

SAFETY DATA SHEET

Issue Date 07-Mar-2025
Revision Number 2.05

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier**Product Name** Color Standard Solution (100)**Other means of identification****Product Code(s)** 030-15851**Recommended use of the chemical and restrictions on use****Recommended Use** For research use only.**Uses advised against** Seek expert judgment when using for purposes other than those recommended.**Details of the supplier of the safety data sheet****Manufacturer Address**

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2. HAZARDS IDENTIFICATION

GHS classification**Classification of the substance or mixture****Skin corrosion/irritation**

Category 2

Serious eye damage/eye irritation

Category 2A

Pictograms**Signal word**

Warning

Hazard statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

Precautionary statements-(Prevention)

Wash face, hands and any exposed skin thoroughly after handling Wear protective gloves/protective clothing/eye protection/face protection

Precautionary statements-(Response)

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 ON SKIN: Wash with plenty of soap and water If skin irritation occurs: Get medical advice/attention Take off contaminated clothing and wash before reuse

Precautionary statements-(Storage)

Not applicable

Precautionary statements-(Disposal)

Not applicable

Others

Other hazards Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Mixture

Chemical Name	Molecular weight	CAS RN	Weight-%
Water	18.02	7732-18-5	99.105
Hydrogen Chloride	36.46	7647-01-0	0.85
Potassium Hexachloroplatinate(IV)	485.99	16921-30-5	0.025
Cobalt(II) chloride hexahydrate	237.93	7791-13-1	0.020

Impurities and/or Additives: Not applicable

4. FIRST AID MEASURES

First aid measures

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water.

Inhalation Remove to fresh air.

Ingestion Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing media

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

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data

Sensitivity to Mechanical none.

Impact

Sensitivity to Static Discharge none.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions, protective Ensure adequate ventilation, especially in confined areas.

equipment and emergency procedures

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods and material for containment and cleaning up Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical measures Avoid contact with alkaline substances.

Protective measures Avoid contact with skin and eyes.

Conditions for safe storage, including any incompatibilities

Storage conditions Store away from sunlight in well-ventilated place at room temperature (preferably cool). Keep container tightly closed.

Packaging materials Glass.

Incompatible materials Alkali.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits

Chemical Name	ACGIH	OSHA PEL	NIOSH IDLH
Hydrogen Chloride 7647-01-0	Ceiling: 2 ppm	(vacated) Ceiling: 5 ppm (vacated) Ceiling: 7 mg/m ³ Ceiling: 5 ppm Ceiling: 7 mg/m ³	IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m ³
Potassium Hexachloroplatinate(IV) 16921-30-5	TWA: 0.002 mg/m ³ Pt	TWA: 0.002 mg/m ³ Pt (vacated) TWA: 0.002 mg/m ³ Pt	IDLH: 4 mg/m ³ Pt TWA: 0.002 mg/m ³ Pt
Cobalt(II) chloride hexahydrate 7791-13-1	TWA: 0.02 mg/m ³ Co inhalable particulate matter	N/A	N/A

Personal protective equipment

Respiratory protection

Protective mask

Hand protection

chemical protective gloves (JIS T 8116)

Eye protection

protective eyeglasses or chemical safety goggles (JIS T 8147)

Skin and body protection

Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form

Color

slightly yellow

Turbidity	clear
Appearance	liquid
Odor	no data available
pH	acidic
Melting point/freezing point	no data available
Boiling point, initial boiling point and boiling range	no data available
Flash point	no data available
Evaporation rate:	no data available
Flammability (solid, gas):	no data available
Upper/lower flammability or explosive limits	
Upper:	no data available
Lower:	no data available
Vapour pressure	no data available
Vapour density	no data available
Specific Gravity / Relative density	no data available
Solubilities	water and Ethanol Miscible at any arbitrary ratio .
n-Octanol/water partition coefficient:(log Pow)	no data available
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
Viscosity (coefficient of viscosity)	no data available
Dynamic viscosity	no data available
Particle characteristics	no data available

10. STABILITY AND REACTIVITY

Stability

Chemical stability	Stable under recommended storage conditions.
Reactivity	no data available
Hazardous reactions	
None under normal processing	
Conditions to avoid	
Extremes of temperature and direct sunlight	
Incompatible materials	
Alkali	
Hazardous decomposition products	
Metal oxides, Halides	

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Hydrogen Chloride	238 - 277 mg/kg (Rat)	>5010 mg/kg (Rabbit)	1411 ppm (Rat) 4 h
Cobalt(II) chloride hexahydrate	80 mg/kg (Rat)	N/A	N/A

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
Hydrogen Chloride	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Cobalt(II) chloride hexahydrate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
Hydrogen Chloride	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Cobalt(II) chloride hexahydrate	Based on the NITE GHS	Based on the NITE GHS	Based on the NITE GHS

	classification results.	classification results.	classification results.
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Skin irritation/corrosion

Chemical Name	Skin corrosion/irritation source information
Hydrogen Chloride	Based on the NITE GHS classification results.
Cobalt(II) chloride hexahydrate	Based on the NITE GHS classification results.

Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
Hydrogen Chloride	Based on the NITE GHS classification results.
Cobalt(II) chloride hexahydrate	Based on the NITE GHS classification results.

Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
Hydrogen Chloride	Based on the NITE GHS classification results.
Cobalt(II) chloride hexahydrate	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

Chemical Name	germ cell mutagenicity source information
Hydrogen Chloride	Based on the NITE GHS classification results.
Cobalt(II) chloride hexahydrate	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
Hydrogen Chloride	Based on the NITE GHS classification results.
Cobalt(II) chloride hexahydrate	Based on the NITE GHS classification results.

Chemical Name	NTP	IARC	ACGIH	JSOH
Hydrogen Chloride 7647-01-0	N/A	Group 3	N/A	N/A
Cobalt(II) chloride hexahydrate 7791-13-1	Reasonably Anticipated	Group 2B	A3	Group 2B

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
Hydrogen Chloride	Based on the NITE GHS classification results.
Cobalt(II) chloride hexahydrate	Based on the NITE GHS classification results.

STOT-single exposure

Chemical Name	STOT -single exposure- source information
Hydrogen Chloride	Based on the NITE GHS classification results.
Cobalt(II) chloride hexahydrate	Based on the NITE GHS classification results.

STOT-repeated exposure

Chemical Name	STOT -repeated exposure- source information
Hydrogen Chloride	Based on the NITE GHS classification results.
Cobalt(II) chloride hexahydrate	Based on the NITE GHS classification results.

Aspiration hazard

Chemical Name	Aspiration Hazard source information
Hydrogen Chloride	Based on the NITE GHS classification results.
Cobalt(II) chloride hexahydrate	Based on the NITE GHS classification results.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Hydrogen Chloride 7647-01-0	N/A	N/A	N/A	EC50 : Daphnia magna 0.492 mg/L 48 h
Cobalt(II) chloride hexahydrate 7791-13-1	EC50: Lemna minor 0.47 mgCoCl2/L 7 d	N/A	N/A	LC50:Daphnia magna 2.4 mg CoCl2/L 48 h

Persistence and degradability

No information available

Bioaccumulative potential

No information available

Mobility

no data available

Mobility in soil

No information available

Other Data

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Precautionary including method of disposing contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

DOT

Not regulated

UN/ID No

Not applicable

Proper shipping name:

UN classification

Subsidiary hazard class

Packing group

Marine pollutant

Not applicable

IATA

Not regulated

UN/ID No

-

Proper shipping name:

UN classification

Subsidiary hazard class

Packing group

Environmentally Hazardous Substance

Not applicable

IMDG

Not regulated

UN/ID No

-

Proper shipping name:

UN classification

Subsidiary hazard class

Packing group

Marine pollutant (Sea)

Not applicable

15. REGULATORY INFORMATION

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS RN	Weight-%	SARA 313 - Threshold
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			Values %
Water - 7732-18-5	7732-18-5	99.105	N/A
Hydrogen Chloride - 7647-01-0	7647-01-0	0.85	1.0
Potassium Hexachloroplatinate(IV) - 16921-30-5	16921-30-5	0.025	N/A
Cobalt(II) chloride hexahydrate - 7791-13-1	7791-13-1	0.020	0.1

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Hydrogen Chloride 7647-01-0	5000 lb	N/A	N/A	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Hydrogen Chloride 7647-01-0	5000 lb	5000 lb	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations**California Proposition 65**

This product does not contain any chemicals regulated by Proposition 65

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5	N/A	N/A	X
Hydrogen Chloride 7647-01-0	X	X	X
Potassium Hexachloroplatinate(IV) 16921-30-5	N/A	N/A	X
Cobalt(II) chloride hexahydrate 7791-13-1	X	N/A	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

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Revision Note

No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet