

SAFETY DATA SHEET

COBALT CARBONATE

Section 1. Identification

Product name : COBALT CARBONATE
Chemical name : cobalt carbonate
CAS number : 513-79-1
Synonyms : Carbonic acid, cobalt(2+) salt (1:1); Carbonic acid, cobalt(2++) salt (1:1); Cobaltous carbonate; cobalt(II) carbonate; C.I. 77353

Uses**Material uses**

Catalyst Pigments, frits, ceramic ware, glass Manufacture of chemicals

Supplier's details : G.E. Chaplin, Inc.
4 Walter Foran Blvd.
Suite 406
Flemington, NJ 08822
Telephone: 908-788-0749

Emergency telephone number (with hours of operation) : CHEMTREC
1-800-424-9300
G.E. Chaplin CCN #801895

Section 2. Hazards identification

Classification of the substance or mixture : ACUTE TOXICITY (oral) - Category 4
RESPIRATORY SENSITIZATION - Category 1B
SKIN SENSITIZATION - Category 1
GERM CELL MUTAGENICITY - Category 2
CARCINOGENICITY - Category 1B
TOXIC TO REPRODUCTION - Category 1

GHS label elements**Hazard pictograms**

Signal word : Danger

Hazard statements : H302 - Harmful if swallowed.
H317 - May cause an allergic skin reaction.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341 - Suspected of causing genetic defects.
H350 - May cause cancer. (inhalation)
H360 - May damage fertility or the unborn child.

Precautionary statements

Section 2. Hazards identification

Prevention	: P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves, protective clothing and eye or face protection. P284 - Wear respiratory protection: Recommended: particulate filter(P3). P261 - Avoid breathing dust. P270 - Do not eat, drink or smoke when using this product. P264 - Wash thoroughly after handling. P272 - Contaminated work clothing must not be allowed out of the workplace.
Response	: P308 + P313 - IF exposed or concerned: Get medical advice or attention. P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor. P301 + P312, P330 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. P363 - Wash contaminated clothing before reuse. P302 + P352 - IF ON SKIN: Wash with plenty of water. P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
Storage	: P405 - Store locked up.
Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	: None known.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Ingredient name	%	CAS number
cobalt carbonate	100	513-79-1

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In the event of any complaints or symptoms, avoid further exposure.
Skin contact	: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
Inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact : May cause an allergic skin reaction.
Ingestion : Harmful if swallowed.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments : No specific treatment.
Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : No specific fire or explosion hazard.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 metal oxide/oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
cobalt carbonate	ACGIH TLV (United States, 1/2021). Skin sensitizer. Inhalation sensitizer. TWA: 0.02 mg/m ³ , (as Co) 8 hours.

- Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: particulate filter(P3)

Section 9. Physical and chemical properties

Appearance

Physical state	: Solid. [Crystals.]	Vapor pressure	: Not applicable.
Color	: Red.	Vapor density	: Not applicable.
Odor	: Odorless.	Relative density	: 4.17
	Not applicable.		

Section 9. Physical and chemical properties

Odor threshold	:	Solubility	: Insoluble in the following materials: cold water and hot water.
pH	: Not applicable.	Solubility in water	: 0.01298 g/l
Melting point	: Not applicable.	Partition coefficient: n-octanol/water	: Not applicable.
Boiling point	: Not applicable.	Auto-ignition temperature	: Not applicable.
Flash point	: Not applicable.	Decomposition temperature	: 280°C (536°F)
Evaporation rate	: Not applicable.	Viscosity	: Not applicable.
Flammability (solid, gas)	: Not available.	Flow time (ISO 2431)	: Not available.
Lower and upper explosive (flammable) limits	: Not applicable.		

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	No specific data.
Incompatible materials	:	No specific data.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
cobalt carbonate	LC50 Inhalation Dusts and mists	Rat	>5.08 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	697 mg/kg	-

Conclusion/Summary : Harmful if swallowed.

Irritation/Corrosion

Conclusion/Summary

Skin : Not available.

Eyes : Not available.

Respiratory : Not available.

Sensitization

Conclusion/Summary

Skin : May cause an allergic skin reaction.

Respiratory : May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Mutagenicity

Conclusion/Summary : Suspected of causing genetic defects.

Carcinogenicity

Section 11. Toxicological information

Conclusion/Summary : May cause cancer by inhalation.

Classification

Product/ingredient name	OSHA	IARC	NTP
cobalt carbonate	-	2B	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

Conclusion/Summary : May damage fertility.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

None.

Specific target organ toxicity (repeated exposure)

None.

Aspiration hazard

None.

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.
- Inhalation** : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Section 11. Toxicological information

Potential chronic health effects

Not available.

General	: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	: May cause cancer if inhaled. Risk of cancer depends on duration and level of exposure.
Mutagenicity	: Suspected of causing genetic defects.
Teratogenicity	: Suspected of damaging the unborn child.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: May damage fertility.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts & mists) (mg/l)
cobalt carbonate	500	N/A	N/A	N/A	N/A
cobalt carbonate	640	2500	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
cobalt carbonate	LC50 0.024 mg/l Marine water	Algae	7 days
	LC50 0.144 mg/l Fresh water	Algae	72 hours
	LC50 2.32 mg/l Marine water	Crustaceans	72 hours
	LC50 1.5 mg/l Fresh water	Fish	96 hours
	NOEC 0.00123 mg/l Marine water	Algae	7 days
	NOEC 0.0049 mg/l Fresh water	Algae	7 days
	NOEC 0.206 mg/l Marine water	Crustaceans	113 days
	NOEC 0.00547 mg/l Fresh water	Daphnia	28 days
	NOEC 0.3514 mg/l	Fish	34 days

Conclusion/Summary : By analogy to similar materials: Cobalt Chloride. Very toxic to aquatic life.

Persistence and degradability

Conclusion/Summary : The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

Bioconcentration factor (BCF) : Aquatic plants: BCF>100 - 5000
 Aquatic invertebrates: BCF<300
 Fresh water, Fish: BCF/BAF<10
 Marine water, Fish: BCF/BAF<10
 This product shows a low bioaccumulation potential.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.







Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

- The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN3077	UN3077	UN3077
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (cobalt carbonate)	Environmentally hazardous substance, solid, n.o.s. (cobalt carbonate)
Transport hazard class(es)	9  	9  	9  
Packing group	III	III	III
Environmental hazards	Yes.	Yes.	Yes.

Additional information

DOT Classification

- Non-bulk packages of this product are not regulated as hazardous materials unless transported by inland waterway. This product is not regulated as a hazardous material when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of §§ 173.24 and 173.24a.

Limited quantity Yes.

Packaging instruction Exceptions: 155. Non-bulk: 213. Bulk: 240.

Special provisions 8, 146, 335, A112, B54, B120, IB8, IP3, N20, N91, T1, TP33

TDG Classification

- Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.43-2.45 (Class 9), 2.7 (Marine pollutant mark). Non-bulk packages of this product are not regulated as dangerous goods when transported by road or rail.

Explosive Limit and Limited Quantity Index 5

Special provisions 16

Mexico Classification

- The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

Special provisions 274, 331, 335

IMDG

- This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

Emergency schedules F-A, S-F

Special provisions 274, 335, 966, 967, 969

Section 14. Transport information

- IATA** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.
Quantity limitation Passenger and Cargo Aircraft: 400 kg. Packaging instructions: 956.
 Cargo Aircraft Only: 400 kg. Packaging instructions: 956. Limited Quantities -
 Passenger Aircraft: 30 kg. Packaging instructions: Y956.
Special provisions A97, A158, A179, A197

- Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

- Transport in bulk according to IMO instruments** : Not available.

Section 15. Regulatory information

- U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
United States inventory (TSCA 8b): Not determined.

- Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

- Clean Air Act Section 602 Class I Substances** : Not listed

- Clean Air Act Section 602 Class II Substances** : Not listed

- DEA List I Chemicals (Precursor Chemicals)** : Not listed

- DEA List II Chemicals (Essential Chemicals)** : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

- SARA 304 RQ** : Not applicable.

SARA 311/312

- Classification** : ACUTE TOXICITY (oral) - Category 4
 RESPIRATORY SENSITIZATION - Category 1B
 SKIN SENSITIZATION - Category 1
 GERM CELL MUTAGENICITY - Category 2
 CARCINOGENICITY - Category 1B
 TOXIC TO REPRODUCTION - Category 1

Composition/information on ingredients

Name	%	Classification
cobalt carbonate	100	ACUTE TOXICITY (oral) - Category 4 RESPIRATORY SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1 GERM CELL MUTAGENICITY - Category 2 CARCINOGENICITY - Category 1B TOXIC TO REPRODUCTION - Category 1B

SARA 313

Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	cobalt carbonate	513-79-1	100
Supplier notification	cobalt carbonate	513-79-1	100

State regulations

Massachusetts	: None of the components are listed.
New York	: None of the components are listed.
New Jersey	: The following components are listed: COBALT compounds
Pennsylvania	: The following components are listed: COBALT COMPOUNDS
California Prop. 65	

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Montreal Protocol

Not listed.

National inventory

Canada	: All components are listed or exempted.
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Section 16. Other information

Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (oral) - Category 4	Expert judgment
RESPIRATORY SENSITIZATION - Category 1B	Expert judgment
SKIN SENSITIZATION - Category 1	Expert judgment
GERM CELL MUTAGENICITY - Category 2	Expert judgment
CARCINOGENICITY - Category 1B	Expert judgment
TOXIC TO REPRODUCTION - Category 1	Expert judgment

History

Date of issue/Date of revision	: 6/20/2023
Date of previous issue	: 12/7/2020
Version / Version comments	: 1

Key to abbreviations/ Revision comments	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available UN = United Nations
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✓ Indicates information that has changed from previously issued version.

Notice to reader

Date of issue/Date of revision	: 6/20/2023	Date of previous issue	: 12/7/2020	Version	: 1	11/12
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Section 16. Other information

Disclaimer: The information contained herein was obtained from sources we believe to be accurate and is based on the available scientific evidence known to G.E. Chaplin, Inc. It is provided solely for compliance with the various requirements relating to Health, Safety, Environmental, and Transportation—it is not meant to convey analytical information. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this material. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. This document provides transportation and environmental information, but is not the definitive resource and does not replace required training and knowledge required to address transportation and environmental-related requirements, language, or actions. No representations, guarantees or warranties of any kind are made as to the accuracy of the information contained herein, the suitability of the material or the information contained herein for particular applications, the hazards connected with the use of the material, or the results to be obtained from the use thereof.



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Customer PO#	16962	Country of Origin:	Finland
Material Description	Cobalt Carbonate 46% - 15 kg boxes / 480 kg per pallet		
Batch/Lot:	4011005	Manufacturer Date: 12/23/2024	Exp. Date: 12/22/2026
Characteristic	Specification	Result	Unit
Co	≥ 44.5	45.5	%
Al	≤ 20	<10	g/t
Ca	≤ 50	10	g/t
Cd	≤ 5	<1	g/t
Cr	≤ 10	<5	g/t
Cu	≤ 20	<1	g/t
Fe	≤ 20	6	g/t
Mg	≤ 50	4	g/t
Mn	≤ 50	5	g/t
Na	≤ 0.100	0.031	%
Ni	≤ 100	<10	g/t
S	≤ 800	534	g/t
Zn	≤ 20	<1	g/t
Insol. %	≤ 0.25	0.04	%

