



Preparing for the New Era of Laboratories

MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

COBALT (II) SULPHATE HEPTAHYDRATE 99% AR

PRODUCT CODE : O-5068

CAS No : 10026-24-1

FORMULA : $\text{CoSO}_4 \cdot 7\text{H}_2\text{O}$

UN No : 3077

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MSDS Number : 0112

Date : Aug 20th, 2024

Version : 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- 1.1 Product Name** : COBALT (II) SULPHATE HEPTAHYDRATE 99% AR
Synonyms : Cobaltous sulphate, heptahydrate
CAS No. : 10026-24-1
HS Code : 2833 29 90
Chemical Formula : $\text{CoSO}_4 \cdot 7\text{H}_2\text{O}$ Hill $\text{CoO}_4\text{S} \cdot 7 \text{H}_2\text{O}$
Molecular Weight : 281.10 g/mol
Product Code : O-5068
Brand : Labotiq
1.2 Manufacturer : Labotiq
Address : Jl.Terapi Raya AD2-Bumi Menteng Asri Bogor, Jawa Barat Indonesia – 16111
Website : www.labotiq.net
Email : labotiq.id@gmail.com
For information : Phone : (+62-251) 839110, 8311662, Fax : (+62-251) 83135710
Emergency number : +6281316894650
1.3 Application : Laboratory chemicals, Manufacture of substances, General Chemical reagent

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 4), H302
 Eye irritation (Category 2), H319
 Respiratory sensitization (Category 1), H334
 Skin sensitization (Category 1), H317
 Germ cell mutagenicity (Category 2), H341
 Carcinogenicity, Inhalation (Category 1B), H350i
 Reproductive toxicity (Category 1B), H360F
 Short-term (acute) aquatic hazard (Category 1), H400
 Long-term (chronic) aquatic hazard (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H302

Harmful if swallowed.

H317

May cause an allergic skin reaction.

H319

Causes serious eye irritation.

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.

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Precautionary statement(s)

P273

Avoid release to the environment.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

P301 + P312

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.

P302 + P352

IF ON SKIN: Wash with plenty of water.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313

IF exposed or concerned: Get medical advice/ attention.

Limited to professional users only.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccum

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: Cobaltous sulphate, heptahydrate	
Formula	: $\text{CoSO}_4 \cdot 7\text{H}_2\text{O}$	Hill $\text{CoO}_4\text{S} \cdot 7 \text{H}_2\text{O}$
Molecular weight	: 281.10 g/mol	
CAS-No.	: 10026-24-1	
EC-No.	: 233-334-2	
Index-No.	: 027-005-00-0	

3.2 Mixture

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Cobalt(II) sulfate heptahydrate CAS-No. . 10026-24-1 EC-No. 233-334-2 Index-No 027-005-00-0	Acute Tox. 4; Eye Irrit. 2; Resp. Sens. 1; Skin Sens. 1; Muta. 2; Carc. 1B; Repr. 1B; Aquatic Acute 1; Aquatic Chronic 1; H302, H319, H334, H317, H341, H350i, H360F, H400, H410 Concentration limits: $\geq 0,01\%$: Carc. 1B, H350i; M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 10	$\leq 100\%$

For the full text of the H-Statements mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

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In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Sulfur oxides, Cobalt/cobalt oxides, Not combustible. Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage class

Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740, Size M)

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Splash contact

Material: Nitrile rubber
 Minimum layer thickness: 0.11 mm
 Break through time: 480 min
 Material tested: Dermatrill® (KCL 740, Size M)

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use (EN 143) respirator cartridges as a backup to engineering controls. If the full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
 Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Form: crystalline
	Colour: red
Odour	odorless
Odour Threshold	Not applicable
pH	4 at 100 g/l at 20 °C
Melting point/freezing point	Melting point/range: 98 °C
Initial boiling point and boiling range	196 °C - lit.
Flash point	> 113 °C - closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	2.03 g/cm ³ at 25 °C
Water solubility	362 g/l at 20 °C
Partition coefficient: octanol/water	Not applicable for inorganic substances
Auto-ignition temperature	No data available
Decomposition temperature	> 41 °C - Elimination of water of crystallization 735 °C - (anhydrous substance)
Viscosity	Viscosity, kinematic: Not applicable
Explosive properties	No data available
Oxidizing properties	none

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

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10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Exposure to moisture

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

Other decomposition products - No data available Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Cobalt/cobalt oxides In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - 1.330 mg/kg (OECD Test Guideline 401)

Remarks: (anhydrous substance)

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Skin - In vitro study

Result: No skin irritation - 15 min (OECD Test Guideline 439)

Remarks: (anhydrous substance)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Eye irritation

(OECD Test Guideline 405)

Remarks: (anhydrous substance)

Respiratory or skin sensitisation

Patch test: - Guinea pig

Result: positive (OECD Test Guideline 406)

Remarks: (anhydrous substance)

Germ cell mutagenicity

Suspected of causing genetic defects.

Test Type: In vitro mammalian cell gene mutation test

Test system: Mouse lymphoma test

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Remarks: (anhydrous substance)

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Carcinogenicity

May cause cancer by inhalation.

Reproductive toxicity

May damage fertility.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: GG3200000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Symptoms of an acute cobalt intoxication: diarrhoea, loss of appetite, drop in body temperature, drop in blood pressure. Toxic effect on kidneys (proteinuria, anuria), heart, and pancreas. Other dangerous properties can not be excluded. This substance should be handled with particular care.

SECTION 12: Ecological information**12.1 Toxicity**

Toxicity to fish

semi-static test LC50 - Pimephales promelas (fathead minnow) - 1,866 mg/l - 96 h (US-EPA)

Remarks: (anhydrous substance)

Toxicity to daphnia and other aquatic invertebrates

static test LC50 - Ceriodaphnia dubia (water flea) - 0,39 mg/l - 48 h (US-EPA)

Remarks: (anhydrous substance)

Toxicity to algae

static test ErC50 - Pseudokirchneriella subcapitata - 0,095 mg/l - 72 h (OECD Test Guideline 201)

Remarks: (anhydrous substance)

Toxicity to bacteria

static test EC50 - activated sludge - 120 mg/l - 30 min (OECD Test Guideline 209)

Remarks: (anhydrous substance)

The value is given in analogy to the following substances: Cobalt(II) chloride

12.2 Persistence and degradability

Biodegradability

Biotic/Aerobic

Result: - Not readily biodegradable.

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

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

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12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Dissolve or mix the material with a combustible solvent and burn in a chem scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 3077

IMDG: 3077

IATA: 3077

14.2 UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cobalt(II) sulfate heptahydrate)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cobalt(II) sulfate heptahydrate)

IATA: Environmentally hazardous substance, solid, n.o.s. (Cobalt(II) sulfate heptahydrate)

14.3 Transport hazard class(es)

ADR/RID: 9

IMDG: 9

IATA: 9

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: no

IATA: yes

14.6 Special precautions for user

Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

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SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H317	Can cause allergic reactions to the skin.
H334	Can cause allergies or asthma symptoms or difficulty breathing if inhaled.
H341	Suspected of causing genetic damage.
H350i	Can cause cancer by inhalation.
H360F	May damage fertility.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long-term effects.

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 0

Reactivity: 0

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Labotiq shall not be held liable for any damage resulting from handling or from contact with the above product.

Version : 1.0

Revision Date : August 20, 2024