SECTION 1. IDENTIFICATION

Product Identifier: (2N) 99% Cobalt(II) Chromate

Product Code: CO2-CRAT-02

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
Section 5. Special Hazards and Accidental Release Measures

5.1 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-STEL (water soluble)
Poland TWA 0.025; 0.05-STEL
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-STEL
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-STEL
Russia 0.5-STEL
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

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
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
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