

MATERIAL SAFETY DATA SHEET

Manufacturer: Strem Chemicals, Inc
7 Mulliken Way
Newburyport, MA 01950-4098 U.S.A.
www.strem.com

Strem Customer Service (978) 499-1600
CHEMTREC (Emergency Only) (800) 424-9300
Poison Center (800) 562-8236

Section 1: Product Identification

Chemical Name: Tetracobalt dodecacarbonyl, min. 98%
Product Number: 27-1950
CAS Registry Number: 17786-31-1
Formula: Co₄(CO)₁₂
EINECS Number: none
Chemical Family: metal carbonyl complexes
Synonym: Dodecacarbonyl tetracobalt

Section 2: Composition and Information on Ingredients

| Ingredient | CAS Number | Percent | ACGIH (TWA) | OSHA (PEL) |
|----------------|------------|---------|-----------------------|------------|
| Title Compound | 17786-31-1 | 100% | 0.02mg/m ³ | no data |

Section 3: Hazards Identification

Emergency Overview: Vapor may be harmful. Inhalation may lead to headaches and dizziness. Limited evidence of a carcinogenic effect.

Primary Routes of Exposure: Ingestion, inhalation

Eye Contact: May cause mild irritation to the eyes.

Skin Contact: May cause mild irritation to the skin.

Inhalation: Inhalation could lead to dizziness and headache.

Ingestion: No information available on the effects from ingestion.

Acute Health Affects: Inhalation could lead to headache and dizziness.

Chronic Health Affects: Cobalt is a suspected carcinogen of the lungs and connective tissue.

NTP: No

IARC: Yes

OSHA: No

SECTION 4: First Aid Measures

Eye Exposure: Immediately flush the eyes with copious amounts of water for at least 15 minutes. A victim will need assistance in keeping their eye lids open. Get immediate medical attention.

Skin Exposure: Wash the affected area immediately with water. Remove contaminated clothing if necessary. Seek medical assistance if irritation persists.

Inhalation: Remove victim to fresh air immediately. Keep the victim lying down and warm. Give oxygen as soon as possible. If shock occurs, respond with appropriate first aid. Transport the victim to a hospital.

Ingestion: Seek medical attention immediately. Keep the victim calm. Give water to dilute the toxin (only if conscious). Induce vomiting only if directed by medical personnel.

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| SECTION 5: Fire Fighting Measures | |
|--|---|
| Flash Point: | not applicable |
| Autoignition Temperature: | no data |
| Explosion Limits: | no data |
| Extinguishing Medium: | carbon dioxide, dry chemical or foam |
| Special Fire Fighting Procedures: | If involved in a fire, fire fighters should be equipped with a NIOSH-approved positive pressure self-contained breathing apparatus. |
| Hazardous Combustion and Decomposition Products: | carbon monoxide, carbon dioxide, and cobalt oxide dust. |
| Unusual Fire or Explosion Hazards: | Flammable solid. No unusual fire or explosion hazards. |

| SECTION 6: Accidental Release Measures | |
|---|--|
| Spill and Leak Procedures: | Small quantities can be mixed with sodium carbonate or vermiculite and swept up. |

| SECTION 7: Handling and Storage | |
|--|--|
| Handling and Storage: | Store in a cool, dry, well-ventilated area away from heat and direct sunlight. Keep containers tightly sealed. |

| SECTION 8: Exposure Controls and Personal Protection | |
|---|---|
| Eye Protection: | Always wear approved safety glasses when handling chemical substances. |
| Skin Protection: | Wear protective clothing and gloves. Consult with glove manufacturer to determine the proper type of glove. |
| Ventilation: | This product should be handled in an efficient fume hood. |
| Respirator: | If ventilation is not available a respirator should be worn. The use of respirators requires a Respirator Protection Program to be in compliance 29 CFR 1910.134. |
| Ventilation: | This product should be handled in an efficient fume hood. |
| Additional Protection: | No additional protection required. |

| SECTION 9: Physical and Chemical Properties | |
|--|------------|
| Color and Form: | black xtl. |
| Molecular Weight: | 571.85 |
| Melting Point: | 60° dec. |
| Boiling Point: | no data |
| Vapor Pressure: | no data |
| Specific Gravity: | 2.09 |
| Odor: | none |
| Solubility in Water: | Insoluble |

| SECTION 10: Stability and Reactivity | |
|---|---|
| Stability: | air sensitive, (store cold) |
| Hazardous Polymerization: | no hazardous polymerization |
| Conditions to Avoid: | prolonged exposure to air. |
| Incompatibility: | Oxidizing agents and halogens |
| Decomposition Products: | carbon dioxide, carbon monoxide, cobalt oxide |

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SECTION 11: Toxicological Information

RTECS Data: No specific information available on this product.
Carcinogenic Effects: No data available
Mutagenic Effects: No data available
Tetratogenic Effects: No data available

SECTION 12: Ecological Information

Ecological Information: No information available.

SECTION 13: Disposal Considerations

Disposal: Dispose of this material according to local, state and federal regulations.

SECTION 14: Transportation

Shipping Name (CFR): Flammable solids, inorganic, N.O.S.
Hazard Class (CFR): 4.1
Additional Hazard Class (CFR): NA
Packaging Group (CFR): II
UN ID Number (CFR): UN# 3178
Shipping Name (IATA): Flammable solid, inorganic, N.O.S.
Hazard Class (IATA): 4.1
Additional Hazard Class (IATA): NA
Packaging Group (IATA): II
UN ID Number (IATA): UN# 3178

SECTION 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARA (Title 313): Title compound: See Category Code N096 for reporting.
Second Ingredient: none
Third Ingredient: none

SECTION 16: Other Information

Disclaimer: The information herein is believed to be accurate and reliable as of the date compiled. However, Strem Chemicals, Inc. makes no representation, warranty, or guarantee of any kind with respect to the information contained in this document or any use of the product based on this information.
Preparation Date: 8/07/2000
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