

# COPPER REAGENT #1

Product: R-0860

## Section 1: PRODUCT INFORMATION

**Chemical family:** Alkaline solution.

**Supplier:** Lowry & Associates  
Agents for Taylor Technologies Inc.  
4 – 1151 Gorham Street  
Newmarket, Ontario  
L3Y 7V1  
Tel: 905-836-0505  
Fax: 905-895-4539.

**Emergency Phone Number:** Canutec 613-996-6666.  
410-472-4340

**Manufacturer:** Taylor Technologies Inc.  
31 Loveton Circle  
Sparks, MD USA 21152  
Tel: 410-472-4340.

**TDG classification:** CORROSIVE LIQUID, N.O.S. (ammonium hydroxide, citric acid)  
UN1760  
Class 8  
PG III.



**WHMIS classification:**

E



**DSL status:** Appears on DSL.

## Section 2: HAZARDOUS INGREDIENTS

C.A.S.	CONCENTRATION %	Ingédient	V.L.E.	DL/50	CL/50
1336-21-6	< 5	AMMONIA SOLUTION	NOT AVAILABLE	350 MG/KG RAT ORAL	NOT AVAILABLE
77-92-9	< 5	CITRIC ACID	NOT AVAILABLE	3000 MG/KG RAT ORAL 5040 MG/KG MOUSE ORAL	NOT AVAILABLE

## Section 2A: ADDITIONAL INGREDIENT INFORMATION

**Note:** Balance: water (CAS# 7732-18-5).  
(supplier).  
CAS# 1336-21-6: TLV 18 mg/m<sup>3</sup> (as ammonia).

### Section 3: PHYSICAL DATA

**Physical state:** Liquid.

**Appearance & odor:** Colourless.  
Ammonia odour.

**Odor threshold (ppm):** None

**Vapour pressure (mmHg):** 17

**Vapour density (air=1):** 0.6

**Volatiles (%)**

**By volume:** 96%

**Evaporation rate  
(butyl acetate = 1):** Not available.

**Boiling point (°C):** 100

**Freezing point (°C):** Not available.

**pH:** 9.5

**Specific gravity @ 20 °C:** 1

**Solubility in water (%):** Soluble.

**Coefficient of water\oil dist.:** Not available.

**VOC:** Not available.

### Section 4: FIRE & EXPLOSION DATA

**Flammability:** Not flammable.

**Conditions of flammability:** Surrounding fire.

**Extinguishing media:** Carbon dioxide, dry chemical, foam.  
Water spray.

**Special procedures:** Self-contained breathing apparatus required.  
Firefighters should wear the usual protective gear.

**Auto-ignition temperature:** Not applicable.

**Flash point (°C), method:** Not applicable.

**Lower flammability  
limit (% vol):** 16 as NH<sub>3</sub>

**Upper flammability  
limit (% vol):** 27 as NH<sub>3</sub>

**Explosion Data**

**Sensitivity to static discharge:** Not applicable.

**Sensitivity to mechanical impact:** Not applicable.

**Hazardous combustion products:** Oxides of nitrogen (NO<sub>x</sub>).  
Ammonia (NH<sub>3</sub>).  
Chlorine (Cl<sub>2</sub>).

**Explosive power:** Not applicable.

#### Section 5: REACTIVITY DATA

**Chemical stability:** Stable under normal conditions.

**Conditions of instability:** Excessive heat.  
Direct sunlight.  
Extreme temperatures.

**Hazardous polymerization:** Not available.

**Incompatible substances:** Strong acids.  
Halogens.  
Metals.

**Hazardous decomposition products:** See hazardous combustion products.

#### Section 6: TOXICOLOGICAL PROPERTIES

**Route of entry:** Skin contact, eye contact, inhalation and ingestion.

Effects of acute exposure

**Eye contact:** Corrosive.  
Causes severe burns.

**Skin contact:** Corrosive.  
Causes severe burns.

**Inhalation:** Irritant.

**Ingestion:** Corrosive.  
Severe irritation of the mouth, throat, esophagus, and stomach.  
May also cause burns of mucous membranes of those areas.  
Severe burns to mouth, esophagus and stomach.

**Effects of chronic exposure:** Pre-existing eye, skin and respiratory disorders may be aggravated.

**LD50 of product, species & route:** Not available for mixture, see the ingredients section.

**LC50 of product, species & route:** Not available.

**Exposure limit of material:** Not available for mixture, see the ingredients section.

**Sensitization to product:** Not available.

**Carcinogenic effects:** Not listed as a carcinogen.

**Reproductive effects:** Not available.


**Teratogenicity:** Not available.

**Mutagenicity:** Not available.

**Synergistic materials:** Not available.

#### Section 7: PREVENTATIVE MEASURES

##### Precautionary Measures

**Gloves/Type:** 

Rubber gloves.

**Respiratory/Type:** None required under normal use.




NIOSH approved respirator, if necessary.

**Eye/Type:** 

Safety glasses.

**Footwear/Type:** Safety shoes per local regulations.

**Clothing/Type:** 

Wear a rubber apron.



Lab coat.

**Other/Type:** Eye wash facility should be in close proximity.  
Emergency shower should be in close proximity.

**Ventilation requirements:** Provide sufficient mechanical ventilation to maintain exposure below TLV.

**Leak/Spill:** Wear appropriate protective equipment.  
Neutralize with diluted acid.  
Soak up with inert absorbent.  
Transfer to an approved container for disposal or recovery.

**Waste disposal:** In accordance with municipal, provincial and federal regulations.

**Handling procedures and equipment:** Avoid breathing vapors/mists.  
Use adequate ventilation.  
Wash thoroughly after using, particularly before eating or smoking.  
Wear personal protective equipment appropriate to task.  
Avoid contact with skin, eyes and clothing.  
Do not take internally.  
Launder contaminated clothing prior to reuse.

**Storage requirements:** Store away from incompatible materials.  
Keep out of direct sunlight.  
Keep containers tightly closed.  
Store in a cool, dry and well ventilated area.

**Special shipping information:** Not regulated.

## Section 8: FIRST AID MEASURES

**Skin contact:** Wash with water for at least 15 minutes.  
Get medical attention.  
Wash thoroughly with soap and water.

**Eye contact:** Immediately flush eyes with large amounts of water for at least 15 minutes, lifting upper and lower lids. Get prompt medical attention.

**Inhalation:** Remove victim to fresh air.  
Obtain medical attention.

**Ingestion:** Obtain immediate medical attention.  
Do not induce vomiting.  
Never give anything by mouth to an unconscious person.  
Give large amounts of water followed by milk or raw egg whites beaten in water.

**Additional information:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any inaccuracies.

## Section 9: ADDITIONAL INFORMATION

**General note:** This material safety data sheet was prepared from information obtained from various sources, including product suppliers and the Canadian Center for Occupational Health and Safety.

**Data prepared by:** Lowry & Associates  
Agents for Taylor Technologies Inc.  
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