

SAFETY DATA SHEET

Date Printed: 05/17/2024 Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifier: (5N) 99.999% Cobalt 2-Ethylhexanoate

Product Code: CO-2EH-05-LIQ

CAS Number: 136-52-7

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

Classification of the substance or mixture GHS02 Flame Flam. Liq. 3 H226 Flammable liquid and vapor. GHS06 Skull and crossbones Acute Tox. 3 H301 Toxic if swallowed. GHS08 Health hazard Carc. 2 H351 Suspected of causing cancer. GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS). Hazard pictograms



GHS02 GHS06 GHS08 Signal word Danger Hazard-determining components of labeling: cobalt bis(2-ethylhexanoate) Hazard statements H226 Flammable liquid and vapor. H301 Toxic if swallowed. H351 Suspected of causing cancer. Precautionary statements P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P103 Read label before use. P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P280 Wear protective gloves/protective clothing/eye protection/face protection. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses. if present and easy to do. Continue rinsing. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P501 Dispose of contents/container in accordance with local/regional/national/international regulations. Classification system: NFPA ratings (scale 0 - 4) 2 2 0 Health = 2Fire = 2Reactivity = 0HMIS-ratings (scale 0 - 4) HEALTH FIRE REACTIVITY 2 2 0 Health = 2Fire = 2Reactivity = 0Other hazards Results of PBT and vPvB assessment PBT: N/A vPvB: N/A

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: 136-52-7 cobalt bis(2-ethylhexanoate)

SECTION 4. FIRST AID MEASURES

Description of first aid measures General information: Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident. If inhaled: Supply fresh air; consult doctor 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 swallowed: Immediately call a 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: CO2, sand, extinguishing powder. Do not use water. For safety reasons unsuitable extinguishing agents: Water with full jet Special hazards arising from the substance or mixture No data available Advice for firefighters Protective equipment: No special measures required.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep unprotected persons away.

Environmental precautions: No special measures required.

Methods and materials for containment and cleanup:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

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

Precautions for safe handling Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols. Information about protection against explosions and fires: Keep ignition sources away - Do not smoke. Protect against electrostatic charges. 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: Not required. Further information about storage conditions: Keep receptacle tightly sealed. Specific end use(s) No data available

SECTION 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: 136-52-7 cobalt bis(2-ethylhexanoate) TLV Long-term value: 0.02 mg/m³ as Co. BEI 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. Wash hands before breaks and at the end of work. Breathing equipment: 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: 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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties Appearance: Form: Liquid Color: Violet Odor: Characteristic Odor threshold: No data available. pH: No data available. Melting point/Melting range: Undetermined. Boiling point/Boiling range: Undetermined. Flash point: 40 °C (104 °F) Flammability (solid, gas): N/A

Ignition temperature: 229 °C (444 °F) Decomposition temperature: No data available. Autoignition: Product is not selfigniting. Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible. **Explosion limits:** Lower: 0.7 Vol % Upper: 8.9 Vol % Vapor pressure: No data available. Density: No data available. Relative density No data available. Vapor density No data available. Evaporation rate No data available. Solubility in / Miscibility with Water: Not miscible or difficult to mix. Partition coefficient (n-octanol/water): No data available. Viscosity: Dynamic: No data available. Kinematic: No data available. Solvent content: Organic solvents: 0.0 % Other information No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity 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 data available Incompatible materials: No data available Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects Acute toxicity: Primary irritant effect: on the skin: No irritant effect. on the eye: No irritating effect. Sensitization: No sensitizing effects known. Additional toxicological information: The product shows the following dangers according to internally approved calculation methods for preparations: Harmful Carcinogenic categories IARC (International Agency for Research on Cancer) 136-52-7 cobalt bis(2-ethylhexanoate) 2B NTP (National Toxicology Program) None of the ingredients is listed.

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: Not known to be hazardous to water. 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: Must not be disposed of together with household garbage. Do not allow product to enter drains, sewage systems, or other water courses system. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number DOT, IMDG, IATA UN1993 UN proper shipping name DOT Flammable liquids, n.o.s. IMDG, IATA FLAMMABLE LIQUID, N.O.S. Transport hazard class(es) DOT **Class 3 Flammable liquids** Label 3 IMDG, IATA Class 3 Flammable liquids Label 3 Packing group DOT, IMDG, IATA III Environmental hazards: Marine pollutant: No Special precautions for user Warning: Flammable liquids EMS Number: F-E,S-E Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code N/A Transport/Additional information: DOT Quantity limitations On passenger aircraft/rail: 60 L

On cargo aircraft only: 220 L IMDG Limited quantities (LQ) 5L Excepted quantities (EQ) Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml UN "Model Regulation": UN1993, Flammable liquids, n.o.s., 3, III

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture Sara Section 355 (extremely hazardous substances): None of the ingredients is listed. Section 313 (Specific toxic chemical listings): All ingredients are listed. TSCA (Toxic Substances Control Act): All ingredients are listed. **Proposition 65** Chemicals known to cause cancer: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Carcinogenic categories EPA (Environmental Protection Agency) None of the ingredients is listed. TLV (Threshold Limit Value established by ACGIH) None of the ingredients is listed. NIOSH-Ca (National Institute for Occupational Safety and Health) None of the ingredients is listed. GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS). Hazard pictograms ~?GHS02~?GHS06~?GHS08 Signal word Danger Hazard-determining components of labeling: cobalt bis(2-ethylhexanoate) Hazard statements H226 Flammable liquid and vapor. H301 Toxic if swallowed. H351 Suspected of causing cancer. Precautionary statements P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P103 Read label before use. P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P280 Wear protective gloves/protective clothing/eye protection/face protection. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if
present and easy to do. Continue rinsing.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
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 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.