

# SAFETY DATA SHEET

Date Printed: 05/09/2024

Date Revised: 01/15/2022

## SECTION 1. IDENTIFICATION

**Product Identifier:** (5N) 99.999% Magnesium Chromate Hydrate

**Product Code:** MG-CRAT-05-C.XHYD

**CAS Number:** 23371-94-0

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin sensitisation (Category 1), H317

Carcinogenicity (Category 1B), H350

Acute aquatic toxicity (Category 1), H400

Chronic aquatic toxicity (Category 1), H410

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word Danger

Hazard statement(s)

H317 May cause an allergic skin reaction.

H350 May cause cancer.  
H410 Very toxic to aquatic life with long lasting effects.  
Precautionary statement(s)  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P261 Avoid breathing dust/ fume/ gas/ mist/ Vapors/ spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P363 Wash contaminated clothing before reuse.  
P391 Collect spillage.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.  
2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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## **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

3.1 Substances  
Formula :  $\text{CrMgO}_4 \cdot x\text{H}_2\text{O}$   
Molecular weight : 140.30 g/mol  
CAS-No. : 23371-94-0  
EC-No. : 236-540-0  
Index-No. : 024-017-00-8  
Hazardous components  
Component Classification Concentration  
Magnesium chromate hydrate  
Skin Sens. 1; Carc. 1B;  
Aquatic Acute 1; Aquatic  
Chronic 1; H317, H350, H410  
≤ 100 %

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## **SECTION 4. FIRST AID MEASURES**

4.1 Description of first aid measures  
General advice  
Consult a physician. Show this 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  
Wash off with soap and plenty of water. Consult a physician.  
In case of eye contact  
Flush eyes with water as a precaution.  
If swallowed  
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

Suitable extinguishing media

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

### 5.2 Special hazards arising from the substance or mixture

Magnesium oxide, Chromium oxides

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

No data available

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing Vapors, mist or gas. Ensure adequate

ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

### 6.2 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.

### 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for

disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result

in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration

before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Keep in a dry place.

Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or

hazardous materials  
causing chronic effects  
7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **8.1 Control parameters**

Components with workplace control parameters

Component CAS-No. Value Control  
parameters

Basis

Remarks Substance listed; for more information see OSHA document

1910.1026

Magnesium

chromate hydrate

23371-94-0 CEIL 1.000000mg/10

m<sup>3</sup>

USA. Occupational Exposure Limits

(OSHA) - Table Z-2

Z37.7-1971

This standard applies to any operations or sectors for which the exposure limit in the Chromium (VI) standard, Sec. 1910.1026, is stayed or is otherwise not in effect.

TWA 0.010000

mg/m<sup>3</sup>

USA. ACGIH Threshold Limit Values

(TLV)

Lung cancer

Confirmed human carcinogen

varies

TWA 0.001000

mg/m<sup>3</sup>

USA. NIOSH Recommended

Exposure Limits

Potential Occupational Carcinogen

See Appendix C

See Appendix A

See Table Z-2 for the exposure limit for any operations or sectors where the exposure limit in § 1910.1026 is stayed or is otherwise not in effect

Substance listed; for more information see OSHA document

1910.1026

CEIL 1mg/10m<sup>3</sup> USA. Occupational Exposure Limits

(OSHA) - Table Z-2

Z37.7-1971

This standard applies to any operations or sectors for which the exposure limit in the Chromium (VI) standard, Sec. 1910.1026, is stayed or is otherwise not in effect.

TWA 0.01 mg/m<sup>3</sup> USA. ACGIH Threshold Limit Values

(TLV)

Lung cancer

Confirmed human carcinogen

varies

TWA 0.05 mg/m<sup>3</sup> USA. ACGIH Threshold Limit Values (TLV)

Upper Respiratory Tract irritation

Cancer

Substances for which there is a Biological Exposure Index or Indices (see BEI® section)

Confirmed human carcinogen

varies

PEL 0.005 mg/m<sup>3</sup> OSHA Specifically Regulated

Chemicals/Carcinogens

1910.1026

This standard applies to occupational exposures to chromium (VI) in all forms and compounds in general industry, except: (a) Exposures that occur in the application of pesticides regulated by the Environmental Protection Agency or another Federal government agency ( e.g., the treatment of wood with preservatives); (b) Exposures to portland cement; or (c) Where the employer has objective data demonstrating that a material containing chromium or a specific process, operation, or activity involving chromium cannot release dusts, fumes, or mists of chromium (VI) in concentrations at or above 0.5 µg/m<sup>3</sup> as an 8-hour time-weighted average (TWA) under any expected conditions of use.

Chromium (VI) [hexavalent chromium or Cr(VI)] means chromium with a valence of positive six, in any form and in any compound

OSHA specifically regulated carcinogen

TWA 0.0002 mg/m<sup>3</sup> USA. NIOSH Recommended

Exposure Limits

Potential Occupational Carcinogen

See Appendix C

See Appendix A

Biological occupational exposure limits

Component CAS-No. Parameters Value Biological specimen

Basis

Magnesium

chromate hydrate

23371-94-0 Total

chromium

25.0000

µg/l

In urine ACGIH - Biological

Exposure Indices

(BEI)

Remarks End of shift at end of workweek

Total

chromium

10.0000

µg/l

In urine ACGIH - Biological

Exposure Indices

(BEI)

Increase during shift

Total

chromium

25 µg/l Urine ACGIH - Biological  
Exposure Indices  
(BEI)

End of shift at end of workweek

Total  
chromium

10 µg/l Urine ACGIH - Biological  
Exposure Indices  
(BEI)

Increase during shift

## 8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face 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 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.

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.

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. 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).

Control of environmental exposure

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

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Appearance Form: powder

b) Odor No data available

c) Odor Threshold No data available

d) pH No data available

e) Melting point/freezing  
point

No data available

f) Initial boiling point and

boiling range  
No data available  
g) Flash point N/A  
h) Evaporation rate No data available  
i) Flammability (solid, gas) No data available  
j) Upper/lower  
flammability or  
explosive limits  
k) Vapor pressure No data available  
l) Vapor density No data available  
m) Relative density No data available  
n) Water solubility No data available  
o) Partition coefficient: noctanol/  
water  
No data available  
p) Auto-ignition  
temperature  
No data available  
q) Decomposition  
temperature  
No data available  
r) Viscosity No data available  
s) Explosive properties No data available  
t) Oxidizing properties No data available  
9.2 Other safety information  
No data available

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## **SECTION 10. STABILITY AND REACTIVITY**

10.1 Reactivity  
No data available  
10.2 Chemical stability  
Stable under recommended storage conditions.  
10.3 Possibility of hazardous reactions  
No data available  
10.4 Conditions to avoid  
Heat Avoid moisture.  
10.5 Incompatible materials  
Organic materials, Phosphorus, Powdered metals, Hydrogen sulfide gas  
10.6 Hazardous decomposition products  
Other decomposition products - No data available  
In the event of fire: see section 5

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

11.1 Information on toxicological effects  
Acute toxicity  
No data available  
Inhalation: No data available  
Dermal: No data available  
No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA,

ACGIH, NTP, or EPA classification. Possible human carcinogen

IARC: 1 - Group 1: Carcinogenic to humans (Magnesium chromate hydrate)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: OSHA specifically regulated carcinogen (Magnesium chromate hydrate)

Reproductive toxicity

No data available

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: Not available

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

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## SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 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.

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## SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

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.

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## **SECTION 14. TRANSPORT INFORMATION**

DOT (US)  
Not dangerous goods  
IMDG  
UN number: 3077 Class: 9 Packing group: III EMS-No: F-A, S-F  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Magnesium chromate  
hydrate)  
Marine pollutant:yes  
IATA  
UN number: 3077 Class: 9 Packing group: III  
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Magnesium chromate  
hydrate)  
Further information  
EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination  
packagings containing  
inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

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## **SECTION 15. REGULATORY INFORMATION**

SARA 302 Components  
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.  
SARA 313 Components  
The following components are subject to reporting levels established by SARA Title III, Section 313:  
Magnesium chromate hydrate  
CAS-No.  
23371-94-0  
Revision Date  
1993-04-24  
SARA 311/312 Hazards  
Chronic Health Hazard  
Massachusetts Right To Know Components  
Magnesium chromate hydrate  
CAS-No.  
23371-94-0  
Revision Date  
1993-04-24  
Pennsylvania Right To Know Components  
Magnesium chromate hydrate  
CAS-No.  
23371-94-0  
Revision Date  
1993-04-24

New Jersey Right To Know Components

Magnesium chromate hydrate

CAS-No.

23371-94-0

Revision Date

1993-04-24

California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause cancer.

Magnesium chromate hydrate

CAS-No.

23371-94-0

Revision Date

2014-06-06

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Magnesium chromate hydrate

CAS-No.

23371-94-0

Revision Date

2014-06-06

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). 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. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.