etc.). Runoff may create fire or explosion hazard. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact. May cause sensitization by skin contact.

Hazardous combustion products If it is involved in a fire the following can be released:. Ammonia. Chromium oxides.

Nitrogen oxides (NOx).

Explosion data

Sensitivity to mechanical impact none.

Sensitivity to static discharge yes.

Special protective equipment for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. Do not move cargo or vehicle if cargo has been exposed to heat. oxidizer. May ignite combustibles (wood paper, oil, clothing, etc.). Move containers from fire area if you can do it without risk. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Evacuate personnel

to safe areas. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See section 8 for more information. Stop leak if you can do it without risk. Use personal protective equipment as required. Avoid generation of dust. Do not breathe dust. Attention! Corrosive

material.

Other information Keep combustibles (wood, paper, oil, etc) away from spilled material. DO NOT GET

WATER INSIDE CONTAINERS. Ventilate the area. Refer to protective measures listed in

Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Cover with DRY earth, DRY sand or other

non-combustible material followed with plastic sheet to minimize spreading or contact with

raın.

Methods for cleaning up With clean shovel place material into clean, dry container and cover loosely; move

containers from spill area. Flush area with flooding quantities of water. Prevent product from entering drains. Cover powder spill with plastic sheet or tarp to minimize spreading and

keep powder dry.

7. Handling and storage

Precautions for safe handling

Advice on safe handling

Use personal protection equipment. Avoid contact with skin, eyes or clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Handle in accordance with good industrial hygiene and safety practice. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Take off contaminated clothing and wash before reuse. Provide extract ventilation to points where emissions occur. Avoid breathing vapors or mists.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Do not store near combustible materials. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep out of the reach of children. Store locked up. Protect from moisture. Store away from other materials.

8. Exposure controls/personal protection

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ammonium Dichromate	No data available	0.1 mg/m ³ Ceiling	-
7789-09-5		5 ug/m³ TWA	

Appropriate engineering controls

Engineering controls Showers

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Wear

fire/flame resistant/retardant clothing.

Respiratory protectionWhen workers are facing concentrations above the exposure limit they must use

appropriate certified respirators.

General hygiene considerations Do not eat, drink or smoke when using this product. Remove and wash contaminated

clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do

not breathe dust. Take off contaminated clothing and wash before reuse.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state Solid

Appearance Crystals or Crystalline powder or powder

Color Orange or Reddish-orange

Odor No information available Odor threshold No information available

Property <u>Values</u> Remarks • Method None known

3.95 (1%) pН

3.45 (10%)

170 °C / 338 °F Melting point / freezing point None known no data available None known Boiling point / boiling range no data available None known Flash point **Evaporation rate** no data available None known Flammability (solid, gas) no data available None known Flammability Limit in Air None known

No data available Upper flammability or explosive

limits

Lower flammability or explosive

limits

No data available

No data available Vapor pressure Vapor density no data available Relative density 2.1 Water solubility Soluble in water Soluble in Alcohol Solubility(ies) **Partition coefficient** No data available **Autoignition temperature** no data available **Decomposition temperature**

Kinematic viscosity no data available None known No data available Dynamic viscosity None known

Other information

No information available **Explosive properties Oxidizing properties** No information available Softening point No information available Molecular weight No information available No information available **VOC Content (%) Liquid Density** No information available **Bulk density** No information available

10. Stability and reactivity

Reactivity Oxidizer.

Chemical stability May cause fire or explosion; strong oxidizer.

Possibility of hazardous reactions None under normal processing.

Conditions to avoid Heat, flames and sparks. Incompatible materials. Excessive heat. Exposure to air or

moisture over prolonged periods.

Incompatible materials Organic material. Combustible material. Hydrocarbons. Acids. Bases. Oxidizing agent.

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. Fatal if inhaled. (based on

> components). Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause sensitization in susceptible

None known

persons. May cause irritation of respiratory tract.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye

damage. (based on components). Corrosive to the eyes and may cause severe damage

including blindness. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on

components). Causes burns. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May cause sensitization by skin contact. May be

absorbed through the skin in harmful amounts. Harmful in contact with skin.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. May cause additional

affects as listed under "Inhalation".

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Redness. Burning. May cause

blindness. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle

pain, or flushing. Itching. Rashes. Hives.

Acute toxicity

Numerical measures of toxicity

Unknown acute toxicity

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Ammonium Dichromate	= 48 mg/kg (Rat)	= 1860 mg/kg (Rabbit)	= 0.2 mg/L (Rat) 4 h
7789-09-5			

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritationClassification based on data available for ingredients. Causes burns.

Serious eye damage/eye irritation Classification based on data available for ingredients. Risk of serious damage to eyes.

Causes burns.

Respiratory or skin sensitization Germ cell mutagenicity

May cause sensitization by inhalation. May cause sensitization by skin contact. Contains a known or suspected mutagen. Classification based on data available for

ingredients. May cause genetic defects.

Carcinogenicity Contains a known or suspected carcinogen. Classification based on data available for

ingredients. May cause cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

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Chemical name	ACGIH	IARC	NTP	OSHA
Ammonium Dichromate	-	Group 1 - Carcinogenic	-	-
7789-09-5		to humans - Monograph		
		49 [1990] Chromium[VI]		
		Supplement 7 [1987]		
		Monograph 23 [1980]		
		Monograph 2 [1973]		

Legend

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available

for ingredients. May damage fertility or the unborn child.

STOT - single exposure STOT - repeated exposure May cause respiratory irritation.

Target organ effects

Causes damage to organs through prolonged or repeated exposure.

Target organ effects

liver, kidney, respiratory system, Eyes, Skin, blood, lungs.

Aspiration hazard No information available.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

	- ,	1	0	
Chemical name	Algae/aquatic plants	Fish	Toxicity to	Crustacea
			microorganisms	
Ammonium Dichromate	-	136 mg/L LC50 96h	-	-
7789-09-5		212 mg/L LC50 Mosquito		
		fish 48h		
		50 mg/L LC50 Leuciscus		
		idus (Golden orfe) 48h		

Persistence and degradability

Bioaccumulation

No information available. Inherently biodegradable.

Other adverse effects No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused

products

Should not be released into the environment. Dispose of in accordance with local

regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT

UN/ID no UN1439

Proper shipping name Ammonium dichromate

Hazard class 5.1
Special Provisions

Special Provisions IB8, IP2, IP4, T3, TP33

Description UN1439, Ammonium dichromate, 5.1, II, Marine pollutant

Emergency Response Guide 141

Number

TDG

UN/ID no. UN1439

Proper shipping name Ammonium dichromate

Hazard class 5.1 Packing Group

Description UN1439, Ammonium dichromate, 5.1, II

MEX

UN-No UN1439

Proper Shipping Name Ammonium dichromate

Hazard class 5.1 Packing Group

Description UN1439, Ammonium dichromate, 5.1, II

ICAO (air)

UN/ID no. UN1439 Hazard class 5.1 Packing Group

<u>IATA</u>

UN number UN1439
Hazard Class 5.1
Packing group II
Emergency Response Guide 5L

Number

IMDG

UN number UN1439
Hazard Class 5.1
Packing group II
EmS-No F-H, S-Q
Marine Pollutant P

RID

UN number UN1439

Proper shipping name AMMONIUM DICHROMATE

Hazard Class 5.1
Packing group II
Classification code O2

Description UN1439, AMMONIUM DICHROMATE, 5.1, II, ENVIRONMENTALLY HAZARDOUS

Labels 5.1

ADR

UN number UN1439

Proper shipping name Ammonium dichromate

Hazard Class 5.1
Packing group II
Classification code O2
Tunnel restriction code (E)

Description UN1439, Ammonium dichromate, 5.1, II, (E), ENVIRONMENTALLY HAZARDOUS

Labels 5.1

<u>ADN</u>

UN/ID No UN1439

Proper shipping name Ammonium dichromate

Hazard Class 5.1
Packing Group II
Classification code O2

Description UN1439, Ammonium dichromate, 5.1, II, ENVIRONMENTALLY HAZARDOUS

Hazard label(s) 5.1 Limited quantity (LQ) 1 kg Equipment Requirements PP

15. Regulatory information

International Inventories

TSCA Complies

DSL/NDSL Complies EINECS/ELINCS Complies

ENCS IECSCThis product complies with ENCS:
This product complies with China:

KECL Complies **PICCS** Complies

AICS All the constituents of this material are listed on the Australian Inventory of Chemical

Substances (AICS).

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Ammonium Dichromate - 7789-09-5	0.1 1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Ammonium Dichromate	10 lb final RQ	-
7789-09-5	4.54 kg final RQ	

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:.

Chemical name	California Proposition 65
Ammonium Dichromate - 7789-09-5	developmental toxicity
	male reproductive toxicity
	carcinogen

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Ammonium Dichromate	sn 0097	Present	Environmental hazard
7789-09-5	sn 3575		
	sn 2245		

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA

Health hazards 4 Flammability 0 Instability 1

Physical and chemical properties OX

HMIS

Health hazards * 2 Flammability 0 Physical hazards 1 Personal protection X

Chronic Hazard Star Legend *= Chronic Health Hazard

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

Ceiling Maximum limit value

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR) U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA) EPA (Environmental Protection Agency) Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

Revision date 08-December-2022
Revision Note 08-December-2022
No information available.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet