



SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS Standards, Australian WorkSafe, Japanese Industrial Standard JIS Z 7250:2000, and European Directives

1. PRODUCT IDENTIFICATION

TRADE NAME (AS LABELED): Cobalt Oxide
SYNONYMS: Tricobalt tetroxide; tricobalt tetroxide; cobalto-cobaltic oxide
CHEMICAL SHIPPING NAME/CLASS: Cobalt Oxide **Non-Regulated**
U.N. NUMBER: None
MANUFACTURER'S NAME: Various Manufacturers
DISTRIBUTOR NAME: **Hunter Chemical LLC**
ADDRESS: 220 Commerce Drive, Suite 405, Fort Washington, PA 19034
EMERGENCY PHONE: (800) 424-9300 (CHEMTREC)
BUSINESS PHONE: (215) 461-1900
DATE OF PREPARATION: February 10, 2011
DATE OF REVISION: New
DATE OF REVIEW: January 03, 2013

2. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: Warning!

Product Description: This product is a green, red, gray, or black powder (solid) with no odor.

Health Hazards: Harmful if swallowed or inhaled. Causes irritation to skin, eyes and respiratory tract. May cause allergic skin or respiratory reaction. Chronic exposure may affect thyroid, lungs, heart and kidneys.

Flammability Hazards: Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Reactivity Hazards: This product is not reactive.

Environmental Hazards: Release of the product may cause adverse effects to the aquatic environment.

Emergency Recommendations: Emergency responders must have personal protective equipment and fire protection appropriate for the situation to which they are responding.

EU LABELING AND CLASSIFICATION: This product meets the definition of a hazardous substance or preparation according to EU Regulations (EC) No 1272/2008.

EC# 215-157-2 is not classified in the Annex I of Directive 67/548/EEC

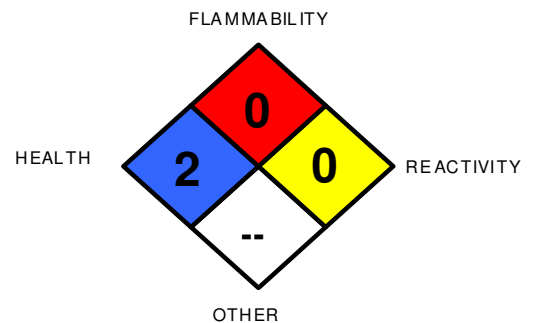
GHS CLASSIFICATIONS:

Acute Toxicity Category 4
 Resp. Sensitizer Category 4
 Skin Sensitizer Category 1

SIGNAL WORD : Warning !



HAZARDOUS MATERIAL IDENTIFICATION SYSTEM			
HEALTH HAZARD (BLUE)		2	
FLAMMABILITY HAZARD (RED)		0	
REACTIVITY (YELLOW)		0	
PROTECTIVE EQUIPMENT			
EYES	RESPIRATORY	HANDS	BODY
	SEE SECTION 8		SEE SECTION 8
For Routine Industrial Use and Handling Applications			



HAZARD STATEMENT:

H351 Suspected of causing cancer
 H302 Harmful if swallowed
 H334 May cause allergy or breathing difficulties if inhaled
 H317 May cause an allergic skin reaction

Scale: 0 = Minimal 1 = Slight 2 = Moderate
3 = Serious 4 = Severe * = Chronic hazard

PREVENTION STATEMENT :

P202 Do not handle until all safety precautions have been read and understood
 P261 Avoid breathing dust/fume/gas/mist/vapor/spray
 P272 Contaminated work clothing should not be allowed out of the workplace



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P280 Wear protective gloves/protective clothing/eye protection/face protection
P281 Use personal protective equipment as required

RESPONSE STATEMENT:

P321 Specific treatment is advised – see first aid instructions
P363 Wash contaminated clothing before reuse
P302 + P352 IF ON SKIN: Wash with plenty of soap and water
P308 + P313 IF exposed or concerned: Get medical advice/attention
P333 + P313 IF skin irritation or rash occurs: Get medical advice/attention

HEALTH EFFECTS OR RISKS FROM EXPOSURE:

ACUTE: Inhalation: Causes irritation to the respiratory tract, symptoms may include coughing, shortness of breath, and nausea. Respiratory hypersensitivity, asthma may appear. Inhalation of cobalt dust and fumes is associated with an increased incidence of lung disease. Ingestion: Causes abdominal pain, nausea, vomiting, flushing of the face and ears, mild hypotension, rash, and ringing in the ears. May have cumulative toxic action where elimination cannot keep pace with absorption. Large amounts depress erythrocyte production. Skin Contact: May cause dermatitis. Causes irritation to skin. Symptoms include redness, itching, and pain. Eye Contact: Causes irritation, redness, and pain.

CHRONIC: Repeated oral administration may produce goiter and reduced thyroid activity. Prolonged or repeated skin exposure may cause dermatitis. Chronic exposure associated with kidney, heart and lung damage.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Hazardous Ingredients:	WT%	CAS#	EINECS #	Hazard Classification	Risk Phrases
Cobalt Tetroxide	100%	1308-06-1	215-157-2	[Xn]Harmful	R49, R22, R42/43
Balance of other ingredients is less than 1% in concentration (or 0.1% for carcinogens, reproductive toxins, or respiratory sensitizers).					None

NOTE: ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-2004 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR, EU Directives and the Japanese Industrial Standard JIS Z 7250: 2000.

4. FIRST-AID MEASURES

SKIN EXPOSURE: If this product contaminates the skin, begin decontamination with running water. Minimum flushing is for 5 minutes. Remove exposed or contaminated clothing, taking care not to contaminate eyes. The contaminated individual should seek medical attention if any adverse effect occurs.

EYE EXPOSURE: If this product enters the eyes, open contaminated individual's eyes while under gently running water. Use sufficient force to open eyelids. Remove contact lenses if worn. Have contaminated individual "roll" eyes. Minimum flushing is for 15 minutes. Contaminated individual must seek immediate medical attention.

INHALATION: If dusts generated by this product are inhaled, remove contaminated individual to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention if breathing distress continues.

INGESTION: Routine use of this product is not expected to cause any situation which could lead to ingestion. If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION.

If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance. Persons with allergies or sensitivity to cobalt may also be more susceptible to the effects of the substance.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate overexposure.

5. FIRE-FIGHTING MEASURES

FLASH POINT: Non-Flammable

AUTOIGNITION TEMPERATURE: Not Applicable



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FLAMMABLE LIMITS (in air by volume, %): Lower NA Upper NA

FIRE EXTINGUISHING MATERIALS: Use fire extinguishing methods below:

Water Spray: Yes

Carbon Dioxide: Yes

Foam: Yes

Dry Chemical: Yes

Halon: Yes

Other: Any "C" Class

If involved in a fire, use water spray to cool containers.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Explosion Sensitivity to Mechanical Impact: No

Explosion Sensitivity to Static Discharge: No

SPECIAL FIRE-FIGHTING PROCEDURES: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Proper protective equipment should be used. Stop the flow of material, if this can be done safely. Contain discharged material. For spills of solid material, sweep-up or vacuum spilled solid, minimizing the generation of dust. Place in a proper container for reclamation or disposal. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations and those of Canada and its Provinces, those of Australia, Japan and EU Member States (see Section 13, Disposal Considerations).

7. HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing dusts generated by this product. Use in a well-ventilated location. Remove contaminated clothing immediately.

STORAGE AND HANDLING PRACTICES: Containers of this product must be properly labeled. Empty containers should be handled with care. Store containers in a cool, dry location. Keep container tightly closed when not in use.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

Chemical Name	CAS#	ACGIH TLV	OSHA TWA
Cobalt compounds	NA	0.02 mg/m ³	0.1 mg/m ³

The above Exposure limits are for Cobalt Compounds

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below. Use a chemical fume hood or local exhaust ventilation, and process enclosure if necessary, to control airborne dust. Ensure eyewash/safety shower stations are available near areas where this product is used.

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.

RESPIRATORY PROTECTION: Maintain airborne contaminant concentrations below guidelines listed above, if applicable. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.

EYE PROTECTION: Safety glasses or goggles are recommended. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian Standards, and the European Standard EN166, Australian Standards, or relevant Japanese Standards.

HAND PROTECTION: Use chemically-resistant gloves when handling this product. If necessary, refer to U.S. OSHA 29 CFR 1910.138, the European Standard DIN EN 374, the appropriate Standards of Canada, Australian Standards, or relevant Japanese Standards.



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BODY PROTECTION: Use body protection appropriate for task (e.g. lab coat, overalls). If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR 1910.136.

9. PHYSICAL and CHEMICAL PROPERTIES

VAPOR DENSITY: No Data

DENSITY: 1.87 @ 25C/4c

SOLUBILITY IN WATER: Negligible.

VAPOR PRESSURE, mm Hg @ 20 °C (68°F): No Data

ODOR THRESHOLD: Odorless

APPEARANCE and COLOR: Green, red, gray, or black powder with no odor

EVAPORATION RATE (n-BuAc=1): No Data

MELTING POINT: 1935C (3515F) @ 760 mmHg

BOILING POINT: No Data

pH: No Data

SPECIFIC GRAVITY: 6.11

10. STABILITY and REACTIVITY

STABILITY: Stable under conditions of normal storage and use.

HAZARDOUS DECOMPOSITION PRODUCTS: May produce acrid smoke and irritating fumes when heated to decomposition.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Strong oxidizing agents.

POSSIBILITY OF HAZARDOUS REACTIONS: Will not occur.

CONDITIONS TO AVOID: Moisture and incompatibles, dust generation.

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA:

Cobalt Tetroxide CAS# 1308-06-1

Oral Rat LD50: > 5 g/kg.

SUSPECTED CANCER AGENT: Ingredients within this product are found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, or CAL/OSHA and therefore are considered to be, or suspected to be, cancer-causing agents by these agencies.

CARCINOGENIC EFFECTS:

IARC has classified cobalt and cobalt compounds as Group 2B carcinogens; possibly carcinogenic to humans.

ACGIH has classified cobalt and cobalt compounds as Group A3 carcinogens; proven carcinogenic to animals.

NTP: No

OSHA Regulated: No

IRRITANCY OF PRODUCT: This product can be irritating to the skin, eyes, and respiratory system with prolonged contact.

SENSITIZATION TO THE PRODUCT: This product is a skin and respiratory sensitizer

REPRODUCTIVE TOXICITY INFORMATION: This product and its components may effect the human reproductive system.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY: No specific data available on this product.

CHEMICAL EFFECT ON PLANTS, ANIMALS AND AQUATIC LIFE: This product is expected to be harmful to aquatic life in very low concentrations.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations, those of Canada, Australia, EU Member States and Japan.

14. TRANSPORTATION INFORMATION

US DOT, IATA, IMO, ADR:

U.S. DEPARTMENT OF TRANSPORTATION (DOT) SHIPPING REGULATIONS: This product is not classified (per 49 CFR 172.101) by the U.S. Department of Transportation.

PROPER SHIPPING NAME: Cobalt Oxide

HAZARD CLASS NUMBER and DESCRIPTION: N/A

UN IDENTIFICATION NUMBER: N/A

PACKING GROUP: N/A

DOT LABEL(S) REQUIRED: N/A

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER: N/A

RQ QUANTITY: None

MARINE POLLUTANT: The components of this product are not designated by the Department of Transportation to be Marine Pollutants (49 CFR 172.101, Appendix B).

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is not considered as dangerous goods.

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is not considered as dangerous goods.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This product is not considered by the United Nations Economic Commission for Europe to be dangerous goods.

15. REGULATORY INFORMATION

UNITED STATES REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: The components of this product are Not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for the components of this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.

U.S. CERCLA REPORTABLE QUANTITY (RQ): Cobalt Compounds 1 Lb.

U.S. TSCA INVENTORY STATUS: The components of this product are listed on the TSCA Inventory or are exempted from listing.

OTHER U.S. FEDERAL REGULATIONS: None

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): Ingredients within this product are not on the Proposition 65 Lists.

CANADIAN REGULATIONS:

CANADIAN DSL/NDL INVENTORY STATUS: The components of this product are on the DSL Inventory, or are exempted from listing.

OTHER CANADIAN REGULATIONS: Not applicable.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS: This product has a WHMIS classification of D2B.



EUROPEAN ECONOMIC COMMUNITY INFORMATION:

EU LABELING AND CLASSIFICATION: This product meets the definition of the following hazard class as defined by the European Economic Community Guidelines.

EU CLASSIFICATION: Carc Cat 3, [Xn] Harmful, [N] Dangerous for the Environment

EU RISK PHRASES: R49: May cause cancer by inhalation; R68: Possible risks of irreversible effects; R22: Harmful if swallowed; R42/43: May cause sensitization by inhalation and skin contact.



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EU SAFETY PHRASES: S22: Do not breathe dust; S37/39: Wear suitable gloves and eye/face protection; S45: In case of an accident or if you feel unwell, seek medical advice immediately; S53: Avoid exposure.



AUSTRALIAN INFORMATION FOR PRODUCT: The components of this product are listed on the International Chemical Inventory list.

JAPANESE INFORMATION FOR PRODUCT:

JAPANESE MINISTER OF INTERNATIONAL TRADE AND INDUSTRY (MITI) STATUS: The components of this product are not listed as Class I Specified Chemical Substances, Class II Specified Chemical Substances, or Designated Chemical Substances by the Japanese MITI.

JAPANESE ENCS INVENTORY: The components of this product are on the ENCS Inventory as indicated in the section on International Chemical Inventories, below.

POISONOUS AND DELETERIOUS SUBSTANCES CONTROL LAW: No component of this product is a listed Specified Poisonous Substance under the Poisonous and Deleterious Substances Control Law.

INTERNATIONAL CHEMICAL INVENTORIES:

Listing of the components on individual country Chemical Inventories is as follows:

- Asia-Pac: Listed
- Australian Inventory of Chemical Substances (AICS): Listed
- Korean Existing Chemicals List (ECL): Listed
- Japanese Existing National Inventory of Chemical Substances (ENCS): Listed
- Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed
- Swiss Giftlist List of Toxic Substances: Listed
- U.S. TSCA: Listed

16. OTHER INFORMATION

PREPARED BY: Paul Eigbrett – **(MSDS Authoring PLUS)**

DATE OF PRINTING: February 10, 2011

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of the need that information is current, applicable and suited to the circumstances of use. Hunter Chemical LLC assumes no responsibility for injury to vendee or third party person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, Hunter Chemical LLC assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed.

END OF SDS SHEET