



Enabling Your Technology

COBALT(II) 2,4-PENTANEDIONATE, hydrate

Safety Data Sheet AKC230

Date of issue: 07/17/2017

Revision date: 05/24/2018

Version: 1.1

SECTION 1: Identification**1.1. Identification**

Product name	: COBALT(II) 2,4-PENTANEDIONATE, hydrate
Product code	: AKC230
Product form	: Substance
Physical state	: Solid
Formula	: C ₁₀ H ₁₄ CoO ₄ ·H ₂ O
Synonyms	: COBALTOUS ACETYLACETONATE BIS(2,4-PENTANEDIONATO)COBALT BIS(ACETYLACETONATO)COBALT(II) COBALT(II) 4-OXOPENT-2-EN-2-OLATE
Chemical family	: METAL COMPOUND

1.2. Recommended use and restrictions on use

Recommended use	: Chemical intermediate
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1.3. Supplier**GELEST, INC.**11 East Steel Road
Morrisville, PA 19067**USA**

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

info@gelest.com - www.gelest.com**1.4. Emergency telephone number**

Emergency number	: CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)
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SECTION 2: Hazard(s) identification**2.1. Classification of the substance or mixture****GHS-US classification**

Acute toxicity (oral) Category 4	H302 Harmful if swallowed
Serious eye damage/eye irritation Category 1	H318 Causes serious eye damage
Respiratory sensitization, Category 1	H334 May cause an allergy or asthma symptoms or breathing difficulties if inhaled
Skin sensitization, Category 1	H317 May cause an allergic skin reaction
Carcinogenicity Category 2	H351 Suspected of causing cancer
Reproductive toxicity Category 1A	H360 May damage fertility or the unborn child
Hazardous to the aquatic environment - Acute Hazard Category 1	H400 Very toxic to aquatic life
Hazardous to the aquatic environment - Chronic Hazard Category 1	H410 Very toxic to aquatic life with long lasting effects
Full text of H statements : see section 16	

2.2. GHS Label elements, including precautionary statements**GHS US labeling**

Hazard pictograms (GHS US)



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H302 - Harmful if swallowed
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H334 - May cause an allergy or asthma symptoms or breathing difficulties if inhaled
H351 - Suspected of causing cancer
H360 - May damage fertility or the unborn child
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS US)

: 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/eye protection/face protection.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P261 - Avoid breathing dust.

COBALT(II) 2,4-PENTANEDIONATE, hydrate

Safety Data Sheet

P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P272 - Contaminated work clothing must not be allowed out of the workplace
P273 - Avoid release to the environment.
P284 - [In case of inadequate ventilation] wear In case of inadequate ventilation wear respiratory protection..
P330 - Rinse mouth.
P301+P312 - If swallowed: Call a doctor if you feel unwell
P302+P352 - If on skin: Wash with plenty of soap and water
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P304+P341 - If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing
P342+P311 - If experiencing respiratory symptoms: Call a doctor
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a doctor
P321 - Specific treatment (see first aid instructions on this label)
P363 - Wash contaminated clothing before reuse.
P391 - Collect spillage.
P405 - Store locked up.
P501 - Dispose of contents/container to licensed waste disposal facility.

2.3. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent
Name : COBALT(II) 2,4-PENTANEDIONATE, hydrate
CAS-No. : 14024-48-7

Name	Product identifier	%	GHS-US classification
Cobalt(II) 2,4-pentanedionate, hydrate	(CAS-No.) 14024-48-7	95 - 100	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 Repr. 1A, H360 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.
First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
First-aid measures after skin contact : Wash with plenty of soap and water. Immediately call a poison center or doctor/physician.
First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : Suspected of causing cancer. May damage fertility or the unborn child.
Symptoms/effects after inhalation : May cause irritation to the respiratory tract. May cause an allergy or asthma symptoms or breathing difficulties if inhaled. Cobalt compounds are suspect carcinogens of connective tissue and lungs.
Symptoms/effects after skin contact : May cause an allergic skin reaction. Hypersensitivity of the skin to certain cobalt compounds has been demonstrated.
Symptoms/effects after eye contact : Causes serious eye damage.
Symptoms/effects after ingestion : Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

COBALT(II) 2,4-PENTANEDIONATE, hydrate

Safety Data Sheet

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Foam. Carbon dioxide. Dry chemical.
Unsuitable extinguishing media : Do not use straight streams.

5.2. Specific hazards arising from the chemical

Fire hazard : Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment as described in Section 8.
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up : Collect spillage. Sweep or shovel spills into appropriate container for disposal.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Use only outdoors or in a well-ventilated area.
Hygiene measures : Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed. Store locked up. Keep workplace clean, prevent product dusting.
Incompatible materials : Oxidizers.
Storage area : Store in a well-ventilated place. Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Cobalt(II) 2,4-pentanedionate, hydrate (14024-48-7)		
ACGIH	ACGIH TWA (mg/m ³)	0.05 mg/m ³ Co
OSHA	OSHA PEL (TWA) (mg/m ³)	0.1 mg/m ³ Co

8.2. Appropriate engineering controls

Appropriate engineering controls : Provide local exhaust or general room ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection:

Neoprene or nitrile rubber gloves

COBALT(II) 2,4-PENTANEDIONATE, hydrate

Safety Data Sheet

Eye protection:

Chemical goggles or face shield. Contact lenses should not be worn

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified dust and mist (teal cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder. Turns pink on uptake of water.
Molecular mass	: 257.18 g/mol
Color	: Blue-violet.
Odor	: No data available
Odor threshold	: No data available
Refractive index	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: 165 - 169 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 200 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: 0.01 mm Hg @ 100°C
Relative vapor density at 20 °C	: No data available
Relative density	: > 1
% Volatiles	: < 2 %
Solubility	: Water: 5.5 g/l
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Oxidizers.

10.6. Hazardous decomposition products

Cobalt oxide fumes. Organic acid vapors.

COBALT(II) 2,4-PENTANEDIONATE, hydrate

Safety Data Sheet

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

COBALT(II) 2,4-PENTANEDIONATE, hydrate (14024-48-7)

ATE US (oral)	670 mg/kg body weight
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Cobalt(II) 2,4-pentanedionate, hydrate (14024-48-7)

LD50 oral rat	670 mg/kg
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ATE US (oral)	670 mg/kg body weight
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Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Causes serious eye damage.

Respiratory or skin sensitization : May cause an allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Suspected of causing cancer.

Cobalt compounds are suspect carcinogens of connective tissue and lungs.

Cobalt(II) 2,4-pentanedionate, hydrate (14024-48-7)

IARC group	2B - Possibly carcinogenic to humans
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Reproductive toxicity : May damage fertility or the unborn child.

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Symptoms/effects after inhalation : May cause irritation to the respiratory tract. May cause an allergy or asthma symptoms or breathing difficulties if inhaled. Cobalt compounds are suspect carcinogens of connective tissue and lungs.

Symptoms/effects after skin contact : May cause an allergic skin reaction. Hypersensitivity of the skin to certain cobalt compounds has been demonstrated.

Symptoms/effects after eye contact : Causes serious eye damage.

Symptoms/effects after ingestion : Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

Reason for classification : Expert judgment

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the ozone layer : No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Sewage disposal recommendations : Do not dispose of waste into sewer.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number

UN-No.(DOT) : 3077

DOT NA no. UN3077

COBALT(II) 2,4-PENTANEDIONATE, hydrate

Safety Data Sheet

14.2. UN proper shipping name

Transport document description	: UN3077 Environmentally hazardous substances, solid, n.o.s. (COBALT(II) 2,4-PENTANEDIONATE, hydrate), 9, III
Proper Shipping Name (DOT)	: Environmentally hazardous substances, solid, n.o.s. (COBALT(II) 2,4-PENTANEDIONATE, hydrate)
Class (DOT)	: 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140
Packing group (DOT)	: III - Minor Danger
Hazard labels (DOT)	: 9 - Class 9 (Miscellaneous dangerous materials)



Dangerous for the environment	: Yes
Marine pollutant	: Yes



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 213
DOT Packaging Bulk (49 CFR 173.xxx)	: 240
DOT Packaging Exceptions (49 CFR 173.xxx)	: 155
DOT Symbols	: G - Identifies PSN requiring a technical name

14.3. Additional information

Emergency Response Guide (ERG) Number	: 171
Other information	: No supplementary information available.

Transport by sea

DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
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Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: No limit
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: No limit

SECTION 15: Regulatory information

15.1. US Federal regulations

Cobalt(II) 2,4-pentanedionate, hydrate (14024-48-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Cobalt(II) 2,4-pentanedionate, hydrate (14024-48-7)

Listed on the Canadian NDSL (Non-Domestic Substances List)

EU-Regulations

Cobalt(II) 2,4-pentanedionate, hydrate (14024-48-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Cobalt(II) 2,4-pentanedionate, hydrate (14024-48-7)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

COBALT(II) 2,4-PENTANEDIONATE, hydrate

Safety Data Sheet

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Full text of H-phrases::

H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H334	May cause an allergy or asthma symptoms or breathing difficulties if inhaled
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Abbreviations and acronyms

: Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor.

Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Prepared by safety and environmental affairs.

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SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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