



Advanced Calibration Designs, Inc.
2025 W. McMillan St. Tucson, AZ 85705
USA . 800.737.0224 . www.goACD.com

SAFETY DATA SHEET

Product Name

CHLORINE ELECTROLYTE

Printing Date: 11/16/2015
Revision Date: 07/15/2015

1. IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product Name: CHLORINE ELECTROLYTE

Product Code: 193-0100-00

Recommended Use of the Chemical and Restriction on Use: Industrial use

Details of Manufacturer or Importer: Advanced Calibration Designs, Inc.
2024 W. McMillan St.
Tucson, AZ 85705 USA

Phone Number: 520-290-2855

Emergency Telephone Number: 1-800-222-1222

2. HAZARDS IDENTIFICATION

Hazardous Nature:



Acute Tox.4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.

Label Elements:

Signal Word:

Warning

Hazard Statements:

H302 Harmful if swallowed.
H315 Causes skin irritation.

Precautionary Statements:

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P321 Specific treatment (see on this label).
P332+ P313 If skin irritation occurs: Get medical advice/attention.
P330 Rinse mouth.
P301+ P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302+ P352 IF ON SKIN: Wash with plenty of water.
P362+ PD64 Take off contaminated clothing and wash it before reuse.
P501 Dispose of contents/container in accordance with local/regional/national regulations.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Characterization: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

107-21-1	1,2-ethanediol ⚠ Acute Tox. 4, H302	25-<50%
7447-41-8	Lithium chloride ⚠ Acute Tox. 3, H301; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319	5-<10%
10125-13-0	Copper chloride (CuCl ₂), dihydrate ⚠ Met. Corr.1, H290; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315	0.1-<3%
7647-01-0	Hydrochloric acid ⚠ Skin Corr. 1B, H314; ⚠ STOT SE 3, H335	0.1-<1%

4. FIRST AID MEASURES

Inhalation:

If inhaled, remove to fresh air. Seek medical attention if breathing problems develop.

Skin Contact:

In case of skin contact, immediately remove contaminated clothing and wash affected areas with water and soap. Seek medical attention if symptoms occur.



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Eye Contact:

In case of eye contact, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.

Ingestion:

If swallowed, induce vomiting by placing finger to back of throat. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Do not give anything by mouth to an unconscious person. Seek immediate medical attention.

Information for Doctor

Symptoms Caused by Exposure:

Inhalation: May cause irritation to the upper respiratory tract with coughing, sore throat, and shortness of breath.

Skin Contact: May cause irritation, redness and pain.

Eye contact: May cause severe irritation with redness, pain, blurred vision, discoloration and possible eye damage.

Ingestion: May cause burning pain in mouth, esophagus and stomach, nausea, vomiting, abdominal pain and diarrhea and hemorrhagic gastritis.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Use fire extinguishing methods suitable to surrounding conditions.

Specific Hazards Arising from the Chemical:

Emits chlorine, hydrogen chloride and copper oxides when thermally decomposed.

Special Protective Equipment and Precautions for Fire Fighters:

Approved self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Wear approved full protective clothing. Evacuate all non-essential personnel from affected area. Do not breathe vapors. Ensure adequate ventilation.

Environmental Precautions:

In the event of a major spill, prevent spillage from entering drains or water courses.

Methods and Materials for Containment and Cleaning Up:

Stop leak if safe to do so and absorb spill with sand, earth, vermiculite or some other absorbent material. Collect the spilled material and place into a suitable container for disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling:

Use of safe work practices are recommended to avoid eye or skin contact and inhalation of vapors/mists. Food, beverages and tobacco products should not be stored or consumed where this material is in use. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Provide eyewash fountains and safety showers in close proximity to points of potential exposure.

Conditions for Safe Storage:

Store in a cool, dry, dark and well ventilated area. Keep container tightly closed. Protect from direct sunlight. Keep away from strong oxidizing agents, potassium, sodium, hydrazine, nitromethane, aluminum, bromine trifluoride, acetylene and sodium hypobromite.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Standards:

107-21-1 1,2-ethanediol

NES	STEL: 104** mg/m ³ , 40** ppm TWA: 10* 52** mg/m ³ , 20** ppm Sk;*particulate;**vapor
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7647-01-0 Hydrochloric acid

NES	Peak limitation: 7.5 mg/m ³ , 5 ppm
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10125-13-0 Copper chloride (CuCl₂), dihydrate

	0.2 mg Cu/m ³ - fume, 1 mg Cu/m ³ - dust/mist (ACGIH)
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Engineering Controls: Laboratory fume hood.

Personal Protective Equipment (PPE):

Respiratory Protection:

Use an approved self-contained breathing apparatus for emergency use

Skin Protection:

Nitrile rubber, neoprene rubber, vinyl or PVC gloves. Lab coat and apron, flame and chemical resistant coveralls.

Eye and Face Protection:

Eye and face protectors for protection against splashing materials or liquids.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid
Form:	Clear, light green liquid
Color:	No information available
Odor:	Not determined.
Odor Threshold:	Not determined.
pH Value:	150 °C
Initial Boiling Point/Boiling Range:	No information available
Flash Point:	Not applicable.
Flammability:	No information available
Auto-ignition Temperature:	Not determined.
Decomposition Temperature:	
Explosion Limits:	
Lower:	No information available
Upper:	No information available
Vapor Pressure at 150°C:	760 mm Hg
Relative Density at 20 °C:	1.1 g/cm ³
	No information available
Vapor Density:	No information available
Evaporation Rate:	No information available
Solubility in Water:	Soluble in water - approximately 15% in cold water.
VOC:	0 %

10. STABILITY AND REACTIVITY

Possibility of Hazardous Reactions:

Hazardous polymerization will not occur.

Chemical Stability:

Stable at ambient temperature and under normal conditions of use.

Conditions to Avoid:

No further relevant information available.

Incompatible Materials:

Potassium, sodium, hydrazine, nitromethane, aluminum, bromine trifluoride, strong oxidizers, acetylene, sodium hypobromite.

Hazardous Decomposition Products:

Emits chlorine, hydrogen chloride and copper oxides when thermally decomposed.



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11. TOXICOLOGICAL INFORMATION

Toxicity:

LD ₅₀ /LC ₅₀ Values Relevant for Classification:		
07-21-1 1,2-ethanediol		
Oral	LD ₅₀	5840 mg/kg (rat)
Dermal	LD ₅₀	9530 mg/kg (rabbit)
7447-41-8 lithium chloride		
Oral	LD ₅₀	526 mg/kg (rat)

Acute Health Effects

Inhalation:

May cause irritation to the upper respiratory tract, symptoms may include coughing, sore throat, and shortness of breath.

Skin:

May cause irritation, redness and pain.

Eye:

May cause severe irritation with redness, pain, blurred vision, discoloration and possible eye damage.

Ingestion:

Harmful if swallowed. May cause burning pain in mouth, esophagus and stomach. May cause nausea, vomiting, abdominal pain and diarrhea and hemorrhagic gastritis. Pulmonary edema may also develop.

Skin Corrosion / Irritation:

Causes skin irritation.

Serious Eye Damage / Irritation:

Based on classification principles, the classification criteria are not met.

Respiratory or Skin Sensitization:

No sensitizing effects known.

Germ Cell Mutagenicity:

Based on classification principles, the classification criteria are not met.

Carcinogenicity:

Hydrochloric acid is classified by IARC as Group 3 - Not classifiable as to its carcinogenicity to humans.

Reproductive Toxicity:

Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) - Single Exposure:

Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) - Repeated Exposure:

Based on classification principles, the classification criteria are not met.

Aspiration Hazard:

Based on classification principles, the classification criteria are not met.

Chronic Health Effects:

Large doses may cause kidney damage and central nervous system, anorexia, weakness and fatigue, dehydration, nausea, vomiting, bloody stools, tremors, slurred speech, lethargy, stupor, ringing in the ears, aliguria, pulmonary edema and coma. Death may occur from large repeated doses. Prolonged or repeated skin contact may cause dermatitis.

12. ECOLOGICAL INFORMATION

Eco toxicity: No information available

Aquatic toxicity: No information available

Persistence and Degradability: No information available

Bio-accumulative Potential: No information available

Mobility in Soil: No information available



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13. DISPOSAL CONSIDERATIONS

Disposal Methods and Containers:

Dispose according to applicable local and state government regulations.

Special Precautions for Landfill or Incineration:

Please consult your state Land Waste Management Authority for more information.

14. TRANSPORT INFORMATION

UN Number 3363
Proper Shipping Name DANGEROUS GOODS IN MACHINERY or
 DANGEROUS GOODS IN APPARATUS
Dangerous Goods Class 9
Packing Group: Not applicable
Marine pollutant: No
Hazchem Code: 1Z
Special Provisions: 301
Limited Quantities: 0
Packagings & IBCs - Packing Instruction: P907
Packagings & IBCs - Special Packing Provisions: Not applicable
Portable Tanks & Bulk Containers - Instructions: Not applicable
Portable Tanks & Bulk Containers - Special Provisions: Not applicable

15. REGULATORY INFORMATION

Inventory of Chemical Substances:	
107-21-1	1,2-ethanediol
7447-41-8	lithium chloride
10125-13-0	Copper chloride (CuCl ₂), dehydrate
7647-01-0	Hydrochloric acid
7732-18-5	Water

Standard for the Uniform Scheduling of Drugs and Poisons (SUSMP) - Poison Schedule:

Poisons Schedule: 6

16. OTHER INFORMATION

Creation Date: 10/27/2015

Prepared by: Advanced Calibration Designs, Inc. www.goacd.com

Abbreviations and acronyms:

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds

LC₅₀: Lethal concentration, 50 percent

LD₅₀: Lethal dose, 50 percent

IARC: International Agency for Research on Cancer

STEL: Short Term Exposure Limit

TWA: Time Weighted Average

NES: National Exposure Standard

Disclaimer

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