Otto Chemie Pvt Ltd

An ISO 9001 : 2015 & GMP Certified Company
Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)
Tel : + 91 98200 41841 Email : info@ottokemi.com Web : www.ottokemi.com

Creation Date: 20-08-2026 Revision Date: 18-07-2021

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Product identifiers
Product Name: Cobalt(II) chloride, hexahydrate, ACS reagent, 99%+
Product Code: C 2409
CAS No: 7791-13-1

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet
Company identification
OTTO CHEMIE PVT LTD
No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

1.4. Emergency telephone number
Phone no. : + 91 98200 41841 (10 : 00 am – 06 : 00 pm)

SECTION 2: Hazards identification
2.1 Classification of the substance or mixture
Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4	H302: Harmful if swallowed.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Respiratory sensitisation, Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Germ cell mutagenicity, Category 2	H341: Suspected of causing genetic defects.
Carcinogenicity, Category 1B	H350i: May cause cancer by inhalation.
Reproductive toxicity, Category 1B	H360FD: May damage fertility. May damage the unborn child.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements
Labelling (REGULATION (EC) No 1272/2008)
Hazard pictograms :
Signal word : Danger
Hazard statements : H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341 Suspected of causing genetic defects.
H350i May cause cancer by inhalation.
H360FD May damage fertility. May damage the unborn child.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements
Prevention:
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of water.

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	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.
Additional Labelling	Restricted to professional users.
Reduced Labelling (<= 125 ml)	:
Hazard pictograms	Danger
Signal word	
Hazard Statements	
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H350i	May cause cancer by inhalation.
H318	Causes serious eye damage.
H360FD	May damage fertility. May damage the unborn child.
Precautionary Statements	
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
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.
Supplemental Hazard Statements	none

2.3 Other hazards
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.
Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances
EC-No. : 231-589-4
Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)	M-Factor, SCL, ATE
Cobalt dichloride hexahydrate	7791-13-1 231-589-4	>= 90 - <= 100	M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10 specific concentration limit Carc. 1B; H350i >= 0,01 % Acute toxicity estimate Acute oral toxicity: 537 mg/kg

SECTION 4: First aid measures

4.1 Description of first aid measures
General advice : First aiders need to protect themselves.
Show this safety data sheet to the doctor in attendance.
If inhaled : After inhalation: fresh air. Call in physician.
In case of skin contact : In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
In case of eye contact : After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
If swallowed : After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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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
Specific hazards during fire fighting
Not combustible.
Ambient fire may liberate hazardous vapours.
Hazardous combustion products
Hydrogen chloride gas
Cobalt/cobalt oxides
5.3 Advice for firefighters
Special protective
equipment 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.
Further information : Suppress (knock down) gases/vapours/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
Personal precautions : 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
Environmental precautions
Do not let product enter drains.
6.3 Methods and material for containment and cleaning up
Methods for 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.
6.4 Reference to other sections
For disposal considerations 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
Further information on storage conditions
Tightly closed. Dry. Keep in a well-ventilated place.
Keep locked up or in an area accessible only to qualified or authorised persons.
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

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Occupational Exposure Limits
8.2 Exposure controls
Personal protective equipment
Eye/face protection : Use equipment for eye protection tested and
approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Tightly fitting safety goggles
Hand protection
Material : Nitrile rubber
Break through time : 480 min
Glove thickness : 0,11 mm
Protective index : Full contact
Manufacturer : KCL 741 Dermatril® L
Material : Nitrile rubber
Break through time : 480 min
Glove thickness : 0,11 mm
Protective index : Splash contact
Manufacturer : KCL 741 Dermatril® L
Remarks : This recommendation applies only to the product
stated in the safety data sheet, supplied by us and
for the designated use. When dissolving in or mixing
with other substances and under conditions deviating
from those stated in EN 16523-1 please contact the
supplier of CE-approved gloves (e.g. KCL GmbH, D36124 Eichenzell, Internet: www.kcl.de).
Skin and body protection : protective clothing
Respiratory protection : required when dusts are generated.
Our recommendations on filtering respiratory
protection are based on the following standards: DIN
EN 143, DIN 14387 and other accompanying
standards relating to the used respiratory protection system.
Recommended Filter type: Filter type P3
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory
protective devices are carried out according to the instructions of the producer.
These measures have to be properly documented.
Environmental exposure controls
Advice : Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	: solid
Form	: Powder or crystals
Color	: violet
Odor	: odourless
Melting point/ range	: 56 °C
Boiling point/boiling range	: 1.049 °C (1.013 hPa)
Flammability	: No data available
Upper explosion limit / Upper flammability limit	: Not applicable
Lower explosion limit / Lower flammability limit	: Not applicable
Flash point	: Not applicable
Autoignition temperature	: Not applicable
Decomposition temperature	: No data available
pH	: 4,9 (25 °C) Concentration: 20 g/l
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Flow time	: No data available
Solubility(ies)	

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Water solubility	: 79 g/l (0 °C) 191 g/l (100 °C)
Partition coefficient: noctanol/water	: log Pow: 0,85 Method: (calculated) (Lit.) Bioaccumulation is not expected.
Vapor pressure	: No data available
Relative density	: No data available
Density	: 1,920 g/cm3 (25 °C)
Bulk density	: ca. 1.250 kg/m3
Relative vapour density	: No data available
9.2 Other information	
Explosives	: Not classified as explosive.
Oxidizing properties	: none
Burning rate	: No data available
Evaporation rate	: No data available
Molecular weight	: 237,90 g/mol

SECTION 10: Stability and reactivity
10.1 Reactivity
No data available
10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .
10.3 Possibility of hazardous reactions
Hazardous reactions : Risk of explosion with:
Alkali metals
10.4 Conditions to avoid
Conditions to avoid : no information available
10.5 Incompatible materials
No data available
10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information
11.1 Information on toxicological effects
Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals:
Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg Inhalation LC50 Rat: > 50mg/L.
Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.
Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).
Special Remarks on Toxicity to Animals: Not available.
Special Remarks on Chronic Effects on Humans: Not available.
Special Remarks on other Toxic Effects on Humans: Not available.

SECTION 12: Ecological information
12.1 Toxicity
Components:
Cobalt dichloride hexahydrate:
M-Factor (Acute aquatic toxicity) 10
Toxicity to fish (Chronic
toxicity)
NOEC: 0,21 mg/l
End point: mortality
Species: Pimephales promelas (fathead minnow)
Test Type: flow-through test
Analytical monitoring: yes
GLP: yes
Remarks: (ECHA)
The value is given in analogy to the following
substances:
The value is given in analogy to the following
substances: Cobalt(II) chloride

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
NOEC: 0,17 mg/l
End point: Growth inhibition
Exposure time: 14 d
Test Type: semi-static test
Analytical monitoring: yes
GLP: yes
Remarks: (ECHA)
The value is given in analogy to the following substances:
The value is given in analogy to the following substances: Cobalt(II) chloride
M-Factor (Chronic aquatic toxicity) : 10
Ecotoxicology Assessment
Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.
12.2 Persistence and degradability
No data available
12.3 Bioaccumulative potential
Components:
Cobalt dichloride hexahydrate:
Partition coefficient: n- octanol/water : log Pow: 0,85
Method: (calculated)
Remarks: (Lit.)
Bioaccumulation is not expected.
12.4 Mobility in soil
No data available
12.5 Results of PBT and vPvB assessment
Product:
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 Endocrine disrupting properties
Product:
Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
No data available
12.7 Other adverse effects
Components:
Cobalt dichloride hexahydrate:
Additional ecological information
Discharge into the environment must be avoided.

SECTION 13: Disposal considerations
13.1 Waste treatment methods
Product : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

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SECTION 14: Transport information

14.1 UN number or ID number

ADR	: UN 3077
IMDG	: UN 3077
IATA	: UN 3077

14.2 UN proper shipping name

ADR	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (cobalt dichloride)
IMDG	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (cobalt dichloride)
IATA	: Environmentally hazardous substance, solid, n.o.s. (cobalt dichloride)

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADR	: 9	
IMDG	: 9	
IATA	: 9	

14.4 Packing group

ADR	
Packing group	: III
Classification Code	: M7
Hazard Identification Number	: 90
Labels	: 9
Tunnel restriction code	: (-)
IMDG	
Packing group	: III
Labels	: 9
EmS Code	: F-A, S-F
IATA (Cargo)	
Packing instruction (cargo aircraft)	: 956
Packing instruction (LQ)	: Y956
Packing group	: III
Labels	: Class 9 - Miscellaneous dangerous substances and articles
IATA_P (Passenger)	
Packing instruction (passenger aircraft)	: 956
Packing instruction (LQ)	: Y956
Packing group	: III
Labels	: Class 9 - Miscellaneous dangerous substances and articles

14.5 Environmental hazards

ADR	
Environmentally hazardous	: yes
IMDG	
Marine pollutant	: yes

14.6 Special precautions for user

Remarks	: 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. Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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14.7 Maritime transport in bulk according to IMO instruments
Not applicable for product as supplied.

SECTION 15: Regulatory information
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)
Conditions of restriction for the following entries should be considered:
Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor.
Banned and/or restricted
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).
Cobalt dichloride hexahydrate
Regulation (EU) No 2024/590 on substances that deplete the ozone layer
Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)
Not applicable
REACH - List of substances subject to authorisation (Annex XIV)
Not applicable
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
E1 ENVIRONMENTAL HAZARDS
15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other Information
This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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