



## Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS)

### SECTION 1: Identification

#### 1.1. Product Identifier

**Trade Name or Designation:** Reference Color Standard No. 1, ASTM D 848

**Product Number:** R6605100

**Other Identifying Product Numbers:** R6605100-100C, R6605100-500C

#### 1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

#### 1.3. Details of the Supplier of the Safety Data Sheet

**Company:** Ricca Chemical Company

**Address:** 448 West Fork Drive

Arlington, TX 76012 USA

**Telephone:** 888-467-4222

#### 1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA) 800-424-9300

CHEMTREC (International) 1+ 703-527-3887

### SECTION 2: Hazard(s) Identification

#### 2.1. Classification of the Substance or Mixture

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

This product is not categorized as hazardous in any GHS hazard class.

#### 2.2. GHS Label Elements

**Pictograms:** None Required.

**Signal Word:** None Required.

# Safety Data Sheet

**Hazard Statements:** None Required.

**Precautionary Statements:** None Required.

## 2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

## SECTION 3: Composition / Information on Ingredients

### 3.1. Components of Substance or Mixture

Chemical Name	Formula	Molecular Weight	CAS Number	Weight%
Water	H <sub>2</sub> O	18.01 g/mol	7732-18-5	99.11
Ferric Chloride Hexahydrate	FeCl <sub>3</sub> ·6H <sub>2</sub> O	270.30 g/mol	10025-77-1	0.64
Hydrochloric Acid	HCl	36.46 g/mol	7647-01-0	0.17
Cobalt (II) Chloride Hexahydrate	CoCl <sub>2</sub> ·6H <sub>2</sub> O	237.93 g/mol	7791-13-1	< 0.1

## SECTION 4: First-Aid Measures

### 4.1. General First Aid Information

**Eye Contact:** May cause irritation, redness, pain, and tearing.

**Inhalation:** Not expected to require first aid. If necessary, remove to fresh air.

**Skin Contact:** May cause irritation, redness, and pain.

**Ingestion:** Dilute with water or milk. Call a physician if necessary.

### 4.2. Most Important Symptoms and Effects, Acute and Delayed

CAUTION! Contains Cobalt Chloride, which is a suspected carcinogen. Avoid ingestion or contact with skin, eyes, or clothing. If ingested, dilute with large quantity of water and call a physician. Do not induce vomiting. Wash areas of contact with plenty of water. For eyes, get medical attention. EYE CONTACT: May cause irritation, redness, pain, and tearing. SKIN CONTACT: May cause irritation, redness, and pain. CHRONIC EFFECTS / CARCINOGENICITY: Repeated ingestion of large doses may cause liver damage.

### 4.3. Medical Attention or Special Treatment Needed

Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Wash areas of contact with soap and water for at least 15 minutes. Call a physician if irritation develops. Dilute with water or milk. Call a physician if necessary.



## Safety Data Sheet

### SECTION 5: Fire-Fighting Measures

#### 5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire.

#### 5.2. Specific Hazards Arising from the Substance or Mixture

Not considered to be a fire or explosion hazard.

#### 5.3. Special Protective Equipment for Firefighters

Use protective clothing and breathing equipment appropriate for the surrounding fire.

### SECTION 6: Accidental Release Measures

#### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear appropriate PPE for the size and nature of the spill. As a general rule, wear safety glasses and gloves.

#### 6.2. Cleanup and Containment Methods and Materials

Absorb with suitable material and dispose of in accordance with local regulations. Check local regulations for the proper disposal of iron containing products.

### SECTION 7: Handling and Storage

#### 7.1. Precautions for Safe Handling and Storage Conditions

As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

## Safety Data Sheet

### SECTION 8: Exposure Controls / Personal Protection

#### 8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Ferric Chloride Hexahydrate (10025-77 TLV-TWA		USA	"1 mg/m <sup>3</sup> TWA (as Fe)" As Iron salts, soluble [RR-00521-0]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ferric Chloride Hexahydrate (10025-77 TLV-TWA		USA	"1 mg/m <sup>3</sup> TWA (as Fe)" As Iron salts, soluble [RR-00521-0]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ferric Chloride Hexahydrate (10025-77 TLV-TWA		USA	1 mg/m <sup>3</sup> TWA (as Fe)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Hydrochloric Acid (7647-01-0)	TLV-Ceiling	USA	2 ppm Ceiling	ACGIH - Threshold Limit Values - Ceilings (TLV-C)
Hydrochloric Acid (7647-01-0)	PEL-Ceiling	USA	5 ppm Ceiling; 7 mg/m <sup>3</sup> Ceiling	U.S. - OSHA - Final PELs - Ceiling Limits
Cobalt (II) Chloride Hexahydrate (7791 TLV-TWA		USA	"0.02 mg/m <sup>3</sup> TWA (inhalable particulate matter, as Co)" As Cobalt inorganic compounds [RR-02516-1]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cobalt (II) Chloride Hexahydrate (7791 TLV-TWA		USA	"0.02 mg/m <sup>3</sup> TWA (inhalable particulate matter, as Co)" As Cobalt inorganic compounds [RR-02516-1]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cobalt (II) Chloride Hexahydrate (7791 TLV-TWA		USA	0.02 mg/m <sup>3</sup> TWA (inhalable particulate matter, as Co)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cobalt (II) Chloride Hexahydrate (7791 TLV-TWA		USA	"0.02 mg/m <sup>3</sup> TWA (inhalable particulate matter, as Co)" As Cobalt inorganic compounds [RR-02516-1]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Cobalt (II) Chloride Hexahydrate (7791 TLV-TWA		USA	"0.02 mg/m <sup>3</sup> TWA (inhalable particulate matter, as Co)" As Cobalt inorganic compounds [RR-02516-1]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

## Safety Data Sheet

### 8.2. Exposure Controls

**Engineering Controls:** No specific controls are needed. Normal room ventilation is adequate.

**Respiratory Protection:** Normal room ventilation is adequate.

**Skin Protection:** Chemical resistant gloves.

**Eye Protection:** Safety glasses or goggles.

### 8.3. Personal Protective Equipment

Normal room ventilation is adequate. Chemical resistant gloves. Safety glasses or goggles.

## SECTION 9: Physical and Chemical Properties

### 9.1. Basic Physical and Chemical Properties

**Appearance:** Light yellow-brown liquid

**Physical State:** Liquid

**Odor:** Data not available.

**Odor Threshold:** Data not available.

**pH:** Data not available.

**Melting/Freezing Point:** 0.0°C

**Initial Boiling Point/Range:** 100°C - 100°C

**Flash Point:** Data not available.

**Evaporation Rate:** Data not available.

**Flammability:** Data not available.

**Flammability/Explosive Limits:** Data not available.

**Vapor Pressure:** Data not available.

**Vapor Density:** Data not available.

**Relative Density:** 1.01

**Solubility:** Miscible

**Partition Coefficient:** Data not available.

**Auto-Ignition Temperature:** Data not available.

**Decomposition Temperature:** Data not available.

**Viscosity:** Data not available.

**Explosive Properties:** Data not available.

**Oxidizing Properties:** Data not available.



## Safety Data Sheet

### SECTION 10: Stability and Reactivity

#### 10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

#### 10.2. Possibility of Hazardous Reactions

Data not available.

#### 10.3. Conditions to Avoid and Incompatible Materials

Oxidizers, Alkalis, most metals.

#### 10.4. Hazardous Decomposition Products

Will not occur.

### SECTION 11: Toxicological Information

#### 11.1. Information on Toxicological Effects

##### Acute Toxicity - Oral Exposure:

Not applicable.

##### Acute Toxicity - Dermal Exposure:

Not applicable.

##### Acute Toxicity - Inhalation Exposure:

Not applicable.

##### Acute Toxicity - Other Information:

LDLo, Oral, Rat (Ferric Chloride Hexahydrate) 900 mg/kg, details of toxic effects not reported other than lethal dose value. LD50, Oral, Rabbit (Hydrochloric Acid) 900 mg/kg, details of toxic effects not reported other than lethal dose value. LD50, Oral, Rat: (Cobalt Chloride) 766 mg/kg, behavioral gastrointestinal and nutritional effects noted. LD50, Dermal, Rat: (Cobalt Chloride) > 2gm/kg, details of toxic effects not reported other than lethal dose value.

##### Skin Corrosion and Irritation:

Not applicable.

##### Serious Eye Damage and Irritation:

Not applicable.

##### Respiratory Sensitization:

Not applicable.

##### Skin Sensitization:

Not applicable.

##### Germ Cell Mutagenicity:

Not applicable.

##### Carcinogenicity:

Not applicable.



## Safety Data Sheet

**Reproductive Toxicity:**

Not applicable.

**Specific Target Organ Toxicity from Single Exposure:**

Not applicable.

**Specific Target Organ Toxicity from Repeated Exposure:**

Not applicable.

**Aspiration Hazard:**

Not applicable.

**Additional Toxicology Information:**

Data not available.

### SECTION 12: Ecological Information

**12.1. Ecotoxicity**

Not applicable.

**12.2. Persistence and Degradability**

Data not available.

**12.3. Bioaccumulative Potential**

Data not available.

**12.4. Mobility in Soil**

Data not available.

**12.5. Other Adverse Ecological Effects**

Data not available.

### SECTION 13: Disposal Considerations

**13.1. Waste Treatment Methods**

Data not available.



## **Safety Data Sheet**

### **SECTION 14: Transportation Information**

#### **14.1. Transportation by Land-Department of Transportation (DOT, United States of America)**

Not regulated according to DOT Regulations.

#### **14.2. Transportation by Air - International Air Transport Association (IATA)**

Not regulated according to IATA Dangerous Goods Regulations.

#### **14.3 Transportation of Dangerous Goods (TDG, Canada)**

Not regulated according to TDG Regulations.



# Safety Data Sheet

## SECTION 15: Regulatory Information

### 15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

### 15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Hydrochloric Acid (CAS # 7647-01-0): 500 lb TPQ (gas only)

Hydrochloric Acid (CAS # 7647-01-0): 5000 lb EPCRA RQ (gas only)

### 15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Ferric Chloride Hexahydrate (CAS # 10025-77-1): 1000 lb final RQ; 454 kg final RQ

Hydrochloric Acid (CAS # 7647-01-0): 5000 lb final RQ; 2270 kg final RQ

### 15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Hydrochloric Acid (CAS # 7647-01-0): 1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

Cobalt (II) Chloride Hexahydrate (CAS # 7791-13-1): "0.1 % de minimis concentration (includes any unique chemical substance that contains Cobalt as part of that chemical's infrastructure, listed under Chemical Category N096)" As Cobalt, inorganic compounds [RR-02516-1]

Cobalt (II) Chloride Hexahydrate (CAS # 7791-13-1): 0.1 % de minimis concentration (includes any unique chemical substance that contains Cobalt as part of that chemical's infrastructure, listed under Chemical Category N096)

### 15.5. Massachusetts Right-to-Know Substance List

Ferric Chloride Hexahydrate (CAS # 10025-77-1): Present

Hydrochloric Acid (CAS # 7647-01-0): Extraordinarily hazardous

### 15.6. Pennsylvania Right-to-Know Hazardous Substances

Ferric Chloride Hexahydrate (CAS # 10025-77-1): "Environmental hazard" As Iron salts [RR-04647-9]

Ferric Chloride Hexahydrate (CAS # 10025-77-1): "Present" As Iron salts [RR-04647-9]

Ferric Chloride Hexahydrate (CAS # 10025-77-1): Environmental hazard

Ferric Chloride Hexahydrate (CAS # 10025-77-1): Present

Hydrochloric Acid (CAS # 7647-01-0): Environmental hazard

Hydrochloric Acid (CAS # 7647-01-0): Present

Water (CAS # 7732-18-5): "Present" As Ethyl alcohol and water [RR-00802-6]

Water (CAS # 7732-18-5): Present

Cobalt (II) Chloride Hexahydrate (CAS # 7791-13-1): "Environmental hazard" As Cobalt compounds [RR-00107-0]

Cobalt (II) Chloride Hexahydrate (CAS # 7791-13-1): "Present" As Cobalt compounds [RR-00107-0]

Cobalt (II) Chloride Hexahydrate (CAS # 7791-13-1): Environmental hazard

Cobalt (II) Chloride Hexahydrate (CAS # 7791-13-1): Present

## Safety Data Sheet

### 15.7. New Jersey Worker and Community Right-to-Know Components

Ferric Chloride Hexahydrate (CAS # 10025-77-1): corrosive

Ferric Chloride Hexahydrate (CAS # 10025-77-1): sn 1034

Hydrochloric Acid (CAS # 7647-01-0): corrosive

Hydrochloric Acid (CAS # 7647-01-0): sn 1012

Hydrochloric Acid (CAS # 7647-01-0): SN 1012 500 lb TPQ; SN 2909 500 lb TPQ (gas only)

Cobalt (II) Chloride Hexahydrate (CAS # 7791-13-1): "carcinogen" As Cobalt compounds [RR-00107-0]

Cobalt (II) Chloride Hexahydrate (CAS # 7791-13-1): "SN 2222 500 lb TPQ (Category Code N096. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Cobalt compounds [RR-00107-0]

Cobalt (II) Chloride Hexahydrate (CAS # 7791-13-1): "sn 2222" As Cobalt compounds [RR-00107-0]

Cobalt (II) Chloride Hexahydrate (CAS # 7791-13-1): carcinogen

Cobalt (II) Chloride Hexahydrate (CAS # 7791-13-1): sn 2222

Cobalt (II) Chloride Hexahydrate (CAS # 7791-13-1): SN 2222 500 lb TPQ (Category Code N096. Includes any unique chemical substance that contains the named metal as part of that chemical structure)

### 15.8. California Proposition 65

Not listed.

### 15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Ferric Chloride Hexahydrate (CAS # 10025-77-1): Present (DSL)

Hydrochloric Acid (CAS # 7647-01-0): Present (DSL)

Water (CAS # 7732-18-5): Present (DSL)

Cobalt (II) Chloride Hexahydrate (CAS # 7791-13-1): Present (DSL)

### 15.10. United States of America Toxic Substances Control Act (TSCA) List

**All components of this solution are listed as active on the TSCA Inventory or are mixtures (hydrates) of active items listed on the TSCA Inventory.**

Ferric Chloride Hexahydrate (CAS # 10025-77-1): Present (ACTIVE)

Hydrochloric Acid (CAS # 7647-01-0): Present (ACTIVE)

Water (CAS # 7732-18-5): Present (ACTIVE)

Cobalt (II) Chloride Hexahydrate (CAS # 7791-13-1): Present (ACTIVE)

### 15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Ferric Chloride Hexahydrate (CAS # 10025-77-1): 231-729-4

Hydrochloric Acid (CAS # 7647-01-0): 231-595-7

Water (CAS # 7732-18-5): 231-791-2

Cobalt (II) Chloride Hexahydrate (CAS # 7791-13-1): 231-589-4

## SECTION 16: Other Information

### 16.1. Full Text of Hazard Statements and Precautionary Statements

# Safety Data Sheet

## 16.2. Miscellaneous Hazard Classes

**Canadian Carcinogenicity Hazard Class:** Not Applicable.

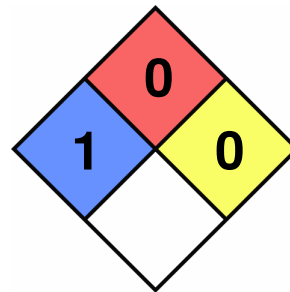
**Physical Hazards Not Otherwise Classified (PHNOC):** Not Applicable.

**Health Hazards Not Otherwise Classified (HHNOC):** Not Applicable.

**Biohazardous Infectious Materials Hazard Class:** Not Applicable.

## 16.3. National Fire Protection Association (NFPA) Rating

**Health:** 1  
**Flammability:** 0  
**Reactivity:** 0  
**Special Hazard:**



## 16.4. Document Revision

**Last Revision Date:** 2023-09-11

## DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.