

Cobalt, standard solution 1000mg/L,  
JUNSEI CHEMICAL CO., LTD.,30185jis\_J\_E1-2,20/Dec/2021

Date of issue for the 1st edition : 25/Apr/2018

Date of revision : 20/Dec/2021

## Safety Data Sheet

### 1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Cobalt, standard solution 1000mg/L

Reference number(SDS):30185jis\_J\_E1-2

Product type:

Reagent

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan

Division: Quality Assurance Department

Telephone number: +81-48-986-6161

FAX: +81-48-989-2787

e-mail address: shiyaku-t@junsei.co.jp

### 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

#### HEALTH HAZARDS

Acute toxicity (Inhalation): Category 4

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

Respiratory sensitization: Category 1

Specific target organ toxicity – single exposure: Category 2(respiratory system)

Specific target organ toxicity – repeated exposure: Category 2(tooth, respiratory system)

#### ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 2

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

#### HAZARD STATEMENT

H332-Harmful if inhaled

H314-Causes severe skin burns and eye damage

H318-Causes serious eye damage

H334-May cause allergy or asthma symptoms or breathing difficulties if inhaled

H371-May cause damage to organs

H373-May cause damage to organs through prolonged or repeated exposure

H401-Toxic to aquatic life

#### PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.

Do not breathe dust/fume/gas/mist/vapors/spray.

In case of inadequate ventilation wear respiratory protection.

Use only outdoors or in a well-ventilated area.

Wash contaminated parts thoroughly after handling.

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Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

Do not eat, drink or smoke when using this product.

#### Response

Get medical advice/attention if you feel unwell.

Immediately call a POISON CENTER/doctor/physician.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF exposed or concerned: Call a POISON CENTER/doctor/physician.

If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Wash contaminated clothing before reuse.

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

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

#### Storage

Store locked up.

#### Disposal

Dispose of contents/container in accordance with local/national regulation.

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### 3. Composition/information on ingredients

#### Mixture/Substance selection:

##### Mixture

Ingredient name:Cobalt (II) chloride

Content (%):ca. 0.2 (w/v)

Chemical formula:Cl<sub>2</sub>Co

Chemicals No, Japan:1-207

CAS No.:7646-79-9

MW:129.84

ECNO:231-589-4

Ingredient name:Hydrogen chloride

Content (%):ca. 3.6 (w/v)

Chemical formula:ClH

Chemicals No, Japan:1-215

CAS No.:7647-01-0

MW:36.46

ECNO:231-595-7

Ingredient name:Water

Content (%):Residual quantity of the ingredient mentioned above.

Chemical formula:H<sub>2</sub>O

CAS No.:7732-18-5

MW:18.02

ECNO:231-791-2

Note : The figures shown above are not the specifications of the product.

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### 4. First-aid measures

#### Descriptions of first-aid measures

##### General measures

Get medical advice/attention if you feel unwell.

Immediately call a POISON CENTER/doctor/physician.

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**IF INHALED**

Remove person to fresh air and keep comfortable for breathing.  
If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician.  
Call a POISON CENTER/doctor/physician if you feel unwell.

**IF ON SKIN (or hair)**

Take off immediately all contaminated clothing. Rinse skin with water or shower.  
If skin irritation or rash occurs: Get medical advice/attention.

**IF IN EYES**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.

**IF SWALLOWED**

Rinse mouth. Do NOT induce vomiting.  
Call a POISON CENTER/doctor/physician if you feel unwell.

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**5. Fire-fighting measures**

## Extinguishing media

## Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.  
The product is non-flammable.

## Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

## Specific hazards arising from the substance or mixture

Containers may explode when heated.  
Fire may produce irritating, corrosive and/or toxic gases.  
Runoff from fire control or dilution water may cause pollution.

## Advice for firefighters

## Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

## Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

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**6. Accidental release measures**

## Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

## Environmental precautions

Avoid release to headsprings, rivers, lakes, ocean and groundwater.

## Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

## Preventive measures for secondary accident

Collect spillage.

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**7. Handling and storage**

## Precautions for safe handling

## Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

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(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Use only outdoors or in a well-ventilated area.

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

Use personal protective equipment as required.

When using do not eat, drink or smoke.

Any incompatibilities

Strong bases should not be mixed with the chemicals.

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wash contaminated clothing before reuse.

Storage

Conditions for safe storage

Store in a well-ventilated place. Keep container tightly closed.

Keep cool. Protect from sunlight.

Store in accordance with local/national regulation.

Store locked up.

Container and packaging materials for safe handling data is not available.

Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See

Section 8 for exposure controls and personal protection recommendations.

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## 8. Exposure controls/personal protection

Control parameters

Control value

(Cobalt (II) chloride)

Japan control value (2012)  $\leq 0.02\text{mg-Co}/\text{m}^3$

Adopted value

(Cobalt (II) chloride)

JSOH(1992)  $0.05\text{mg-Co}/\text{m}^3$

ACGIH(2019) TWA:  $0.02\text{mg-Co}/\text{m}^3(\text{I})$  (Pulm func changes)

Notation...DSEN; RSEN

(Hydrogen chloride)

JSOH(2014) (ceiling) 2ppm;  $3.0\text{mg}/\text{m}^3$

ACGIH(2002) STEL: C 2ppm (URT irr)

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Consult with your glove and/or personnel equipment manufacturer for selection of

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appropriate compatible materials.

Eye protection

Wear safety glasses with side-shields or chemical safety goggle.

Wear eye/face protection.

Skin and body protection

Wear impervious clothing and boots in case of repeated or prolonged treatment.

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## 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid

Color: Pale pink

Odor data is not available.

Odor threshold data is not available.

Melting point/Freezing point data is not available.

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids): Non-flammable

Lower and upper explosion limit/flammability limit data is not available.

Flash point: Non-flammable

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

Self-Accelerating Decomposition Temperature/SADT data is not available.

pH: (Strong acidic)

Dynamic viscosity data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Miscible

Solubility in solvent data is not available.

n-Octanol/water partition coefficient data is not available.

Vapor pressure data is not available.

Vapor density data is not available.

VOC data is not available.

Evaporation rate data is not available.

Density and/or relative density data is not available.

Relative vapor density (Air=1) data is not available.

Relative density of the Vapor/air - mixture at 20°C (Air = 1) data is not available.

Critical temperature data is not available.

Particle characteristics data is not available.

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## 10. Stability and Reactivity

Reactivity

Reactivity data is not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

Possibility of hazardous reactions data is not available.

Conditions to avoid

Contact with incompatible materials.

Heat.

Incompatible materials

Strong bases

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Hazardous decomposition products  
Carbon oxides, Cobalt oxides, Chlorides

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## 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Cobalt (II) chloride) rat LD50=80mg/kg (MOE risk assessment vol.11, 2013)

(Hydrogen chloride) rat LD50=238mg/kg (SIDS, 2009)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(Hydrogen chloride)

mist: rat LC50=0.42mg/L/4hr (SIDS, 2009)

gas: rat LC50=1411ppm/4hr (SIDS, 2009)

Labor standard law, Japan; Toxic

Hydrogen chloride; Cobalt (II) chloride

Irritant properties

Skin corrosion/irritation

[GHS Cat. based on pH]

pH <= 2, accordingly Skin corrosion/irritation: Category 1

[GHS Cat. Japan, base data]

(Cobalt (II) chloride) human skin irritation (HSDB, Access on September 2015)

(Hydrogen chloride) rabbit/mouse/rat/human : corrosive (SIDS, 2009)

Serious eye damage/irritation

[GHS Cat. based on pH]

pH <= 2, accordingly Serious eye damage/eye irritation: Category 1

[GHS Cat. Japan, base data]

(Cobalt (II) chloride) eyes irritating (HSDB, Access on September 2015)

(Hydrogen chloride) rabbit : corrosive (SIDS, 2002)

Sensitization

MOHL\_J Notice

Cobalt (II) chloride

Respiratory sensitization

[GHS Cat. Japan, base data]

(Cobalt (II) chloride) cat. 1; JSOH recommendation, 2015

(Hydrogen chloride) cat. 1; Occupational/Environmental Allergy Society, Japan

Skin sensitization

[GHS Cat. Japan, base data]

(Cobalt (II) chloride) cat. 1; JSOH recommendation, 2015

Mutagenic effects data is not available.

Carcinogenicity

[GHS Cat. Japan, base data]

(Cobalt (II) chloride)

cat.2; IARC Gr. 2B (IARC 86, 2006 (Co compounds) et al.)

IARC-Gr.2B : Possibly carcinogenic to humans

ACGIH-A3(as Co)(2019) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

NTP-Reasonably Anticipated To Be Human Carcinogen

EU-Category 1B; Substances presumed to have carcinogenic potential for humans

(Hydrogen chloride)

IARC-Gr.3 : Not Classifiable as a Human Carcinogen

ACGIH-A4(2002) : Not Classifiable as a Human Carcinogen

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Reproductive toxicity

[GHS Cat. Japan, base data]

(Cobalt (II) chloride) cat. 1B; MOE risk assessment vol.11, 2013 et al.

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

(Hydrogen chloride) respiratory system (ACGIH, 2003)

[cat.3 (resp. irrit.)]

[GHS Cat. Japan, base data]

(Cobalt (II) chloride) respiratory tract irritation (MOE risk assessment vol.11, 2013)

STOT-repeated exposure

[cat.1]

[GHS Cat. Japan, base data]

(Hydrogen chloride) teeth; respiratory system (SIDS, 2002)

Aspiration hazard data is not available.

Information on other hazards

Data on the preparation itself is not available.

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## 12. Ecological Information

Ecotoxicity

Aquatic toxicity

H401-Toxic to aquatic life

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(Cobalt (II) chloride) Waterweed (Lemna minor) EC50=0.47mg/L/7days (MOE risk assessment vol.11, 2013)

(Hydrogen chloride) Crustacea (Daphnia magna) EC50=0.492mg/L/48hr (SIDS, 2005)

Hazardous to the aquatic environment (Long-term)

[GHS Cat. Japan, base data]

(Cobalt (II) chloride) Fish (Danio rerio) NOEC=0.13mg/L/16days (CICAD 69, 2006)

Water solubility

(Cobalt (II) chloride) 53 g/100 ml (20°C) (ICSC, 2013)

(Hydrogen chloride) 67 g/100 ml (30°C) (ICSC, 2000)

Persistence and degradability

Persistence and degradability data is not available.

Bioaccumulative potential

(Cobalt (II) chloride) log Pow=0.85 (ICSC, 2013)

(Hydrogen chloride) log Pow=0.25 (ICSC, 2000)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

Additional data

Data on the preparation itself is not available.

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## 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Avoid release to the environment.

Dispose of contents/container in accordance with local/national regulation.

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#### 14. Transport Information

##### UN No., UN CLASS

UN No. or ID No.: Not applicable  
UN Proper Shipping Name : Not applicable  
Class or division (Transport hazard class) : Not applicable  
Packing group : Not applicable

Not applicable to IMDG Code

Not applicable to IATA Dangerous Goods Regulations

##### Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

Maritime transport in bulk according to IMO instruments

Noxious Liquid ; Cat. Z  
Hydrogen chloride(Z-33)  
Non Noxious Liquid ; Cat. OS  
Water(OS-18)

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#### 15. Regulatory Information

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

Chemicals listed in TSCA Inventory

Cobalt (II) chloride; Hydrogen chloride; Water

##### Other regulatory information

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

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

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

##### Chemical safety assessment

Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

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#### 16. Other information

##### GHS classification and labelling

H332–Acute Tox. 4: H332 Harmful if inhaled  
H314–Skin Corr. 1: H314 Causes severe skin burns and eye damage  
H318–Eye Dam. 1: H318 Causes serious eye damage  
H334–Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled  
H371–STOT SE 2: H371 May cause damage to organs  
H373–STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure  
H401–Aquatic Acute 2: H401 Toxic to aquatic life

##### Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN  
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN  
IMDG Code, 2018 Edition (Incorporating Amendment 39–18)  
IATA Dangerous Goods Regulations (62nd Edition) 2021  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2021 TLVs and BEIs. (ACGIH)



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JIS Z 7252 : 2019

JIS Z 7253 : 2019

2021 Recommendation on TLVs (JSOH)

Supplier's data/information

Chemicals safety data management system "GHS Assistant" Version 4.14 (<https://www.asahi-ghs.com/>)

NITE Chemical Risk Information Platform "NITE-CHRIP"

([https://www.nite.go.jp/en/chem/chrip/chrip\\_search/systemTop](https://www.nite.go.jp/en/chem/chrip/chrip_search/systemTop))

GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.0) (Mar. 2020, METI)

#### Definitions and Abbreviations

SDS (Safety Data Sheet)

LD50 (Lethal Dose, 50%)

LC50 (Lethal Concentration, 50%)

IARC (International Agency for Research on Cancer)

ACGIH (American Conference of Governmental Industrial Hygienists)

EPA (US Environmental Protection Agency)

NTP (US National Toxicology Program)

JSOH (Japan Society for Occupational Health)

EU (European Union)

EC50 (Effective Concentration, 50%)

NOEC (No Observed Effect Concentration)

BOD (Biochemical Oxygen Demand)

COD (Chemical Oxygen Demand)

BCF (Bioconcentration Factor)

anh (anhydride)

#### General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2020).