


SECTION 1: Identification

| | |
|---|--|
| Product identifier | |
| Product name | Copper, Free 0.2 – Reagent B |
| Product number | R-8013B |
| Recommended use and restrictions | To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer. |
| Manufacturer | Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548 |

SECTION 2: Hazard(s) identification

| | | |
|---|--|-------------|
| Physical hazards | Corrosive to metals | Category 1 |
| Health hazards | Eye damage/irritation | Category 1 |
| | Skin corrosion/irritation | Category 1B |
| | Skin sensitizer | Category 1 |
| | Specific target organ toxicity, repeated exposure | Category 2 |
| | Carcinogenicity | Category 2 |
| Environmental hazards | Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS. | |
| Label elements | | |
| Hazard pictograms |  | |
| Signal word | Danger | |
| Hazard statements | May be corrosive to metals. Causes severe skin burns and serious eye damage. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure. May cause allergic skin reaction. | |
| Precautionary statements | | |
| Prevention | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep only in original container. Do not breathe dust/fumes/gas/mists/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection if contact is likely to occur. Contaminated work clothing must not be allowed out of the workplace. Wash skin thoroughly after handling. | |
| Response | IF EXPOSED OR CONCERNED: Get medical advice/attention if you feel unwell. Absorb spillage to prevent material damage. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a physician or poison control center. IF SWALLOWED: Rinse mouth. Do not induce vomiting. IF ON SKIN (OR HAIR): Immediately take off all contaminated clothing. Rinse skin with plenty of water. Wash contaminated clothing before reuse. IF SKIN IRRITATION OR RASH OCCURS: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a physician or poison control center. | |
| Storage | Store in corrosive-resistant container with corrosive-resistant inner liner. Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store locked up. | |
| Disposal | Dispose of contents/container in accordance with local/regional/national/international regulations. | |
| Hazards not otherwise classified | Not applicable | |

SECTION 3: Composition/information on ingredients

Mixture

| Chemical name | Common name and synonyms | CAS number | % w/w |
|-----------------------------|---------------------------|------------|---------|
| Water | Dihydrogen oxide | 7732-18-5 | 80-100 |
| Hydrogen chloride | Hydrochloric acid | 7647-01-0 | 1-5 |
| Hydroxylamine hydrochloride | Hydroxylammonium chloride | 5470-11-1 | 0.5-1.5 |

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical attention if irritation develops.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. If symptoms persist or in all cases of concern, seek medical advice.

If swallowed

Immediately call a physician or poison control center. Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects.

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture

Fire hazard Not flammable

Explosion hazard Not explosive

Reactivity May be corrosive to metals

Hazardous combustion products Carbon oxides, hydrogen chloride gas, nitrogen oxides. Other irritating fumes and smoke.

Advice for firefighters

Precautionary measures Exercise caution when fighting any chemical fire; hazardous fumes will be present.

Firefighting equipment/instructions Use water spray or fog for cooling exposed containers.

Protection during firefighting Do not enter fire area without proper protective equipment, including respiratory protection.

Other information Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures

Personal precautions, protective equipment, and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe dust/fumes/gas/mists/vapors/spray. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Ventilate the area. Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water to remove residual contamination. Dilute acid with water and neutralize with dilute base. If not recoverable, dilute with water or flush to holding area and neutralize. Never return spills to original containers for reuse. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage

Personal precautions, protective equipment, and emergency procedures

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fumes/gas/mists/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Store in corrosive-resistant container with corrosive-resistant inner liner. Keep tightly capped. Store out of direct sunlight between 36°F-85°F. Store locked up. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection

Occupational exposure limits

US ACGIH Threshold Limit Values

| Components | Type | Value |
|-----------------------------------|---------|---------------------|
| Hydrochloric acid (CAS 7647-01-0) | Ceiling | 2 mg/m ³ |

US NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|-----------------------------------|---------|----------------------|
| Hydrochloric acid (CAS 7647-01-0) | Ceiling | 7 mg/m ³ |
| Hydrochloric acid (CAS 7647-01-0) | IDLH | 70 mg/m ³ |

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value |
|-----------------------------------|------|---------------------|
| Hydrochloric acid (CAS 7647-01-0) | PEL | 7 mg/m ³ |

Biological limit values

ACGIH Biological Exposure Indices

No biological exposure limits noted for the ingredient(s).

Exposure controls

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.

Personal protective equipment

| | |
|------------------------|---|
| Eye/face protection | Wear appropriate chemical safety goggles if contact is likely to occur. |
| Skin protection | Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur. |
| Body protection | Wear appropriate protective clothing if contact is likely to occur. |
| Respiratory protection | In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers. |

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

| | |
|------------------|--------------------------|
| Physical state | Liquid |
| Form | Liquid |
| Color | Clear and colorless |
| Odor | Pungent, irritating odor |
| Odor threshold | No data available |
| pH | No data available |
| Evaporation rate | No data available |
| Melting point | No data available |
| Freezing point | No data available |

| | |
|---|----------------------------|
| Initial boiling point (boiling range) | No data available |
| Flash point | No data available |
| Specific gravity | No data available |
| Auto-ignition temperature | No data available |
| Decomposition temperature | No data available |
| Flammability (solid, gas) | No data available |
| Upper Flammability Limit | No data available |
| Lower Flammability Limit | No data available |
| Vapor pressure | No data available |
| Vapor density | No data available |
| Solubility | Soluble in all proportions |
| Partition coefficient (n-octanol/water) | No data available |
| Viscosity | No data available |
| Explosive properties | No data available |
| Oxidizing properties | No data available |

SECTION 10: Stability and reactivity

| | |
|---|---|
| Reactivity | May be corrosive to metals. |
| Chemical stability | Stable under recommended handling and storage conditions (refer to section 7 of the SDS). |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Contact with incompatible materials. Do not use in areas without adequate ventilation. |
| Incompatible materials | Alkalis, amines, brass, copper, powdered metals, strong oxidizing agents, zinc. |
| Hazardous decomposition products | No hazardous decomposition products under normal conditions. |

SECTION 11: Toxicological information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.

| | |
|---|---|
| Most important symptoms/effects, acute and delayed | Direct skin contact may cause corrosive skin burns, deep ulcerations, and possibly permanent scarring. Direct contact with concentrated solutions may be corrosive and may cause severe damage, including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing, choking, and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus, and possibly the digestive tract. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding. May cause damage to organs through prolonged or repeated exposure. Suspected of causing cancer. May cause allergic skin reaction. |
|---|---|

Acute toxicity This product is not classified as an acute toxicity hazard.

| Product | Species | Acute Toxicity Estimate (ATE) |
|--|----------------|--------------------------------------|
| Copper, Free 0.2 – Reagent B (CAS Mixture) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD ₅₀ | Rat | No data available |
| <i>Inhalation</i> | | |
| LC ₅₀ | Rat | No data available |
| <i>Oral</i> | | |
| LD ₅₀ | Rat | >2000 mg/kg |
| Components | Species | Acute Toxicity Data |

Hydrogen chloride (CAS 7647-01-0)

Acute

Dermal

LD₅₀ Rat No data available

Inhalation

LC₅₀ Rat No data available

Oral

LD₅₀ Rabbit 900 mg/kg

Hydroxylamine hydrochloride (CAS 5470-11-1)

Acute

Dermal

LD₅₀ Rat No data available

Inhalation

LC₅₀ Rat No data available

Oral

LD₅₀ Rat 141 mg/kg

Skin corrosion/irritation Causes severe skin burns.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory sensitization No data available

Skin sensitization May cause allergic skin reaction.

Germ cell mutagenicity No data available

Carcinogenicity Suspected of causing cancer

IARC Monographs. Overall Evaluation of Carcinogenicity

Hydrochloric acid, not classifiable as to its carcinogenicity to humans (Group 3)

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity No data available

Specific target organ toxicity (single exposure) No data available

Specific target organ toxicity (repeated exposure) May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard No data available

SECTION 12: Ecological information

Ecotoxicity This product is not classified as environmentally hazardous.

Persistence and degradability No data available

Bioaccumulative potential No data available

Mobility in soil No data available

Other adverse effects Large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT

UN number 1789

UN Proper shipping name Hydrochloric acid solution

Reportable Quantity 5000lbs, hydrochloric acid

Class (Subsidiary risk) 8

Label(s) 8

| | |
|-----------------------------|---|
| Packing group | II |
| Special provisions | 386, A3, B3, B15, B133, IB2, N41, T8, TP2 |
| Packaging exceptions | 154 |
| Packaging, non-bulk | 202 |

IATA

| | |
|--------------------------------|----------------------------|
| UN number | 1789 |
| UN Proper shipping name | Hydrochloric acid solution |
| Class (Subsidiary risk) | 8 |
| Packing group | II |
| Special provisions | A3 |

IMDG

| | |
|--------------------------------|----------------------------|
| UN number | 1789 |
| UN Proper shipping name | Hydrochloric acid solution |
| Class (Subsidiary risk) | 8 |
| Packing group | II |
| Environmental hazards | |
| Marine pollutant | No |
| Special provisions | None |
| EmS | F-A, S-B |

Special precautions for user Read safety instructions, SDS, and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

DOT hazard pictograms



IATA; IMDG hazard pictograms



SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

| <u>Chemical name</u> | <u>CAS number</u> | <u>Reportable Quantity</u> |
|----------------------|-------------------|----------------------------|
| Hydrochloric acid | 7647-01-0 | 5000lbs |

SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)

Not regulated

SARA 304 Emergency Release Notification

Not regulated

SARA 311/312 Hazardous Chemical

| <u>Chemical name</u> | <u>CAS number</u> |
|-----------------------------|-------------------|
| Hydrochloric acid | 7647-01-0 |
| Hydroxylamine hydrochloride | 5470-11-1 |

SARA 313 (TRI reporting)

Not regulated

TSCA Section 8(b) Chemical Inventory

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts Right-to-Know Act

| <u>Chemical name</u> | <u>CAS number</u> |
|----------------------|-------------------|
| Hydrochloric acid | 7647-01-0 |

New Jersey Worker and Community Right-to-Know Act

| <u>Chemical name</u> | <u>CAS number</u> |
|----------------------|-------------------|
| Hydrochloric acid | 7647-01-0 |

Pennsylvania Worker and Community Right-to-Know Act

| <u>Chemical name</u> | <u>CAS number</u> |
|----------------------|-------------------|
| Hydrochloric acid | 7647-01-0 |

Rhode Island Right-to-Know Act

| <u>Chemical name</u> | <u>CAS number</u> |
|----------------------|-------------------|
| Hydrochloric acid | 7647-01-0 |

SECTION 16: Other information

NFPA Rating

| | |
|---------------|-----|
| Health hazard | 2 |
| Fire hazard | 0 |
| Reactivity | 1 |
| Specific | N/A |

Disclaimer

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