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Safety Data Sheet

1. Chemical product and company identification

Product name : Cobalt(Ⅱ) carbonate, basic, 3N5

Company information

Name of manufacturer : KANTO CHEMICAL CO., INC.
Address : 2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JP
Name of section : Business Administration Department, Reagent Division
Telephone number : +81-3-6214-1090
Facsimile number : +81-3-3241-1047
Mail address : BC32@kanto.co.jp

Reference No : 08113

Recommended use : For research use only

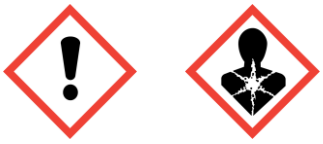
Restrictions on use : Seek expert judgment when using the product for applications other than those recommended.

2. Hazards identification

GHS classification

Health hazards	Respiratory sensitization	Category 1A
	Skin sensitization	Category 1A
	Carcinogenicity	Category 2
	Reproductive toxicity	Category 1B
	Specific target organ toxicity (single exposure)	Category 3 (respiratory tract irritation.)
	Specific target organ toxicity (repeated exposure)	Category 1 (respiratory organs, blood)

Hazard pictograms



Signal word : Danger

Hazard statements : May cause an allergic skin reaction
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation
Suspected of causing cancer
May damage fertility or the unborn child
Causes damage to organs (respiratory organs, blood) through prolonged or repeated exposure

Precautionary statements

Prevention : Do not handle until all safety precautions have been read and understood.
Do not breathe dust.
Wash hands, forearms and face thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the

		workplace. Wear protective gloves/protective clothing/eye protection/face protection. [In case of inadequate ventilation] wear respiratory protection.
Response	:	IF ON SKIN: Wash with plenty of water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor if you feel unwell. Get medical advice/attention if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. If experiencing respiratory symptoms: Call a POISON CENTER or doctor. Take off contaminated clothing and wash it before reuse.
Storage	:	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	:	Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

3. Composition/information on ingredients

Distinction of substance or mixture : Substance

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Cobalt(Ⅱ) carbonate, basic	≥ 99.95	C2H6Co5O12・4H2O	Listed	235-714-3	12602-23-2

4. First aid measures

First aid measures

First-aid measures after inhalation	:	Remove the victim to fresh air, and make him blow his nose and gargle.
First-aid measures after skin contact	:	Wash the affected areas under running water.
First-aid measures after eye contact	:	Wash the affected areas under running water.
First-aid measures after ingestion	:	Give the victim water or salt water and make him vomit. Get medical attention.
Personal Protection in First Aid and Measures	:	Rescuers should wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

Suitable extinguishing media	:	This product is noncombustible.
Unsuitable extinguishing media	:	None
Firefighting instructions	:	Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area. Fight fire from windward.
Personal protection (Emergency	:	Wear breathing apparatus.

response)

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures : Wear proper protective equipment and avoid contact with skin and inhalation of dust. Conduct operations from upwind and evacuate people downwind.

Environmental precautions

Environmental precautions : Attention should be given to avoid damage to the environment by flowing of spillage to rivers.

Methods and Equipment for Containment and Cleaning up

For containment : Sweep up in a chemical waste container. Flush contaminated area with copious amounts of water.

7. Handling and storage

Handling

Technical measures : Wear appropriate protective equipment to avoid contact with skin or inhalation of dust.

Precautions for safe handling : Avoid formation of dust and aerosols.

Storage

Storage conditions : Store in a dark, cool place and tightly closed.

Material used in packaging/containers : Glass, polyethylene, polypropylene.

8. Exposure controls / Personal protection equipment

ACGIH TWA	0.02 mg/m³ (I) (as Co)

Appropriate engineering controls : Install a local ventilation system in case of dusty condition.

Protective equipment

Respiratory protection : If necessary, wear dust mask

Hand protection : Impervious protective gloves

Eye protection : Safety goggles

Skin and body protection : Protective clothing, protective boots

9. Physical and chemical properties

Physical state : Solid

Color : Reddish violet

Odor : Odorless

pH : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Auto-ignition temperature : No data available

Decomposition temperature	:	No data available
Flammability	:	Not flammable.
Vapor pressure	:	No data available
Relative density	:	No data available
Density	:	No data available
Relative gas density	:	No data available
Solubility	:	Water: Insoluble.
Partition coefficient n-octanol/water (log Pow)	:	No data available
Explosive limits (vol %)	:	No data available
Viscosity, kinematic	:	No data available
Particle characteristics	:	No data available

10. Stability and reactivity

Reactivity	:	May react with oxidizing substances.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Stable under normal conditions of use.
Conditions to avoid	:	Light, heat.
Incompatible materials	:	Oxidizing substances.
Hazardous decomposition products	:	Carbon monoxide, coblt oxides.

11. Toxicological information

Acute toxicity (oral)	:	Classification not possible
Acute toxicity (dermal)	:	Classification not possible
Acute toxicity (inhalation)	:	No classification (gas) No classification (vapor) Classification not possible (dust, mist)
Skin corrosion/irritation	:	Classification not possible May cause skin irritation.
Serious eye damage/irritation	:	Classification not possible May cause eye irritation.
Respiratory sensitization	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled. According to the Recommendation of Occupational Exposure Limits (Japan Society For Occupational Health), cobalt and its compounds are listed in group 1 of occupational sensitizers to the airways. Therefore, this substance was classified into category 1A.
Skin sensitization	:	May cause an allergic skin reaction According to the Recommendation of Occupational Exposure Limits (Japan Society For Occupational Health), cobalt and its compounds are listed in group 1 of occupational sensitizers to the skin. Therefore, this substance was classified into category 1A.
Germ cell mutagenicity	:	Classification not possible
Carcinogenicity	:	Suspected of causing cancer There are no test results for this substance itself. Cobalt and cobalt compounds are classified in group 2B by IARC, A3 by ACGIH, group 2B by Japan Society For Occupational Health and R by NTP. Therefore, this substance was classified into category 2.

Reproductive toxicity	:	May damage fertility or the unborn child Although there is no information on the reproductive effects of this substance itself, it is considered that the information regarding inorganic cobalt compounds were considered available for the classification. In a test in which cobalt chloride hexahydrate was fed to male rats (265 ppm), moderate to severe congestion appeared in the testes after administration for 35 days; and significant effects on the spermatogonial cells, spermatocytes and sperm cells were observed in addition to degenerative or necrotic changes in the germinal epithelium of the testes and Sertoli cells after administration for 70 days. In a test where male mice given cobalt(Ⅱ) chloride in drinking water 12 weeks were mated with unexposed females, decreases were observed in the epididymal sperm count and in the survival of newborn pups at doses of 200 mg/L or higher. At doses of 400 mg/L or higher, the number of pregnant animals was reduced, testis weights decreased, and testicular sperm counts and daily sperm production decreased. Also, in a tissue observation of the testes, hypertrophy of the interstitial Leydig cells, congested blood vessels, degeneration of the spermatogonial cells, necrosis of the seminiferous tubules and interstitial tissue etc. were observed at doses of 400 mg/L or higher. In another study in which pregnant rats were administered cobalt sulfate by gavage, from the 50 mg/kg/day dose level, which is lower than the level of maternal toxicity expression, fetuses were reported to have malformations. It was also reported that in orally administered pregnant mice, at 50 mg/kg/day, malformations of eyelids, kidneys, cranium, and spine occurred in fetuses. This substance is also an inorganic cobalt compound, and it is considered that similar reproductive and developmental toxicities are likely to occur. Therefore, this substance was classified into category 1B.
STOT-single exposure	:	May cause respiratory irritation There is no data on single exposure tests in humans or experimental animals for this substance. As for metallic cobalt, it is reported that it shows respiratory tract irritation in humans. Therefore, this substance was classified into category 3 (respiratory tract irritation).
STOT-repeated exposure	:	Causes damage to organs (respiratory organs, blood) through prolonged or repeated exposure There is no available toxicity information with obvious exposure to this substance itself, in humans or in experimental animals. There is information below regarding the health effects of cobalt and cobalt compounds in humans. This may be applied to the hazard assessment of this substance. There is a report on diamond polishers exposed to airborne cobalt. Their chief complaints were symptoms in their respiratory organs, such as coughs; and adverse effects on lung function were reported as the cases. As for workers in cobalt refineries, it was reported that skin lesions, respiratory symptoms, decreased pulmonary function, anemia, and effects on thyroid function were observed. Among the symptoms listed above, skin lesions were thought to be due to skin sensitivities, and the effects on the thyroid were only slightly low T3 values. These were therefore deemed to be non-target findings of specific target organs. From the above, it is considered appropriate to apply the effects of repeated exposure to cobalt and cobalt compounds in humans as those of repeated exposure to cobalt(Ⅱ) carbonate. Therefore, this substance was classified into category 1 (respiratory organs, blood).

Aspiration hazard	:	Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	:	Classification not possible
Aquatic chronic	:	Classification not possible

Persistence and degradability

No additional information available

Bioaccumulative potential

No additional information available

Mobility in soil

No additional information available

Hazardous to the ozone layer

Ozone	:	Classification not possible

13. Disposal considerations

Ecological waste information	:	Roasting method : Recover metal cobalt by roast reduction method. Or entrust approved waste disposal companies with the disposal. <Note> ＊In case of disposal by roasting method, it is desirable to entrust to disposal companies.
Contaminated container and packaging	:	In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

International Regulations

Transport by sea(IMDG)

UN-No. (IMDG)	:	Not applicable
Proper Shipping Name (IMDG)	:	Not applicable
Packing group (IMDG)	:	Not applicable
Transport hazard class(es) (IMDG)	:	Not applicable

Air transport(IATA)

UN-No. (IATA)	:	Not applicable
Proper Shipping Name (IATA)	:	Not applicable
Packing group (IATA)	:	Not applicable
Transport hazard class(es) (IATA)	:	Not applicable
Marine pollutant	:	Not applicable

15. Regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

16. Other information

Data sources : Encyclopaedia Chimica, Kyoritsu Shuppan Co, Ltd. (1963) .
Handbook of dangeroous and hazardous chemicals, Japan Industrial Safety & Health Association. (2000-2001) .
NITE Chemical Risk Information Platform (NITE-CHRIP), National Institute of Technology and Evaluation.

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully.The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements.The information herein is only provision of information, and it does not represent a guarantee the properties of the product.The Safety Data Sheet(SDS) is prepared based on JIS Z7253.