

SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifier: (5N) 99.999% Cobalt Chromate

Product Code: CO2-CRAT-05

CAS Number: 13455-25-9

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

Classification according to Regulation (EC) No 1272/2008

GHS08 health hazard

Carc. 1B H350i May cause cancer by inhalation.

GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

GHS07

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

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

T; Toxic

R49: May cause cancer by inhalation.

Xi; Sensitising

R43: May cause sensitisation by skin contact.

N; Dangerous for the environment

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information concerning particular hazards for human and environment: Not applicable

Other hazards that do not result in classification No information known.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled

according to the CLP regulation.

Hazard pictograms

GHS07 GHS08 GHS09

Signal word Danger

Hazard statements

H317 May cause an allergic skin reaction.

H350i May cause cancer by inhalation.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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

P281 Use personal protective equipment as required.

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

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

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

CAS# Designation:

13455-25-9 Cobalt (II) chromate

Identification number(s):

EC number: 236-651-4

Index number: 024-017-00-8

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

After skin contact

Instantly 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 doctor.

After swallowing Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

5.2 Special hazards arising from the substance or mixture

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

If this product is involved in a fire, the following can be released:

Toxic metal oxide smoke

5.3 Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

6.2 Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.

6.3 Methods and material for containment and cleaning up:

Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

Prevention of secondary hazards:

Acts as an oxidizing agent on organic materials such as wood, paper and fats

Keep away from combustible material.

6.4 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 information on disposal.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Keep containers tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation/exhaustion at the workplace.

Open and handle container with care.

Information about protection against explosions and fires:

Substance/product can reduce the ignition temperature of flammable substances.

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

7.2 Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and containers: No special requirements.

Information about storage in one common storage facility:

Store away from flammable substances.

Store away from reducing agents.

Do not store with organic materials.

Store away from metal powders.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Store in a locked cabinet or with access restricted to technical experts or their assistants.

7.3 Specific end use(s) No further relevant information available.

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.

8.1 Control parameters

Components with critical values that require monitoring at the workplace:

Chromium (VI) compounds, as Cr

mg/m³

ACGIH TLV 0.05; Confirmed human carcinogen

Belgium TWA 0.01 (insoluble)

0.05 (water soluble)

Germany MAK 0.1 (production)(water soluble)

0.5 (other applications)(water soluble)

Netherlands MAC-TGG 0.01 (water insoluble)

0.025 (water soluble)

0.05-STEEL (water soluble)

Poland TWA 0.025; 0.05-STEEL

Sweden TWA 0.02

United Kingdom TWA 0.05

USA PEL 0.005

Cobalt, elemental & inorganic compounds, as Co
mg/m³

ACGIH TLV 0.02; Confirmed animal carcinogen

Austria Carcinogen

Belgium TWA 0.05

Denmark TWA 0.05

Finland TWA 0.05 (skin)

Germany Carcinogen

Hungary TWA 0.1; 0.2-STEEL

Japan OEL 0.05; 2B Carcinogen

Korea TLV 0.02; Confirmed animal carcinogen

Ireland TWA 0.1

Netherlands MAC-TGG 0.05

Norway TWA 0.05

Poland TWA 0.05; 0.2-STEEL

Russia 0.5-STEEL

Sweden NGV 0.05

Switzerland MAK-W 0.1; Carcinogen

United Kingdom TWA 0.1

USA PEL 0.1 (dust and fume)

Additional information: No data

8.2 Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Store protective clothing separately.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use breathing protection with high concentrations.

Protection of hands:

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

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.

Material of gloves Impervious gloves

Eye protection: Safety glasses

Body protection: Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form: Powder

Colour: Brown

Smell: Odourless

Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range: Decomposes

Boiling point/Boiling range: Not determined

Sublimation temperature / start: Not determined

Flash point: Not applicable

Inflammability (solid, gaseous) Contact with combustible material may cause fire.

Ignition temperature: Not determined

Decomposition temperature: Not determined

Self-inflammability: Not determined.

Danger of explosion: Product is not explosive.

Critical values for explosion:

Lower: Not determined

Upper: Not determined

Steam pressure: Not applicable.

Density Not determined

Relative density Not determined.

Vapour density Not applicable.

Evaporation rate Not applicable.

Solubility in / Miscibility with Water: Insoluble

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

Viscosity:

dynamic: Not applicable.

kinematic: Not applicable.

9.2 Other information No further relevant information available.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity No information known.

10.2 Chemical stability Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to

specifications.

10.3 Possibility of hazardous reactions

Reacts with reducing agents

Reacts with flammable substances

10.4 Conditions to avoid No further relevant information available.

10.5 Incompatible materials:

Flammable substances

Reducing agents

Organic materials

Metal powders

10.6 Hazardous decomposition products: Toxic metal oxide smoke

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity: No effects known.

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

Skin irritation or corrosion:

Corrosive effect on skin and mucous membranes.

Irritant for skin and mucous membranes.

Eye irritation or corrosion:

Strong corrosive effect.

Irritant effect.

Sensitization: May cause an allergic skin reaction.

Germ cell mutagenicity: No effects known.

Carcinogenicity:

May cause cancer.

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

IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.

ACGIH A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies of, or convincing clinical evidence in, exposed humans.

NTP-K: Known to be carcinogenic: sufficient evidence from human studies.

Reproductive toxicity: No effects known.

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

12.1 Toxicity

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

Ecotoxicological effects:

Remark: Very toxic for fish

Additional ecological information:

General notes:

Do not allow product to reach ground water, water bodies or sewage system.

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

Water hazard class 2 (Self-assessment): hazardous for water.

Danger to drinking water if even small quantities leak into soil.

Also poisonous for fish and plankton in water bodies.

May cause long lasting harmful effects to aquatic life.

Avoid transfer into the environment.

Very toxic for aquatic organisms

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

SECTION 13. DISPOSAL CONSIDERATIONS

Recommendation

Hand over to disposers of hazardous waste.

Must be specially treated under adherence to official regulations.

Consult state, local or national regulations for proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number

ADR, IMDG, IATA UN3087

14.2 UN proper shipping name

ADR 3087 OXIDIZING SOLID, TOXIC, N.O.S. (Cobalt (II) chromate)

IMDG, IATA OXIDIZING SOLID, TOXIC, N.O.S. (Cobalt (II) chromate)

14.3 Transport hazard class(es)

ADR

Class 5.1 (OT2) Oxidising substances.

Label 5.1+6.1

IMDG, IATA

Class 5.1 Oxidising substances.

Label 5.1+6.1

Packing group

ADR, IMDG, IATA III

14.5 Environmental hazards: Environmentally hazardous substance, solid

14.6 Special precautions for user Warning: Oxidising substances.

Kemler Number: 56

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC

Code Not applicable.

Transport/Additional information:

ADR

Excepted quantities (EQ): E1

Limited quantities (LQ) 5 kg

Transport category 3

Tunnel restriction code E

UN "Model Regulation": UN3087, OXIDIZING SOLID, TOXIC, N.O.S. (Cobalt (II) chromate), 5.1 (6.1), III

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Australian Inventory of Chemical Substances Substance is not listed.

Standard for the Uniform Scheduling of Drugs and Poisons Substance is not listed.

National regulations

Information about limitation of use:

Employment restrictions concerning young persons must be observed.

For use only by technically qualified individuals.

Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.

Other regulations, limitations and prohibitive regulations

ELINCS (European List of Notified Chemical Substances) Substance is not listed.

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.

15.2 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. 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 1997-2019 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.