



# SAFETY DATA SHEET

## 1. Identification

**Product identifier**                      **Hardness Reagent**  
**Product code**                            R-0012  
**Recommended use**                      Use as directed by manufacturer for purposes directly related to water testing.  
**Recommended restrictions**            None known

### Manufacturer/Importer/Supplier/Distributor information

#### Manufacturer

**Company name**                      Taylor Technologies, Inc.  
**Address**                                    31 Loveton Circle  
    Sparks, MD 21152  
    United States  
**Telephone**                                (410) 472-4340                                Monday–Friday, 8:00 a.m.–4:30 p.m.  
**Website**                                    www.taylortechnologies.com  
**E-mail**                                        Not available  
**Emergency phone number**            (800) 837-8548

## 2. Hazard(s) identification

**Physical hazards**                        This mixture does not meet the classification criteria according to OSHA HazCom 2012.  
**Health hazards**                            This mixture does not meet the classification criteria according to OSHA HazCom 2012.  
**Environmental hazards**                Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.  
**Label elements**                            None required  
    **Signal word**                            None required  
    **Hazard statement**                      None required  
    **Precautionary statement**  
        **Prevention**                            None required  
        **Response**                              None required  
        **Storage**                                None required  
        **Disposal**                                None required  
**Hazard(s) not otherwise classified**    None  
**Supplemental information**            None

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Deionized water	Dihydrogen oxide	7732-18-5	95–99
Edetic acid	EDTA; Ethylenediaminetetraacetic acid	60-00-4	0.1–5
Other components below reportable levels			0.01–0.1

## 4. First-aid measures

**Inhalation**                                Move to fresh air. Give oxygen or artificial respiration if needed. Get medical attention immediately.

<b>Skin contact</b>	Immediately wash skin with soap and water. If symptoms persist or in all cases of concern, seek medical advice.
<b>Eye contact</b>	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.
<b>Ingestion</b>	Treat symptomatically. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If symptoms persist or in all cases of concern, seek medical advice.
<b>Most important symptoms/effects, acute and delayed</b>	Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically.
<b>General information</b>	Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

## 5. Firefighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Firefighting equipment/instructions</b>	Firefighters should wear full protective gear. Evacuate the area promptly. Fight fire from upwind to avoid exposure to combustion products. Cool containers/tanks with water spray. Do not get water inside container. Move containers from fire area if it can be done without risk. Prevent fire-extinguishing water from contaminating surface water or the ground water system.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted
<b>Hazardous combustion products</b>	Nitrogen oxides. Sodium oxides. Other irritating fumes and smoke.

## 6. Accidental release measures

<b>Personal precautions, protective equipment, and emergency procedures</b>	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 mist or vapor. 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.
<b>Methods and materials for containment and cleaning up</b>	<p>Large Spills: 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, sewer, basements, or confined areas. Following product recovery, flush area with water.</p> <p>Small Spills: Absorb spillage with noncombustible, absorbent material. Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for reuse. For waste disposal, refer to section 13 of the SDS. Contaminated absorbent material may pose the same hazards as the spilled product.</p> <p>In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.</p>
<b>Environmental precautions</b>	Avoid discharge into drains, watercourses, or onto the ground.

## 7. Handling and storage

<b>Precautions for safe handling</b>	Do not breathe mist or vapor. 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.
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**Conditions for safe storage, including any incompatibilities**

Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (refer to section 10 of the SDS). Protect against physical damage. Use care in handling/storage.

**8. Exposure controls/personal protection**

**Occupational exposure limits**

No occupational exposure limits noted for the ingredient(s)

**Biological limit values**

No biological exposure limits noted for the ingredient(s)

**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.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Wear safety glasses with side shields (or goggles) and a face shield. Provide an emergency eyewash fountain and quick-drench shower in the immediate work area.

**Skin protection**

**Hand protection**

Wear appropriate chemical-resistant gloves. Advice should be sought from glove suppliers.

**Other**

Wear appropriate chemical-resistant clothing.

**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 fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

**Thermal hazards**

When necessary, wear appropriate thermal protective clothing.

**General hygiene considerations**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contamination. Avoid breathing mist or vapor.

**9. Physical and chemical properties**

**Appearance**

**Physical state**

Liquid

**Form**

Liquid

**Color**

Clear colorless or nearly colorless

**Odor**

Odorless

**Odor threshold**

Not available

**pH**

8.1

**Melting point/freezing point**

Not available

**Initial boiling point and boiling range**

212°F (100°C)

**Flash point**

Not applicable (does not burn)

**Evaporation rate**

Not available

**Flammability (solid, gas)**

Not applicable

**Upper/lower flammability or explosive limits**

**Flammability limit, lower (%)**

Not applicable

**Flammability limit, upper (%)**

Not applicable

**Explosive limit, lower (%)**

Not applicable

**Explosive limit, upper (%)**

Not applicable

**Vapor pressure**

17 mm Hg

**Vapor density**

0.6

**Relative density**

1.00 g/cm<sup>3</sup>

**Solubility(ies)**

<b>Solubility (water)</b>	Soluble in all proportions
<b>Partition coefficient (n-octanol/water)</b>	Not available
<b>Auto-ignition temperature</b>	Not applicable
<b>Decomposition temperature</b>	Not available
<b>Viscosity</b>	Not available
<b>Other information</b>	
<b>Explosive properties</b>	Not applicable
<b>Oxidizing properties</b>	Not applicable
<b>Percent volatile</b>	99%
<b>Specific gravity</b>	1.00

## 10. Stability and reactivity

<b>Reactivity</b>	This product is stable and nonreactive under normal conditions of use, storage, and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use
<b>Conditions to avoid</b>	Contact with incompatible materials. Do not use in areas without adequate ventilation.
<b>Incompatible materials</b>	Oxidizing agents
<b>Hazardous decomposition products</b>	None known. For hazardous combustion products, refer to section 5 of the SDS.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause irritation to the respiratory system
<b>Skin contact</b>	May cause slight or mild transient irritation
<b>Eye contact</b>	May cause temporary irritation
<b>Ingestion</b>	May cause discomfort

**Most important symptoms/effects, acute and delayed** Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin. Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging and tearing. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

**Acute toxicity** This product is not classified as an acute toxicity hazard. See below for individual ingredient acute toxicity data.

<b>Components</b>	<b>Species</b>	<b>Test Results</b>
Edetic acid (CAS 60-00-4)		
<b>Acute</b>		
<i>Dermal</i>		
LD <sub>50</sub>	Rabbit	Not available
<i>Inhalation</i>		
LC <sub>50</sub>	Rat	Not available
<i>Oral</i>		
LD <sub>50</sub>	Rat	>2000 mg/kg
Deionized water (CAS 7732-18-5)		
<b>Acute</b>		
<i>Dermal</i>		
LD <sub>50</sub>	Rabbit	Not available
<i>Inhalation</i>		
LC <sub>50</sub>	Rat	Not available
<i>Oral</i>		
LD <sub>50</sub>	Rat	>89840 mg/kg
<b>Skin corrosion/irritation</b>	May cause slight or mild transient irritation	

<b>Serious eye damage/eye irritation</b>	May cause temporary irritation
<b>Respiratory sensitization</b>	Not expected to be a respiratory sensitizer
<b>Skin sensitization</b>	Not expected to be a skin sensitizer
<b>Germ cell mutagenicity</b>	Not expected to be mutagenic
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, NTP, OSHA, or U.S. ACGIH.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)**

Not regulated

<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity, single exposure</b>	Not classified as a specific target organ toxicity – single exposure
<b>Specific target organ toxicity, repeated exposure</b>	Not classified as a specific target organ toxicity – repeated exposure
<b>Aspiration toxicity</b>	Not expected to be an aspiration hazard
<b>Chronic effects</b>	Frequent or prolonged contact may dry the skin, leading to discomfort and dermatitis.

**12. Ecological information**

**Ecotoxicity** This product is not classified as environmentally hazardous; however, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Edetic acid (CAS 60-00-4) – Aquatic		
<b>Acute</b>		
<i>Algae</i>		
EC <sub>50</sub>	Green algae ( <i>Pseudokirchneriella subcapitata</i> )	>100 mg/L, 72 hours
<i>Crustacea</i>		
EC <sub>50</sub>	Water flea ( <i>Daphnia magna</i> )	140 mg/L, 48 hours
<i>Fish</i>		
LC <sub>50</sub>	Bluegill ( <i>Lepomis macrochirus</i> )	41 mg/L, 96 hours
<b>Chronic</b>		
<i>Algae</i>		
NOEC	Green algae ( <i>Pseudokirchneriella subcapitata</i> )	>100 mg/L, 72 hours
<i>Crustacea</i>		
NOEC	Water flea ( <i>Daphnia magna</i> )	25 mg/L, 21 hours
<b>Persistence and degradability</b>	Not available	
<b>Bioaccumulative potential</b>	Not available	
<b>Mobility in soil</b>	High water solubility indicates a high mobility in soil.	
<b>Other adverse effects</b>	No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

**13. Disposal considerations**

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion with the user, the producer, and the waste disposal company.
<b>Waste from residues/unused products</b>	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (refer to Disposal instructions).
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste-handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transportation information

### DOT

Not regulated as dangerous goods

### IATA

Not regulated as dangerous goods

### IMDG

Not regulated as dangerous goods

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

## 15. Regulatory information

**U.S. federal regulations** This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

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

Not regulated

### **CERCLA Hazardous Substance (40 CFR 302.4)**

Edetic acid (CAS 60-00-4)

### **SARA 304 Emergency Release Notification**

Not regulated

### **OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)**

Not regulated

### **Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate hazard – no

Delayed hazard – no

Fire hazard – no

Pressure hazard – no

Reactivity hazard – no

### **SARA 302 Extremely Hazardous Substance**

Not regulated

### **SARA 311/312 Hazardous Chemical**

Not regulated

### **SARA 313 (TRI reporting)**

Not regulated

### **Other federal regulations**

#### **Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAP)**

Not regulated

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

Not regulated

#### **Safe Drinking Water Act (SDWA)**

Not regulated

### **U.S. state regulations**

#### **California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not regulated

#### **Massachusetts Right-to-Know Act**

Edetic acid (CAS 60-00-4)

#### **New Jersey Worker and Community Right-to-Know Act**

Edetic acid (CAS 60-00-4)

#### **Pennsylvania Worker and Community Right-to-Know Act**

Edetic acid (CAS 60-00-4)

#### **Rhode Island Right-to-Know Act**

Edetic acid (CAS 60-00-4)

#### **California Proposition 65**

**California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):** This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

## International inventories

Country(ies) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	yes
Canada	Domestic Substances List (DSL)	yes
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	yes
Europe	European List of Notified Chemical Substances (ELINCS)	no
Japan	Existing and New Chemical Substances (ENCS)	yes
Korea	Existing Chemicals List (ECL)	yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA)	yes

\*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(ies).

A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(ies).

## 16. Other information, including date of preparation or last revision

### List of abbreviations

ACGIH: American Conference of Governmental Industrial Hygienists  
AICS: Australian Inventory of Chemical Substances  
CAA: Clean Air Act  
CAS: Chemical Abstract Services  
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act  
CFR: Code of Federal Regulations  
CSA: Canadian Standards Association  
DEA: Drug Enforcement Agency  
DOT: Department of Transportation  
DSL: Domestic Substances List  
EC: effective concentration  
ECL: Existing Chemicals List  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
ENCS: Existing and New Chemical Substances  
EPA: Environmental Protection Agency  
HAP: hazardous air pollutants  
HMIS: Hazardous Materials Identification System  
HNOC: hazards not otherwise classified  
HPA: Hazardous Products Act  
HSDB: Hazardous Substances Data Bank  
IARC: International Agency for Research on Cancer  
IATA: International Air Transport Association  
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk  
ICAO: International Civil Aviation Organization  
IECSC: Inventory of Existing Chemical Substances Produced or Imported in China  
IMDG: International Maritime Dangerous Goods  
IUCLID: International Uniform Chemical Information Database  
LC: lethal concentration  
LD: lethal dose  
MARPOL: marine pollution  
MSHA: Mine Safety and Health Administration  
NDSL: Non-Domestic Substances List  
NFPA: National Fire Protection Association  
NIOSH: National Institute of Occupational Safety and Health  
NOEC: no observable effect concentration  
NTP: National Toxicology Program  
NZIoC: New Zealand Inventory of Chemicals  
OECD: Organisation for Economic Co-operation and Development  
OEL: occupational exposure limits  
OSHA: Occupational Safety and Health Administration  
PEL: permissible exposure limits

PICCS: Philippine Inventory of Chemicals and Chemical Substances  
PPE: personal protective equipment  
RCRA: Resource Conservation and Recovery  
Act RQ: reportable quantity  
RTECS: Registry of Toxic Effects of Chemical Substances  
RTK: right to know  
SARA: Superfund Amendments and Reauthorization Act  
SDS: Safety Data Sheet  
SDWA: Safe Drinking Water Act  
STEL: short-term exposure limit  
TLV: threshold limit values  
TSCA: Toxic Substances Control Act  
TWA: time-weighted average  
VOC: volatile organic compounds  
WEL: workplace exposure limit

**Disclaimer**

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**Issue date**

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**Last revision**

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