

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 10/05/2021

Reviewed on 10/05/2021

## 1 Identification

- **Product identifier**
- **Product Name:** 10,000 µg/mL Chromium
- **Part Name:** PLCR9-3X
- **Application of the substance / the mixture** Certified Reference Material
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
SPEX CertiPrep, LLC.  
203 Norcross Ave, Metuchen,  
NJ 08840 USA
- **Information department:** product safety department
- **Emergency telephone number:**  
Emergency Phone Number (24 hours)  
CHEMTREC (800-424-9300)  
Outside US: 703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Muta. 1B H340 May cause genetic defects.

Carc. 1B H350 May cause cancer.

Repr. 1B H360 May damage fertility or the unborn child.

STOT RE 1 H372 Causes damage to the respiratory system through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS06



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

ammonium dichromate

- **Hazard statements**

H331 Toxic if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H340 May cause genetic defects.

H350 May cause cancer.

H360 May damage fertility or the unborn child.

H372 Causes damage to the respiratory system through prolonged or repeated exposure.

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**Precautionary statements**

- P260 Do not breathe dust/fume/gas/mist/vapors/spray.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P284 [In case of inadequate ventilation] wear respiratory protection.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P321 Specific treatment (see on this label).  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
 P337+P313 If eye irritation persists: Get medical advice/attention.  
 P342+P311 If experiencing respiratory symptoms: Call a poison center/doctor.  
 P363 Wash contaminated clothing before reuse.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:**
**NFPA ratings (scale 0 - 4)**

**HMS-ratings (scale 0 - 4)**

|            |   |                |
|------------|---|----------------|
| HEALTH     | 2 | Health = *2    |
| FIRE       | 0 | Fire = 0       |
| REACTIVITY | 0 | Reactivity = 0 |

**Other hazards**
**Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

**Dangerous components:**

|           |                     |      |
|-----------|---------------------|------|
| 7789-09-5 | ammonium dichromate | 2.4% |
|-----------|---------------------|------|

**Chemical identification of the substance/preparation**

|           |   |       |
|-----------|---|-------|
| 7732-18-5 | water, distilled, conductivity or of similar purity | 97.6% |
|-----------|---|-------|

### 4 First-aid measures

**Description of first aid measures**
**General information:**

- Immediately remove any clothing soiled by the product.
- Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- Remove breathing apparatus only after contaminated clothing have been completely removed.
- In case of irregular breathing or respiratory arrest provide artificial respiration.

**After inhalation:**

- Supply fresh air or oxygen; call for doctor.
- In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Do not give anything to eat or drink - Do not induce vomiting

**Information for Doctor:**

- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

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- **Special hazards arising from the substance or mixture** During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

|           |                     |                        |
|-----------|---------------------|------------------------|
| 7789-09-5 | ammonium dichromate | 0.37 mg/m <sup>3</sup> |
|-----------|---------------------|------------------------|

· **PAC-2:**

|           |                     |                       |
|-----------|---------------------|-----------------------|
| 7789-09-5 | ammonium dichromate | 6.3 mg/m <sup>3</sup> |
|-----------|---------------------|-----------------------|

· **PAC-3:**

|           |                     |                      |
|-----------|---------------------|----------------------|
| 7789-09-5 | ammonium dichromate | 38 mg/m <sup>3</sup> |
|-----------|---------------------|----------------------|

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

7789-09-5 ammonium dichromate

|     |  |
|-----|--|
| PEL | Long-term value: 0.005* mg/m <sup>3</sup><br>Ceiling limit value: 0.1** mg/m <sup>3</sup><br>*as Cr(VI) **as CrO <sub>3</sub> ; see 29 CFR 1910.1026 |
| REL | Long-term value: 0.0002 mg/m <sup>3</sup><br>as Cr; See Pocket Guide Apps. A and C   |
| TLV | Short-term value: 0.0005 mg/m <sup>3</sup><br>Long-term value: 0.0002 mg/m <sup>3</sup><br>as Cr(VI); inhalable, Skin; BEI, DSEN, RSEN               |

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· **Ingredients with biological limit values:**

**7789-09-5 ammonium dichromate**

|     |   |
|-----|---|
| BEI | 25 µg/L<br>Medium: urine<br>Time: end of shift at end of workweek<br>Parameter: Total chromium (fume) |
|     | 10 µg/L<br>Medium: urine<br>Time: increase during shift<br>Parameter: Total chromium (fume)           |

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the eyes.
- Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

**9 Physical and chemical properties**

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

|                         |                                    |
|-------------------------|------------------------------------|
| <b>Form:</b>            | Liquid                             |
| <b>Color:</b>           | According to product specification |
| <b>Odor:</b>            | Characteristic                     |
| <b>Odour Threshold:</b> | Not applicable.                    |

· **pH-value:** Not applicable.

· **Change in condition**

|                                     |                 |
|-------------------------------------|-----------------|
| <b>Melting point/Melting range:</b> | Undetermined.   |
| <b>Boiling point/Boiling range:</b> | 100 °C (212 °F) |

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not applicable.

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|   |   |
|---|---|
| · <b>Auto igniting:</b>                           | Product is not selfigniting.                  |
| · <b>Danger of explosion:</b>                     | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                        |   |
| Lower:  | Not applicable.                               |
| Upper:  | Not applicable.                               |
| · <b>Vapor pressure at 20 °C (68 °F):</b>         | 23 hPa (17.3 mm Hg)                           |
| · <b>Density at 20 °C (68 °F)</b>                 | 1.02784 g/cm <sup>3</sup> (8.57732 lbs/gal)   |
| · <b>Relative density</b>                         | Not applicable.                               |
| · <b>Vapor density</b>                            | Not applicable.                               |
| · <b>Evaporation rate</b>                         | Not applicable.                               |
| · <b>Solubility in / Miscibility with Water:</b>  | Fully miscible.                               |
| · <b>Partition coefficient (n-octanol/water):</b> | Not applicable.                               |
| · <b>Viscosity:</b>                               |   |
| Dynamic:  | Not applicable.                               |
| Kinematic:  | Not applicable.                               |
| · <b>Solvent content:</b>                         |   |
| Water:  | 97.6 %  |
| VOC content:                                      | 0.00 %  |
| Solids content:                                   | 2.4 %   |
| · <b>Other information</b>                        | No further relevant information available.    |

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:**
- Sensitization possible through inhalation.
- Sensitization possible through skin contact.
- **Additional toxicological information:**
- The product shows the following dangers according to internally approved calculation methods for preparations:
- Toxic
- Harmful
- Irritant
- Product is suspected to cause damage to fertility.
- Product is suspected to cause birth defects.
- The product can cause inheritable damage.
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

|                               |   |
|-------------------------------|---|
| 7789-09-5 ammonium dichromate | I |
|-------------------------------|---|

· **NTP (National Toxicology Program)**

|                               |   |
|-------------------------------|---|
| 7789-09-5 ammonium dichromate | K |
|-------------------------------|---|

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· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.



### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- |   |  |
|---|--|
| · <b>UN-Number</b>  | UN3287   |
| · <b>DOT, ADR, IMDG, IATA</b>   |  |
| · <b>UN proper shipping name</b>  | Toxic liquid, inorganic, n.o.s. (ammonium dichromate)      |
| · <b>DOT</b>  | 3287 TOXIC LIQUID, INORGANIC, N.O.S. (ammonium dichromate) |
| · <b>ADR</b>  | TOXIC LIQUID, INORGANIC, N.O.S. (ammonium dichromate)      |
| · <b>IMDG, IATA</b>   |  |
| · <b>Transport hazard class(es)</b>   |  |
| · <b>DOT</b>  |  |
|  |  |
| · <b>Class</b>  | 6.1 Toxic substances                                       |
| · <b>Label</b>  | 6.1  |
| · <b>ADR, IMDG, IATA</b>  |  |
|  |  |
| · <b>Class</b>  | 6.1 Toxic substances                                       |
| · <b>Label</b>  | 6.1  |
| · <b>Packing group</b>  |  |
| · <b>DOT, ADR, IMDG, IATA</b>   | III  |
| · <b>Environmental hazards:</b>   | Not applicable.  |
| · <b>Special precautions for user</b>   | Warning: Toxic substances                                  |
| · <b>Hazard identification number (Kemler code):</b>                                | 60   |
| · <b>EMS Number:</b>  | F-A,S-A  |
| · <b>Stowage Category</b>   | A  |
| · <b>Stowage Code</b>   | SW2 Clear of living quarters.                              |

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|  |  |
|--|--|
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.  |
| · <b>Transport/Additional information:</b>                                       |  |
| · <b>ADR</b>   |  |
| · <b>Excepted quantities (EQ)</b>  | Code: E1<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 1000 ml |
| · <b>IMDG</b>  |  |
| · <b>Limited quantities (LQ)</b>   | 5L   |
| · <b>Excepted quantities (EQ)</b>  | Code: E1<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 1000 ml |
| · <b>UN "Model Regulation":</b>  | UN 3287 TOXIC LIQUID, INORGANIC, N.O.S. (AMMONIUM DICHROMATE), 6.1, III  |

### 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· **Section 313 (Specific toxic chemical listings):**

7789-09-5 ammonium dichromate

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

7789-09-5 ammonium dichromate

· **Proposition 65**

· **Chemicals known to cause cancer:**

7789-09-5 ammonium dichromate

· **Chemicals known to cause reproductive toxicity for females:**

7789-09-5 ammonium dichromate

· **Chemicals known to cause reproductive toxicity for males:**

7789-09-5 ammonium dichromate

· **Chemicals known to cause developmental toxicity:**

7789-09-5 ammonium dichromate

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

7789-09-5 ammonium dichromate

A(inh), D(oral), K/L(inh), CBD(oral)

· **TLV (Threshold Limit Value)**

7789-09-5 ammonium dichromate

AI

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

7789-09-5 ammonium dichromate

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS06

GHS08

- **Signal word** Danger

· **Hazard-determining components of labeling:**

ammonium dichromate

· **Hazard statements**

H331 Toxic if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

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H340 May cause genetic defects.

H350 May cause cancer.

H360 May damage fertility or the unborn child.

H372 Causes damage to the respiratory system through prolonged or repeated exposure.

· **Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P284 [In case of inadequate ventilation] wear respiratory protection.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P321 Specific treatment (see on this label).

P362+P364 Take off contaminated clothing and wash it before reuse.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P342+P311 If experiencing respiratory symptoms: Call a poison center/doctor.

P363 Wash contaminated clothing before reuse.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** product safety department

· **Contact:**

SPEX CertiPrep, LLC.

1-732-549-7144

· **Date of preparation / last revision** 10/05/2021 / -

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEF: Biological Exposure Limit

Acute Tox. 3: Acute toxicity – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 1B: Germ cell mutagenicity – Category 1B

Carc. 1B: Carcinogenicity – Category 1B

Repr. 1B: Reproductive toxicity – Category 1B

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

US