

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Chromium Aluminum Carbide Powder

**Product Code:** CR-ALC-04-P

**CAS Number:** 12179-41-8

**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

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## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture  
Classification according to Regulation (EC) No 1272/2008  
GHS02 Flame  
Flam. Sol. 2 H228 Flammable solid.  
GHS08 Health hazard  
Carc. 2 H351 Suspected of causing cancer.  
Classification according to Directive 67/548/EEC or Directive 1999/45/EC  
Xn; Harmful  
R40: Limited evidence of a carcinogenic effect.  
F; Highly flammable  
R11: Highly flammable.  
Information concerning particular hazards for human and environment:  
Not applicable  
Hazards not otherwise classified  
No information known.  
Label elements  
Labelling according to Regulation (EC) No 1272/2008  
The substance is classified and labeled according to the CLP regulation.  
Hazard pictograms



GHS02 GHS08

Signal word: Warning

Hazard statements

H228 Flammable solid.

H351 Suspected of causing cancer.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

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

P281 Use personal protective equipment as required.

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

P405 Store locked up.

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

WHMIS classification

B4 - Flammable solid

D2B - Toxic material causing other toxic effects

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

Health (acute effects) = 1

Flammability = 2

Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Substances

CAS# Description:

7440-47-3 Chromium

1299-86-1 Aluminum Carbide

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## SECTION 4. FIRST AID MEASURES

Description of first aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing

Seek medical treatment.

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.

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## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media  
Suitable extinguishing agents  
Special powder for metal fires. Do not use water.  
For safety reasons unsuitable extinguishing agents  
Water  
Special hazards arising from the substance or mixture  
If this product is involved in a fire, the following can be released:  
Toxic metal oxide fume  
Advice for firefighters  
Protective equipment:  
Wear self-contained respirator.  
Wear fully protective impervious suit.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Keep away from ignition sources  
Environmental precautions:  
Do not allow material to be released to the environment without proper governmental permits.  
Do not allow product to reach sewage system or any water course.  
Do not allow to penetrate the ground/soil.  
Methods and material for containment and cleaning up:  
Keep away from ignition sources.  
Dispose of contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
Prevention of secondary hazards:  
Keep away from ignition sources.  
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.

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## **SECTION 7. HANDLING AND STORAGE**

Handling  
Precautions for safe handling  
Keep container tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation at the workplace.  
Information about protection against explosions and fires:  
Protect against electrostatic charges.

Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and receptacles:

Store in a cool location.

Information about storage in one common storage facility:

Store away from oxidizing agents.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Specific end use(s)

No further relevant information available.

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace:

7440-47-3 Chromium (100.0%)

PEL (USA) Long-term value: 1\* 0.5\*\* mg/m<sup>3</sup>

\*metal;\*\*inorganic compds., as Cr

REL (USA) Long-term value: 0.5\* mg/m<sup>3</sup>

\*metal+inorg.compds.as Cr;See Pocket Guide App. C

TLV (USA) Long-term value: 0.5 mg/m<sup>3</sup>

EL (Canada) Short-term value: C 0.1\*\*\* ppm

Long-term value: 0.5\* 0.01\*\* 0.025\*\*\* mg/m<sup>3</sup>

IARC1,ACGIH A1;\*metal, inorg.\*\*insol.;;\*\*water-sol.

EV (Canada) Long-term value: 0.05 mg/m<sup>3</sup>

Additional information: No data

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Maintain an ergonomically appropriate working environment.

Breathing equipment:

Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Penetration time of glove material (in minutes): Not determined

Eye protection: Safety glasses

Body protection: Protective work clothing.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

## Information on basic physical and chemical properties

### General Information

Appearance:

Form: Powder

Color: Not determined.

Odor: Not determined.

Odor threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range: Not determined.

Boiling point/Boiling range: Not determined.

Sublimation temperature / start: Not determined

Flammability (solid, gaseous): Not determined.

Ignition temperature: Not determined

Decomposition temperature: Not determined

Auto igniting: Not determined.

Danger of explosion: Not determined.

Explosion limits:

Lower: Not determined

Upper: Not determined

Vapor pressure at 20 °C (68 °F): Not determined.

Density at 20 °C (68 °F): Not determined.

Bulk density at 20 °C (68 °F): Not determined.

Relative density: Not determined.

Vapor density: Not applicable.

Evaporation rate: Not applicable.

Solubility in / Miscibility with Water: Not determined.

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

dynamic: Not applicable.

kinematic: Not applicable.

Other information

No further relevant information available.

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## SECTION 10. STABILITY AND REACTIVITY

Reactivity

No information known.

Chemical stability

Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions

No dangerous reactions known

Conditions to avoid

No further relevant information available.

Incompatible materials:

Oxidizing agents

Hazardous decomposition products:

Toxic metal oxide fume

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## SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

LD/LC50 values that are relevant for classification: No data

Skin irritation or corrosion: May cause irritation

Eye irritation or corrosion: May cause irritation

Sensitization: No sensitizing effects known.

Germ cell mutagenicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

Carcinogenicity:

Suspected of causing cancer.

IARC-3: Not classifiable as to carcinogenicity to humans.

ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

(inhalation) EPA-A: human carcinogen: sufficient evidence from epidemiologic studies to support a causal association between exposure and cancer.

(inhalation) EPA-K: Known human carcinogens.

(oral) EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available.

(oral) EPA-CBD: Carcinogenic potential cannot be determined.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.

Reproductive toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

Specific target organ system toxicity - repeated exposure: No effects known.

Specific target organ system toxicity - single exposure: No effects known.

Aspiration hazard: No effects known.

Subacute to chronic toxicity: No effects known.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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## SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity:

No further relevant information available.

Persistence and degradability

No further relevant information available.

Bioaccumulative potential

No further relevant information available.

Mobility in soil

No further relevant information available.

Additional ecological information:

General notes:

Do not allow material to be released to the environment without proper governmental permits.

Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.

Avoid transfer into the environment.

Results of PBT and vPvB assessment  
PBT: Not applicable.  
vPvB: Not applicable.  
Other adverse effects  
No further relevant information available.

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods  
Recommendation  
Consult state, local or national regulations to ensure proper disposal.  
Uncleaned packagings:  
Recommendation:  
Disposal must be made according to official regulations.

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## **SECTION 14. TRANSPORT INFORMATION**

UN-Number  
DOT, IMDG, IATA  
UN3089  
UN proper shipping name  
DOT  
RQ Metal powders, flammable, n.o.s. (Chromium powder)  
IMDG, IATA  
METAL POWDER, FLAMMABLE, N.O.S. (Chromium powder)  
Transport hazard class(es)  
DOT  
Class  
4.1 Flammable solids, self-reactive substances and solid desensitised explosives.  
Label  
4.1  
Class  
4.1 (F3) Flammable solids, self-reactive substances and solid desensitised explosives  
Label  
4.1  
IMDG, IATA  
Class  
4.1 Flammable solids, self-reactive substances and solid desensitised explosives.  
Label  
4.1  
Packing group  
DOT, IMDG, IATA  
III  
Environmental hazards:  
Not applicable.  
Special precautions for user  
Warning: Flammable solids, self-reactive substances and solid desensitised explosives  
EMS Number:  
F-G,S-G  
Segregation groups  
Heavy metals and their salts (including their organometallic compounds), powdered metals

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  
Not applicable.  
Transport/Additional information:  
DOT  
Hazardous substance:  
5000 lbs, 2270 kg  
Marine Pollutant (DOT):  
No  
UN "Model Regulation":  
UN3089, Metal powders, flammable, n.o.s. (Chromium powder), 4.1, III

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## **SECTION 15. REGULATORY INFORMATION**

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

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings)

7440-47-3 Chromium

California Proposition 65

Prop 65 - Chemicals known to cause cancer

Substance is not listed.

Prop 65 - Developmental toxicity

Substance is not listed.

Prop 65 - Developmental toxicity, female

Substance is not listed.

Prop 65 - Developmental toxicity, male

Substance is not listed.

Information about limitation of use:

For use only by technically qualified individuals.

This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.

Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use)

Substance is not listed.

REACH - Pre-registered substances

Substance is listed.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

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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



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