Safety Data Sheet

Revision Date 12/15/15

1. PRODUCT AND COMPANY IDENTIFACTION

Product name	Ammonium dichromate
CAS #	07789-09-5
Manufacturer	Sentury Reagents, Inc. 2515 Commerce Dr. Rock Hill, SC 29730
Telephone Fax	803-327-6880 803-327-3872
Emergency Phone # and Account	PERS 800-633-8253 or outside the United States 011-801-629-0667 10613

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazardous

Oxidizer, Highly toxic by inhalation, Toxic by ingestion, Harmful by skin absorption, Skin and respiratory sensitizer, Corrosive, Carcinogen, teratogen, Reproductive hazard, Mutagen

Target Organs

Lungs, Kidney, Liver

GHS Classification

Oxidizing solids (Category 2)
Acute toxicity, Oral (Category 3)
Acute toxicity, Inhalation (Category 2)
Acute toxicity, Dermal (Category 4)
Skin corrosion (Category 1B)
Serious eye damage (Category 1)
Respiratory sensitization (Category 1)
Skin sensitization (Category 1)
Germ cell mutagenicity (Category 1B)
Carcinogenicity (Category 1B)
Reproductive toxicity (Category 1B)
Specific target organ toxicity - repeated exposure (Category 1)
Acute aquatic toxicity (Category 1)
Chronic aquatic toxicity \Category 1)

GH3 Label elements, including precautionary statements

Pictogram

Signal word — Danger

Hazard statement(s)

H272	May intensify fire; oxidizer.
H301	Toxic if swallowed.

H312	Harmful in contact with skin.
H314	Causes severe skin bums and eye damage.
H317	May cause an allergic skin reaction.
H330	Fatal if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H340	May cause genetic defects.
H350	May cause cancer.
H360FD	May damage fertility or the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201	Obtain special instructions before use.
P220	Keep/Store away from clothing/ combustible materials.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection
P284	Wear respiratory protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/ physician.
P501	Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification

Health hazard:	3
Chronic Health Hazard:	•
Flammability:	0
Physical hazards:	2
Personal Protection	**E**

NFPA Rating

Health hazard:	**4**
Fire:	**0**
Reactivity Hazard:	**2**
Special hazard:	**OX**

Potential Health Effects

Inhalation	May be fatal if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	Causes skin burns.
Eyes	Causes eye burns.
Ingestion	Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms	Ammonium bichromate
Formula	H8Cr2N207
Molecular Weight	252.06 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Ammonium dichromate			
7789-09-5	1232-143-1	024-003-00-1	97% MIN

4. FIRST AID MEASURES

General advice
Consult a physician. Show his safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for firefighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NOx), Chromium oxides

Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from heat and sources of ignition. Normal measures for preventive fire protection.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Do not grind or subject to friction or shock. Isolated storage is required.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection
Where risk assessment show 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 control. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
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.

Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	Crystalline
Colour	no data available

Safety data

pH	3.0- 4.0 at 50 g/l 25°C(77 °F)
Melting point/freezing point	Melting point/range: 170 0c(338 °F) - dec.
Boiling point	no data available
Flash point	not applicable
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	2.150 g/cm3
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
no data available

Conditions to avoid
no data available

Materials to avoid
Strong reducing agents, Alcohols, Strong acids, Do not store near acids.

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NOx), Chromium oxides
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD5
LD50 Oral - rat - 53 mg/kg

Inhalation LC5O
LC50 Inhalation - rat - 4 h - 160 ppm

Dermal LD5O
Other information on acute toxicity
no data available

Skin corrosion/irritation
data available

Serious eye damage/eye irritation
Eyes- rabbit - Severe eye irritation- Draize Test

Respiratory or skin sensitization
May cause allergic respiratory and skin reactions

Germ cell mutagenicity
May alter genetic material. ;n vivo tests showed mutagenic effects

Carcinogenicity

This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification. Possible human carcinogen

IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:	No component of this product present at levels greater than or equal to J.1% is identified as a known. or anticipated carcinogen by NTP.
OSHA:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
May cause reproductive disorders.

Teratogenicity

May cause congenital malformation in the fetus. Presumed human reproductive toxicant

Specific target organ toxicity ·single exposure (Globally Harmonized System)

Specific target organ toxicity ·repeated exposure (Globally Harmonized System)
Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard
no data available

Potential health effects

Inhalation	May be fatal if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Ingestion	Toxic if swallowed.
Skin	Causes skin burns.
Eyes	Causes eye burns.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects

Not available

Additional Information
RTECS: Not available

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LCO- Leuciscus idus (Golden orfe)- 50 mg/1 - 48 h

Persistence and degradability
no data available
Bioaccumulative potential
no data available
Mobility in soil
no data available

PBT and vPvB assessment
no data available
Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 1439 Class: 5.1 Packing group: II
Proper shipping name: Ammonium dichromate
Reportable Quantity (RQ): 10 lbs
Marine pollutant: No
Poison lnhalation Hazard: No

IMDG
UN number: 1439 Class: 5.1 Packing group: II EMS-No: F-H, S-Q
Proper shipping name: AMMONIUM DICHROMATE
Marine pollutant: No

IATA
UN number: 1439 Class: 5.1 Packing group: II
Proper shipping name: Ammonium dichromate

15. REGULATORY INFORMATION

OSHA Hazards
Oxidizer, Highly toxic by inhalation, Toxic by ingestion, Harmful by skin absorption, Skin and respiratory sensitizer, Corrosive, Carcinogen, Teratogen, Reproductive hazard, Mutagen
SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title Ill, Section 302.
SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title Ill, Section 313.
SARA 311/312 Hazards
Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard
Massachusetts Right To Know Components

	CAS No.	Revision Date
Ammonium dichromate	7789-09-5	1993-04-24

Pennsylvania Right To Know Components

Ammonium dichromate	7789-09-5	1993-04-24

New Jersey Right To Know Components

Ammonium dichromate	7789-09-5	1993-04-24

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sentury Reagents, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product.