

Chromium Balls	Pricing >
Chromium Band	Pricing >
Chromium Bars	Pricing >
Chromium Block	Pricing >
Chromium Chips	Pricing >
Chromium Chunk	Pricing >
Chromium Coil	Pricing >
Chromium Concentrate	Pricing >
Chromium Crucibles	Pricing >
Chromium Crystallite Pieces	Pricing >
Chromium Cubes	Pricing >
Chromium Cylinder	Pricing >
Chromium Disc	Pricing >
Chromium Flake	Pricing >
Chromium Flange	Pricing >
Chromium Foil	Pricing >
Chromium Granules	Pricing >
Chromium Grit	Pricing >
Chromium Ingot	Pricing >
Chromium Lump	Pricing >
Chromium Mesh	Pricing >
Chromium Metal	Pricing >
Chromium Microfoil	Pricing >
Chromium Microleaf	Pricing >
Chromium Nanoparticle Dispersion	Pricing >
Chromium Nanoparticles	Pricing >
Chromium Nanoprisms	Pricing >
Chromium Nanorods	Pricing >
Chromium Particles	Pricing >
Chromium Parts	Pricing >

Chromium Pellets	Pricing >
Chromium Pieces	Pricing >
Chromium Plate	Pricing >
Chromium Powder	Pricing >
Chromium Puck	Pricing >
Chromium Ribbon	Pricing >
Chromium Ring	Pricing >
Chromium Rod	Pricing >
Chromium Rotatable Sputtering Target	Pricing >
Chromium Samples	Pricing >
Chromium Shavings	Pricing >
Chromium Sheet	Pricing >
Chromium Shot	Pricing >
Chromium Single Crystal	Pricing >
Chromium Sleeves	Pricing >
Chromium Slugs	Pricing >
Chromium Specimen	Pricing >
Chromium Spheres	Pricing >
Chromium Spring	Pricing >
Chromium Sputtering Target	Pricing >
Chromium Strip	Pricing >
Chromium Tape	Pricing >
Chromium Tube	Pricing >
Chromium Wafer	Pricing >
Chromium Wire	Pricing >
Ultra Thin Chromium Nanoscale Foil	Pricing >

Linear Formula	Cr
Pubchem CID	23976
MDL Number	MFCD00010944
EC No.	231-157-5
Beilstein/Reaxys No.	N/A
SMILES	[Cr]
Inchl Identifier	InChI=1S/Cr
Inchl Key	VYZAMTAEIAYCRO-UHFFFAOYSA-N

Signal Word	Warning
Hazard Statements	H400
Hazard Codes	N/A
Risk Codes	N/A
Safety Statements	N/A
RTECS Number	GB4200000
Transport Information	N/A
WGK Germany	3

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SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #7440-47-3

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:
Domestic, North America +1 800-424-9300
International +1 703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
The substance is not classified as hazardous to health or the environment according to the CLP regulation.
Classification according to Directive 67/548/EEC or Directive 1999/45/EC
N/A
Information concerning particular hazards for human and environment:
No data available
Hazards not otherwise classified

No data available
Label elements
Labelling according to Regulation (EC) No 1272/2008
N/A
Hazard pictograms
N/A
Signal word
N/A
Hazard statements
N/A
WHMIS classification
Not controlled
Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)
HEALTH
FIRE
REACTIVITY
0
0
0
Health (acute effects) = 0
Flammability = 0
Physical Hazard = 0
Other hazards
Results of PBT and vPvB assessment
PBT:
N/A
vPvB:
N/A

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances
CAS No. / Substance Name:
7440-47-3 Chromium
Identification number(s):
EC number: 231-157-5

SECTION 4. FIRST AID MEASURES

Description of first aid measures
General information No special measures required.
If inhaled: Seek medical treatment in case of complaints.
In case of skin contact: Generally the product does not irritate the skin.
In case of eye contact:
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

If swallowed:
If symptoms persist consult doctor.
Information for doctor
Most important symptoms and effects, both acute and delayed
No data available
Indication of any immediate medical attention and special treatment needed
No data available

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
In case of fire, the following can be released:
Toxic metal oxide fume
Advice for firefighters
Protective equipment: No special measures required.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Not required.
Environmental precautions:
Do not allow material to be released to the environment without official permits.
Methods and materials for containment and cleanup:
Pick up mechanically.
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.

SECTION 7. HANDLING AND STORAGE

Handling
Precautions for safe handling
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Information about protection against explosions and fires:
No special measures required.
Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles:
No special requirements.
Information about storage in one common storage facility:
No data available
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well-sealed containers.
Specific end use(s)
No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems:
No further data; see section 7.
Control parameters
Components with limit values that require monitoring at the workplace:
7440-47-3 Chromium (100.0%)
PEL (USA) Long-term value: $1 * 0.5^{**} \text{ mg/m}^3$
*metal; **inorganic compds., as Cr
REL (USA) Long-term value: 0.5^{*} mg/m^3
*metal+inorg.compds.as Cr; See Pocket Guide App. C
TLV (USA) Long-term value: 0.5 mg/m^3
EL (Canada) Short-term value: C 0.1^{***} ppm
Long-term value: $0.5^{*} 0.01^{**} 0.025^{***} \text{ mg/m}^3$
IARC1,ACGIH A1;*metal, i
norg. **insol.; **water-sol.
EV (Canada) Long-term value: 0.05 mg/m^3
Additional information:
No data
Exposure controls
Personal protective equipment
Follow typical protective and hygienic practices for handling chemicals.
Maintain an ergonomically appropriate working environment.
Breathing equipment:
Not required.
Protection of hands:
Not required.
Penetration time of glove material (in minutes)
No data available
Eye protection:
Safety glasses
Body protection:
Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Form: Solid in various forms

Color: Grey

Odor: Odorless

Odor threshold: No data available.

pH: N/A

Melting point/Melting range: 1907 °C (3465 °F)

Boiling point/Boiling range: 2671 °C (4840 °F)

Sublimation temperature / start: No data available

Flammability (solid, gas)

No data available.

Ignition temperature: No data available

Decomposition temperature: No data available

Autoignition: No data available.

Danger of explosion: No data available.

Explosion limits:

Lower: No data available

Upper: No data available

Vapor pressure at 20 °C (68 °F): 0 hPa

Density at 20 °C (68 °F): 7.19 g/cm³ (60.001 lbs/gal)

Bulk density at 20 °C (68 °F): 3300 kg/m³

Relative density

No data available.

Vapor density

N/A

Evaporation rate

N/A

Solubility in Water (H₂O): Insoluble

Partition coefficient (n-octanol/water): No data available.

Viscosity:

Dynamic: N/A

Kinematic: N/A

Other information

No data available

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 data available
Incompatible materials:
No data available
Hazardous decomposition products:
Toxic metal oxide fume

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:

Generally the product does not irritate the skin.

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:

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.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
Aquatic toxicity:
No data available
Persistence and degradability
No data available
Bioaccumulative potential
No data available
Mobility in soil
No data available
Additional ecological information:
Do not allow material to be released to the environment without official permits.
Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems.
Avoid transfer into the environment.
Results of PBT and vPvB assessment
PBT:
N/A
vPvB:
N/A
Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

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

SECTION 14. TRANSPORT INFORMATION

UN-Number

DOT, ADN, IMDG, IATA
N/A
UN proper shipping name
DOT, ADN, IMDG, IATA
N/A
Transport hazard class(es)
DOT, ADR, ADN, IMDG, IATA
Class
N/A
Packing group
DOT, IMDG, IATA
N/A
Environmental hazards:
N/A
Special precautions for user
N/A
Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code
N/A
Transport/Additional information:
DOT
Marine Pollutant (DOT):
No

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.
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.

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.
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