

PRODUCT NAME: COBALT CARBONATE

REVISION DATE: 12/20/2013

FORMER DATE: 08/01/2013

VERSION: 13.0 EN US

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 PRODUCT IDENTIFIER:

PRODUCT NAME: COBALT CARBONATE
PRODUCT CODE: 100077

Chemical Name: Cobalt carbonate
 CAS-No: 513-79-1
 EINECS-No: 208-169-4
 Registration Number: 01-2119513233-54-0003

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:

Identified uses See Section 7.3.
 Uses advised against None

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:

Freeport Cobalt Oy
 P. O. Box 286
 FI-67101 Kokkola
 Telephone number: +358 (0)6 8280 111
 Fax number: +358 (0)6 8281 260
 E-mail address: msds_fco@fmi.com

1.4 EMERGENCY TELEPHONE NUMBER:

Carechem 24: +44 (0) 1235 239 670
 Finnish Poison Center +358 (0)9 4711

2. HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

CLASSIFICATION ACCORDING TO DIRECTIVE 1999/45/EC OR 67/548/EEC

Xn; R22
 Xn; R42/43
 T; Carc. Cat 2, R49
 Repr. Cat 2; R60
 Muta. Cat 3; R68
 N; R50/53

CLASSIFICATION ACCORDING TO REGULATION (EC) NO 1272/2008

Acute oral toxicity Category 4 ; H302
 Respiratory sensitization Category 1B H334

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Skin sensitization	Category 1 H317
Carcinogenicity	Category 1B H350i
Reproductive toxicity	Category 1B H360F
Germ cell mutagenicity	Category 2 H341
Acute aquatic toxicity	Category 1 ; H400
Chronic aquatic toxicity	Category 1 ; H410
	M-Factor: 10

2.2 LABEL ELEMENTS:



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. H350i - May cause cancer by inhalation. H360F - May damage fertility. H410 - Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:

P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P281 - Use personal protective equipment as required. P308 + P313 - IF exposed or concerned: Get medical attention/advice. P405 - Store locked up. P501 - Dispose of contents/container to an approved waste disposal plant.

2.3 OTHER HAZARDS:

Not classified as PBT or vPvB.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME:	PERCENT:	EINECS NO:	REGISTRATION NUMBER:	WARNING SYMBOL, R PHRASES AND OTHER INFORMATION:	GHS CLASSIFICATION:
Cobalt carbonate 513-79-1	100	208-169-4	01-2119513233-54-0003	Carc. Cat. 2; R49, Muta. Cat. 3; R68, Repr. Cat. 2; R60, Xn; R22, R42/43, N; R50/53	Carc. 1B; H350i, Muta. 2; H341, Repr. 1B; H360F, Acute Tox. 4; H302, Resp. Sens. 1B; H334, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410 M-Factor: 10

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Substance, inorganic salt

Cobalt Carbonate contains cobalt carbonate which has been included to the Candidate list for Substances of Very High Concern (SVHC).

4. FIRST AID MEASURES**4.1 DESCRIPTION OF FIRST AID MEASURES****EYE CONTACT:**

Separate eyelids, wash the eyes thoroughly with water (15 min). If eye irritation persists, consult a specialist.

SKIN CONTACT:

Wash off with soap and plenty of water. Remove soiled or soaked clothing immediately. Wash contaminated clothing before re-use.

INHALATION:

Remove affected person from the immediate area. Ensure supply of fresh air. Irregular breathing/no breathing: artificial respiration. Consult a physician.

INGESTION:

Rinse mouth. Consult a physician.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

Inhalation: Cough. Breathing difficulties. Shortness of breath.

Ingestion: Abdominal pain. Vomiting.

Skin/Eye contact: Redness.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

No special requirements.

5. FIRE FIGHTING MEASURES**5.1 EXTINGUISHING MEDIA****SUITABLE EXTINGUISHING MEDIA:**Use extinguishing measures that are appropriate to local circumstances and the surrounding environment e.g.: Carbon dioxide (CO₂). Dry powder. Foam. Water spray.**UNSUITABLE EXTINGUISHING MEDIA:**

None.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

In the event of fire the following can be released: Cobalt oxide dust.

5.3 ADVICE FOR FIREFIGHTERS:

Wear self-contained breathing apparatus and protective suit. Dike fire-control water for later disposal. Collect contaminated fire extinguishing water separately. Do not discharge into the drains/surface waters/groundwater.

6. ACCIDENTAL RELEASE MEASURES

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- 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURE:**
Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid breathing dust. Avoid dust formation. Wear personal protective equipment.
- 6.2 ENVIRONMENTAL PRECAUTIONS:**
Avoid dust formation. Do not discharge into the drains/surface waters/groundwater.
- 6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:**
Sweep spilled substances into containers if appropriate moisten first to prevent dusting. Collect spillage.
- 6.4 REFERENCE TO OTHER SECTIONS:**
For handling advice see section 7. For personal protection see section 8. For waste disposal see section 13.

7. HANDLING AND STORAGE

- 7.1 PRECAUTIONS FOR SAFE HANDLING:**
Avoid exposure - obtain special instructions before use. Provide good ventilation of working area (local exhaust ventilation if necessary). If workplace exposure limits are exceeded, respiratory protection approved for this particular job must be worn. Avoid breathing dust. Avoid contact with skin and eyes. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Wash hands and face before breaks and immediately after handling the product. Wear protective gloves/protective clothing/eye protection/face protection.
- 7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:**
Always keep in containers of same material as the original one. Keep containers tightly closed in a dry, cool and well-ventilated place.
- 7.3 SPECIFIC END USE(S):**
 - Industrial use of cobalt carbonate as a catalyst
 - Industrial use of cobalt carbonate in surface treatment processes
 - Industrial use of cobalt carbonate in the manufacture of inorganic pigments and frits, glass, ceramic wire, varistors and magnets (calcination/sintering processes)
 - Industrial use of cobalt carbonate in fertilizers and/or feed grade materials
 - Industrial use of cobalt carbonate in the manufacture of chemicals and in other wet-chemical processes as intermediate
 - Professional use of fertilizers and/or feed grade materials containing cobalt carbonate

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

CHEMICAL NAME:	EXPOSURE LIMIT(S):	SOURCE:
Cobalt carbonate	For metal dust and fume, as Co : 0,1 mg/m ³ 0.02 mg/m ³	OSHA PEL ACGIH TLV

Derived No Effect Level (DNEL)	Oral	Inhalation	Dermal
Industry- Long Term- Local Effects	-	80.7 µg/m ³	-
Industry- Long Term- Systemic Effects	-	-	-
Industry- Short Term- Local Effects	-	-	-
Industry- Short Term- Systemic Effects	-	-	-
Consumer- Long Term- Local Effects	-	12.7 µg/m ³	-

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Consumer- Long Term- Systemic Effects	19.2 µg/m ³ bw/day	-	-
Consumer- Short Term- Local Effects	-	-	-
Consumer- Short Term- Systemic Effects	-	-	-

	Predicted No Effect Concentration (PNEC)
Aquatic Compartment	0.51 µg Co/l (fresh water)
Marine Compartment	2.36 µg Co/L (marine water)
Aquatic Compartment- Sediment	9.5 mg Co/kg sediment dry wt
Marine Compartment- Sediment	9.5 mg Co/Kg sediment dry wt
Terrestrial Compartment	7.9 mg Co/kg Soil dw
Sewage Treatment Plant- Microorganisms	0.373 µg Co/L
Atmosphere Compartment	-

8.2 EXPOSURE CONTROLS

Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

APPROPRIATE ENGINEERING CONTROLS:

Provide adequate ventilation.

PERSONAL PROTECTIVE EQUIPMENT:

EYE/FACE PROTECTION: Face-shield. Safety glasses.

SKIN PROTECTION: Protective gloves: Rubber. Butyl. Neoprene. PVC.

RESPIRATORY PROTECTION: Use a respirator with filter model P3 (DIN 3181).

ENVIRONMENTAL EXPOSURE CONTROLS:

The employer shall fulfill requirements of IPPC Directive.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Appearance	Powder
Colour	Purple to pale purple to mauve
Odour	Odorless
Odour Threshold	Not established.
pH	Not applicable.
Melting point/range	Decomposes without melting
Boiling point/range	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	The product is not flammable.
Upper/lower flammability or explosive limits	No data available.
Vapour pressure	Not applicable.
Vapour density	No data available.
Relative density	4.17 @ 20° C
Solubility	
-Water solubility	12.98 µg/L @ 20° C
-Fat solubility	No data available.

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-Solubility in other solvents	Acids.
Partition coefficient (n-octanol/water)	No data available.
Autoignition temperature	No data available.
Decomposition temperature	280 °C
Viscosity	Not applicable.
Explosive properties	Not applicable.
Oxidizing properties	Non oxidizing material according to EEC criteria.

9.2 OTHER INFORMATION:

Bulk density 0.40-0.90 g/cm3

10. STABILITY AND REACTIVITY

10.1 REACTIVITY:

Stable under recommended storage conditions.

10.2 CHEMICAL STABILITY:

Stable under recommended storage conditions.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS:

Stable under recommended storage conditions.

10.4 CONDITIONS TO AVOID:

Avoid dust formation. Keep away from heat.

10.5 INCOMPATIBLE MATERIALS:

Acids.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS:

Toxic gases/vapours. Cobalt oxide dust.

11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

INFORMATION ON THE LIKELY ROUTES OF EXPOSURE:

Inhalation exposure. Dermal exposure. Oral exposure. Eye contact.

ACUTE TOXICITY:

Ingestion:	LD50/oral/rat: 697 mg/kg Main symptoms: Abdominal pain. Vomiting.
Inhalation:	Low acute toxicity. Main symptoms: Cough. Sore throat. Breathing difficulties. Shortness of breath.
Skin contact:	LD50/dermal: >2000 mg/kg Low acute toxicity. Redness.
Eye contact:	Low acute toxicity. Main symptoms: Redness.

SKIN CORROSION/IRRITATION:

No data available. Not classified.

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SERIOUS EYE DAMAGE/EYE IRRITATION:

No data available. Not classified.

RESPIRATORY OR SKIN SENSITIZATION:

May cause sensitization by inhalation and skin contact. May cause an allergic skin reaction.

GERM CELL MUTAGENICITY:

Suspected of causing genetic defects.

CARCINOGENICITY:

May cause cancer by inhalation.

REPRODUCTIVE TOXICITY:

May impair fertility.

SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (SINGLE EXPOSURE):

None known.

SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (REPEATED EXPOSURE):

None known.

ASPIRATION HAZARD:

Not applicable.

12. ECOLOGICAL INFORMATION

12.1 TOXICITY:

Very toxic to aquatic life. By analogy to similar materials:

Cobalt Chloride:

Fish: LC50= 1.5 µg/l (Fresh Water):

Aquatic invertebrates: LC50= 0.61 mg/l (Fresh Water); 2.32 mg/l (Sea Water)

Algae: LC50= 144 µg/l (Fresh Water); 24.1 µ/l (Sea Water)

EC10 (Fresh Water Fish) = 351.4 mg/l

NOEC Aquatic invertebrates= 5.47 µg/l (Fresh Water); 206 µg/l (Sea water)

NOEC Algae= 4.9 µg/l (Fresh water); 1.23 µg/l (Sea water)

12.2 PERSISTENCE AND DEGRADABILITY:

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 BIOACCUMULATIVE POTENTIAL:

Reference substance: Cobalt:

Aquatic plants: Bioconcentration factor (BCF): >100-5000

Aquatic invertebrates: BCF <300

Fresh water, Fish: BCF/BAF <10

Marine fish: BCF/BAF <10

The substance has a low potential for bioaccumulation.

12.4 MOBILITY IN SOIL:

Insoluble in water.

12.5 RESULTS OF PBT AND vPvB ASSESSMENT:

Not classified as PBT or vPvB.

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12.6 OTHER ADVERSE EFFECTS:

No data available.

13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS:

EWC WASTE CODE: 06 03 14 - Solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13. The listed waste code numbers, according to the European Waste Catalogue (EWC), are to be understood as a recommendation (2000/532/EC).

WASTE FROM RESIDUES / UNUSED PRODUCTS:
Contact manufacturer. Dispose of as special waste in compliance with local and national regulations.

CONTAMINATED PACKAGING:
Contaminated packaging should be emptied as far as possible. Packaging that cannot be cleaned should be disposed as special waste in compliance with local and national regulations.

14. TRANSPORT INFORMATION

	LAND TRANSPORT:	SEA TRANSPORT:	AIR TRANSPORT:
14.1 UN-Number	3077	3077	3077
14.2 UN proper shipping name	Environmentally hazardous substance, solid, n.o.s. (Cobalt Carbonate)	Environmentally hazardous substance, solid, n.o.s. (Cobalt Carbonate)	Environmentally hazardous substance, solid, n.o.s. (Cobalt Carbonate)
14.3 Transport hazard class(es)	9	9	9
14.4 Packing group	III	III	III
14.5 Environmental hazards	Environmentally Hazardous	Marine pollutant	Environmentally Hazardous
14.6 Special precautions for users	None.	EmS (Fire): F-A Ems (Spill): S-F	None.
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.	Not applicable.	Not applicable.
EXCEPTION:	172.102 (c) Special Provision 146: This material may be shipped as a Class 9, Environmentally Hazardous Substance because it has been designated as such by the European authority, IATA and IMDG. However, ground shipments may be classified as nonhazardous as they do not meet the definition of a Hazardous Material or Hazardous substance under 49 CFR 100 to 185.	None.	None.

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15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENT REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:

EU REGULATIONS: None.

NATIONAL REGULATIONS:

TSCA STATUS:

All components of this product are on the US TSCA Inventory.

TSCA 12(b) EXPORT NOTIFICATION:

No components of this product are subject to TSCA 12(b) export notification requirements.

CALIFORNIA PROPOSITION 65:

This material contains the following chemicals in trace amounts (less than 0.1%) which are known to the State of California to cause cancer or birth defects and are subject to the requirements of California Proposition 65:

Nickel Carbonate (3333-67-3) Cancer

SARA 302 EXTREMELY HAZARDOUS SUBSTANCE LIST:

This product does not contain greater than 1.0% of any chemical substance on the SARA Extremely Hazardous Substance List.

CLEAN AIR ACT S112 HAZARDOUS AIR POLLUTANTS:

Cobalt Compounds. Nickel Compounds.

SARA (311, 312) HAZARD CLASS:

Acute health hazard. Chronic health hazard.

SARA SECTION 313 TOXIC CHEMICALS:

Cobalt Compounds >99%

15.2 CHEMICAL SAFETY ASSESSMENT:

A Chemical Safety Assessment has been carried out for this substance.

16. OTHER INFORMATION

LIST OF RELEVANT R-PHRASES:

R22 - Harmful if swallowed.

R42/43 - May cause sensitization by inhalation and skin contact.

R49 - May cause cancer by inhalation.

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R60 - May impair fertility.

R68 - Possible risk of irreversible effects.

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 by inhalation

H360 - May damage fertility or the unborn child

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects.

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METHOD USED FOR CLASSIFYING MIXTURE:

Not applicable.

SOURCES OF KEY DATA USED TO COMPILE THE DATASHEET:

Chemical safety report.

PREPARED BY:

Freeport Cobalt Oy

LIST OF ABBREVIATIONS USED IN THE SAFETY DATA SHEET:

Muta. Cat 3 = Mutagenicity Category 3

Repr. Cat. 2 = Reproductive Toxicity Category 2

Carc. Cat 2 = Carcinogenicity Category 2

Carc. 1B = Carcinogenicity Category 1B

Muta. 2 = Germ Cell Mutagenicity Category 2

Repr. 1B = Reproductive Toxicity Category 1B

Acute Tox. 4 = Acute Toxicity Category 4

Resp. Sens. 1 = Respiratory Sensitization Category 1

Skin Sens. 1 = Skin Sensitization 1

Aquatic Acute 1 = Aquatic Acute Toxicity Category 1

Aquatic Chronic 1 = Aquatic Chronic Toxicity Category 1

PBT = Persistent, Bioaccumulative and Toxic

vPvB = very Persistent, very Bioaccumulative

REVISED INFORMATION:

This data sheet contains changes from the previous version in section(s): 14

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