
MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form : Substance
:
CAS No : 10026-22-9
Product code : 02895
Chemical structure : $\text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$
Synonyms : Cobaltous nitrate

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Industrial. For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Sensitisation — H334
Respiratory, category 1
Sensitisation — Skin, H317
category 1
Germ cell mutagenicity, H341
Category 2
Carcinogenicity H350i
(inhalation) Category 1B
Reproductive toxicity, H360F
Category 1B
Hazardous to the aquatic H410
environment — Chronic
Hazard, Category 1

Full text of classification categories and H statements : see section 16

COBALT (II) NITRATE HEXAHYDRATE Extra Pure

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Classification according to Directive 67/548/EEC or 1999/45/EC

Carc.Cat.3; R40

Muta.Cat.3; R68

O; R9

Xn; R22

R43

N; R50/53

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS08

GHS09

Signal word (CLP) : Danger

Hazard statements (CLP) : 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 (CLP) : P201 - Obtain special instructions before use
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302+P352 - IF ON SKIN: Wash with plenty of water/...
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name : COBALT (II) NITRATE HEXAHYDRATE Extra Pure

CAS No : 10026-22-9

Full text of R- and H-phrases: see section 16

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3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures after inhalation | : Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| First-aid measures after skin contact | : Wash with plenty of soap and water. Get medical advice/attention. Wash contaminated clothing before reuse. |
| First-aid measures after eye contact | : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. |
| First-aid measures after ingestion | : Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|--------------------------------------|--|
| Symptoms/injuries | : May cause damage to organs. |
| Symptoms/injuries after inhalation | : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause cancer by inhalation. |
| Symptoms/injuries after skin contact | : May cause an allergic skin reaction. |
| Symptoms/injuries after ingestion | : Harmful if swallowed. |
| Chronic symptoms | : May damage fertility. May cause cancer. |

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|--|
| Suitable extinguishing media | : Carbon dioxide. Dry powder. Foam. Water spray. |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

| | |
|--------------------------------|---|
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. |
|--------------------------------|---|

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

| | |
|----------------------|-----------------------------------|
| Emergency procedures | : Evacuate unnecessary personnel. |
|----------------------|-----------------------------------|

6.1.2. For emergency responders

| | |
|----------------------|--|
| Protective equipment | : Use personal protective equipment as required. |
|----------------------|--|

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

| | |
|-------------------------|---|
| Methods for cleaning up | : Minimize generation of dust. On land, sweep or shovel into suitable containers. |
|-------------------------|---|

6.4. Reference to other sections

No additional information available

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

| | |
|-------------------------------|---|
| Precautions for safe handling | : Avoid contact with skin and eyes. Avoid dust formation. Do not breathe vapours. Provide good ventilation in process area to prevent formation of vapour. |
| Hygiene measures | : Do not eat, drink or smoke when using this product. 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 | : Store in a well-ventilated place. Keep container tightly closed. Store in original container. Keep container tightly closed. |
|--------------------|--|

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

| | |
|-------------------------------|--|
| Personal protective equipment | : Wash ... thoroughly after handling. |
| Hand protection | : protective gloves |
| Eye protection | : Chemical goggles or safety glasses |
| Skin and body protection | : Wear fire/flame resistant/retardant clothing |
| Respiratory protection | : Wear respiratory protection |
| Other information | : Do not breathe dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|-------------------------|
| Physical state | : Solid |
| Molecular mass | : 291.03 g/mol |
| Colour | : Red crystals. |
| Odour | : odourless. |
| Odour threshold | : No data available |
| pH | : 4 at 100 g/l at 20 °C |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : 55 °C |
| Freezing point | : No data available |
| Boiling point | : 75 °C |
| Flash point | : No data available |

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| | |
|----------------------------------|---|
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapour pressure | : No data available |
| Relative vapour density at 20 °C | : No data available |
| Relative density | : No data available |
| Density | : 1.87 g/cm ³ |
| Solubility | : Water: 134 g/100ml |
| Log Pow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : The substance or mixture is classified as oxidizing with the subcategory 2. |
| Explosive 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 under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Direct sunlight. Air contact. Moisture.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|-------------------------------|---|
| Acute toxicity | : Not classified |
| Skin corrosion/irritation | : Not classified pH: 4 at 100 g/l at 20 °C |
| Serious eye damage/irritation | : Not classified pH: 4 at 100 g/l at 20 °C |

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

Germ cell mutagenicity : Suspected of causing genetic defects.

Carcinogenicity : May cause cancer by inhalation.

Reproductive toxicity : May damage fertility.

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

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

12.2. Persistence and degradability

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| | |
|-------------------------------|---|
| Persistence and degradability | May cause long-term adverse effects in the environment. |
|-------------------------------|---|

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to ...

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

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14.1. UN number

| | |
|---------------|--------|
| UN-No. (ADR) | : 3077 |
| UN-No. (IMDG) | : 3077 |
| UN-No.(IATA) | : 3077 |
| UN-No.(ADN) | : 3077 |
| UN-No. (RID) | : 3077 |

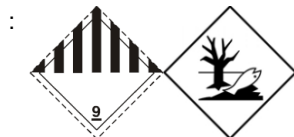
14.2. UN proper shipping name

| | |
|---------------------------------------|--|
| Proper Shipping Name (ADR) | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| Proper Shipping Name (IMDG) | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| Proper Shipping Name (IATA) | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| Proper Shipping Name (ADN) | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| Proper Shipping Name (RID) | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| Transport document description (ADR) | : UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III, (E) |
| Transport document description (IMDG) | : UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III, MARINE POLLUTANT |
| Transport document description (IATA) | : UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III |
| Transport document description (ADN) | : UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III |
| Transport document description (RID) | : UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III |

14.3. Transport hazard class(es)

ADR

| | |
|----------------------------------|-----|
| Transport hazard class(es) (ADR) | : 9 |
| Danger labels (ADR) | : 9 |



IMDG

| | |
|-----------------------------------|-----|
| Transport hazard class(es) (IMDG) | : 9 |
| Danger labels (IMDG) | : 9 |



IATA

| | |
|-----------------------------------|-----|
| Transport hazard class(es) (IATA) | : 9 |
| Hazard labels (IATA) | : 9 |

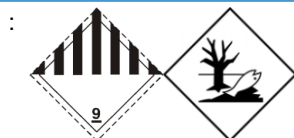


ADN

| | |
|----------------------------------|-----|
| Transport hazard class(es) (ADN) | : 9 |
| Danger labels (ADN) | : 9 |

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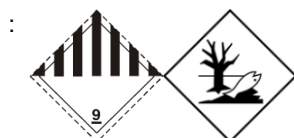
Safety Data Sheet



RID

Transport hazard class(es) (RID) : 9

Danger labels (RID) : 9



14.4. Packing group

Packing group (ADR) : III

Packing group (IMDG) : III

Packing group (IATA) : III

Packing group (ADN) : III

Packing group (RID) : III

14.5. Environmental hazards

Dangerous for the environment : Yes

Marine pollutant : Yes

Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : M7

Special provision (ADR) : 274, 335, 601, 375

Limited quantities (ADR) : 5kg

Excepted quantities (ADR) : E1

Packing instructions (ADR) : P002, IBC08, LP02, R001

Special packing provisions (ADR) : PP12, B3

Mixed packing provisions (ADR) : MP10

Portable tank and bulk container instructions (ADR) : T1, BK1, BK2

Portable tank and bulk container special provisions (ADR) : TP33

Tank code (ADR) : SGAV, LGBV

Vehicle for tank carriage : AT

Transport category (ADR) : 3

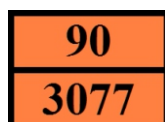
Special provisions for carriage - Packages (ADR) : V13

Special provisions for carriage - Bulk (ADR) : VC1, VC2

Special provisions for carriage - Loading, unloading and handling (ADR) : CV13

Hazard identification number (Kemler No.) : 90

Orange plates :



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Tunnel restriction code (ADR) : E
EAC code : 2Z

- Transport by sea

Special provision (IMDG) : 274, 335, 966, 967, 969
Limited quantities (IMDG) : 5 kg
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P002, LP02
Packing provisions (IMDG) : PP12
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B3
Tank instructions (IMDG) : T1, BK1, BK2, BK3
Tank special provisions (IMDG) : TP33
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-F
Stowage category (IMDG) : A
Stowage and handling (IMDG) : SW23
MFAG-No : 140

- Air transport

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y956
PCA limited quantity max net quantity (IATA) : 30kgG
PCA packing instructions (IATA) : 956
PCA max net quantity (IATA) : 400kg
CAO packing instructions (IATA) : 956
CAO max net quantity (IATA) : 400kg
Special provision (IATA) : A97, A158, A179, A197
ERG code (IATA) : 9L

- Inland waterway transport

Classification code (ADN) : M7
Special provisions (ADN) : 274, 335, 375, 601
Limited quantities (ADN) : 5 kg
Excepted quantities (ADN) : E1
Carriage permitted (ADN) : T* B**
Equipment required (ADN) : PP, A
Number of blue cones/lights (ADN) : 0

- Rail transport

Classification code (RID) : M7
Special provision (RID) : 274, 335, 375, 601
Limited quantities (RID) : 5kg
Excepted quantities (RID) : E1
Packing instructions (RID) : P002, IBC08, LP02, R001
Special packing provisions (RID) : PP12, B3
Mixed packing provisions (RID) : MP10
Portable tank and bulk container instructions (RID) : T1, BK1, BK2
Portable tank and bulk container special provisions (RID) : TP33
Tank codes for RID tanks (RID) : SGAV, LGBV
Transport category (RID) : 3
Special provisions for carriage – Packages (RID) : W13

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Special provisions for carriage – Bulk (RID) : VC1, VC2
Special provisions for carriage – Loading and unloading (RID) : CW13, CW31
Colis express (express parcels) (RID) : CE11
Hazard identification number (RID) : 90

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

COBALT (II) NITRATE HEXAHYDRATE Extra Pure is not on the REACH Candidate List

COBALT (II) NITRATE HEXAHYDRATE Extra Pure is not on the REACH Annex XIV List

15.1.2. National regulations

Germany

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of R-, H- and EUH-phrases:

| | |
|-------------------|---|
| Aquatic Chronic 1 | Hazardous to the aquatic environment — Chronic Hazard, Category 1 |
| Carc. 1B | Carcinogenicity (inhalation) Category 1B |
| Muta. 2 | Germ cell mutagenicity, Category 2 |
| Repr. 1B | Reproductive toxicity, Category 1B |

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| | |
|---------------|---|
| Resp. Sens. 1 | Sensitisation — Respiratory, category 1 |
| Skin Sens. 1 | Sensitisation — Skin, category 1 |
| 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 |
| R22 | Harmful if swallowed |
| R40 | Limited evidence of a carcinogenic effect |
| R43 | May cause sensitisation by skin contact |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment |
| R68 | Possible risk of irreversible effects |
| R9 | Explosive when mixed with combustible material |
| N | Dangerous for the environment |
| O | Oxidising |
| Xn | Harmful |

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product