The following list contains the Material Safety Data Sheets you requested. Please scroll down to view the requested MSDS(s).

<table>
<thead>
<tr>
<th>Product</th>
<th>MSDS</th>
<th>Distributor</th>
<th>Format</th>
<th>Language</th>
<th>Quantity</th>
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<tr>
<td>2241877</td>
<td>N/A</td>
<td>Hach Company</td>
<td>OSHA</td>
<td>English</td>
<td>1</td>
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Total Enclosures: 1
MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Calcium and Magnesium Indicator Solution
Catalog Number: 2241877

Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

Emergency Telephone Numbers:
(303) 623-5716  24 Hour Service
(515)232-2533  8am - 4pm CST

MSDS Number: M00340
Chemical Name: Not applicable
CAS No.: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Hazard: May cause irritation.
Date of MSDS Preparation:
Day: 23
Month: 09
Year: 2004

2. COMPOSITION / INFORMATION ON INGREDIENTS

Propionic acid
CAS No.: 70-09-4
TSCA CAS Number: 70-09-4
Percent Range: 1.0 - 5.0
Percent Range Units: volume / volume
LD50: Oral rat LD50 = 2600 mg/kg
LC50: None reported
TLV: 10 ppm
PEL: 10 ppm
Hazard: Causes burns. Harmful if absorbed through skin.

Demineralized Water
CAS No.: 7732-18-5
TSCA CAS Number: 7732-18-5
Percent Range: >95.0
Percent Range Units: volume / volume
LD50: None reported
LC50: None reported
TLV: Not established
PEL: Not established
Hazard: No effects anticipated.

Other component
CAS No.: Not applicable
TSCA CAS Number: Not applicable
Percent Range: < 0.1
Percent Range Units: weight / weight
LD50: Not applicable
LC50: Not applicable
TLV: Not established
PEL: Not established
**Hazard:** Any ingredient(s) of this product listed as "Other component(s)" is not considered a health hazard to the user of this product.

### 3. HAZARDS IDENTIFICATION

**Emergency Overview:**
- **Appearance:** Very dark red solution.
- **Odor:** Not determined
  - MAY CAUSE EYE IRRITATION

**HMIS:**
- **Health:** 1
- **Flammability:** 0
- **Reactivity:** 0

**Protective Equipment:** X - See protective equipment, Section 8.

**NFPA:**
- **Health:** 1
- **Flammability:** 0
- **Reactivity:** 0

**Symbol:** Not applicable

**Potential Health Effects:**
- **Eye Contact:** May cause irritation
- **Skin Contact:** None reported
- **Target Organs:** Not applicable
- **Ingestion:** None reported
- **Inhalation:** None reported
- **Target Organs:** Not applicable
- **Medical Conditions Aggravated:** Pre-existing: Eye conditions
- **Chronic Effects:** None reported

**Cancer / Reproductive Toxicity Information:**
- This product does NOT contain any OSHA listed carcinogens.
- This product does NOT contain any IARC listed chemicals.
- This product does NOT contain any NTP listed chemicals.

**Additional Cancer / Reproductive Toxicity Information:** None reported

**Toxicologically Synergistic Products:** None reported

### 4. FIRST AID

- **Eye Contact:** Immediately flush eyes with water for 15 minutes. Call physician.
- **Skin Contact (First Aid):** Wash skin with plenty of water. Call physician if irritation develops.
- **Ingestion (First Aid):** Give large quantities of water. Call physician immediately.
- **Inhalation:** None required.

### 5. FIRE FIGHTING MEASURES

- **Flammable Properties:** Material will not burn.
- **Flash Point:** Not applicable
- **Method:** Not applicable
- **Flammability Limits:**
  - **Lower Explosion Limits:** Not applicable
  - **Upper Explosion Limits:** Not applicable
- **Autoignition Temperature:** Not applicable
- **Hazardous Combustion Products:** This material will not burn.
**Fire / Explosion Hazards:** This product will not burn or explode.

**Static Discharge:** None reported.

**Mechanical Impact:** None reported

**Extinguishing Media:** Use media appropriate to surrounding fire conditions

**Fire Fighting Instruction:** As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

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**6. ACCIDENTAL RELEASE MEASURES**

**Spill Response Notice:**
Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance.

**Containment Technique:** Stop spilled material from being released to the environment.

**Clean-up Technique:** Cover spilled material with an alkali, such as soda ash or sodium bicarbonate. Scoop up slurry into a large beaker. Dilute with a large excess of water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Flush reacted material to the drain with a large excess of water. Decontaminate the area of the spill with a soap solution.

**Evacuation Procedure:** Evacuate as needed to perform spill clean-up. If conditions warrant, increase the size of the evacuation.

**Special Instructions (for accidental release):** Mixture contains a component which is regulated as a water pollutant.

304 EHS RQ (40 CFR 355): Not applicable

D.O.T. Emergency Response Guide Number: None

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**7. HANDLING / STORAGE**

**Handling:** Avoid contact with eyes. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.

**Storage:** Keep container tightly closed when not in use.

**Flammability Class:** Not applicable

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**8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT**

**Engineering Controls:** Maintain general industrial hygiene practices when using this product.

**Personal Protective Equipment:**

- **Eye Protection:** safety glasses with top and side shields
- **Skin Protection:** disposable latex gloves
- **Inhalation Protection:** adequate ventilation

**Precautionary Measures:** Avoid contact with: eyes. Wash thoroughly after handling.

**TLV:** Not established

**PEL:** Not established

---

**9. PHYSICAL / CHEMICAL PROPERTIES**

**Appearance:** Very dark red solution.

**Physical State:** Liquid

**Molecular Weight:** Not applicable

**Odor:** Not determined

**pH:** 2.65

**Vapor Pressure:** Not determined

**Vapor Density (air = 1):** Not determined

**Boiling Point:** 97° C (207° F)

**Melting Point:** Not applicable

**Specific Gravity (water = 1):** 0.995

**Evaporation Rate (water = 1):** 1.02

**Volatile Organic Compounds Content:** Not applicable

**Partition Coefficient (n-octanol / water):** Not applicable

**Solubility:**
- **Water:** Soluble
- **Acid:** Soluble
Other: Not determined

Metal Corrosivity:
Steel: 0.042 in/yr
Aluminum: 0.004 in/yr

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Conditions to Avoid: Extreme temperatures Evaporation
Reactivity / Incompatibility: None reported
Hazardous Decomposition: Heating to decomposition releases toxic fumes of carbon monoxide and carbon dioxide.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:
LD50: None reported
LC50: None reported
Dermal Toxicity Data: None reported
Skin and Eye Irritation Data: None reported
Mutation Data: None reported
Reproductive Effects Data: None reported
Ingredient Toxicological Data: Propionic Acid: Oral rat LD50 = 2600 mg/kg

12. ECOLOGICAL INFORMATION

Product Ecological Information: --
No ecological data available for this product.
Ingredient Ecological Information: --
No ecological data available for the ingredients of this product.

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: None
Special Instructions (Disposal): Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate.
Open cold water tap completely, slowly pour the reacted material to the drain. Allow cold water to run for 5 minutes to completely flush the system.
Empty Containers: Rinse three times with an appropriate solvent.
NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information.

14. TRANSPORT INFORMATION

D.O.T.:
D.O.T. Proper Shipping Name: Not Currently Regulated
--
DOT Hazard Class: NA
DOT Subsidiary Risk: NA
DOT ID Number: NA
DOT Packing Group: NA

I.C.A.O.:
I.C.A.O. Proper Shipping Name: Not Currently Regulated
--
ICAO Hazard Class: NA
ICAO Subsidiary Risk: NA
ICAO ID Number: NA
ICAO Packing Group: NA

I.M.O.:
I.M.O. Proper Shipping Name: Not Currently Regulated
15. REGULATORY INFORMATION

U.S. Federal Regulations:

O.S.H.A.: This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard. (29 CFR 1910.1200)

E.P.A.:

S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370): Immediate (Acute) Health Hazard

S.A.R.A. Title III Section 313 (40 CFR 372): This product does NOT contain any chemical subject to the reporting requirements of Section 313 of Title III of SARA.

302 (EHS) TPQ (40 CFR 355): Not applicable

304 CERCLA RQ (40 CFR 302.4): 5000 lbs. Propionic acid

304 EHS RQ (40 CFR 355): Not applicable


RCRA: Contains no RCRA regulated substances.

C.P.S.C.: Not applicable

State Regulations:

California Prop. 65: No Prop. 65 listed chemicals are present in this product.

Identification of Prop. 65 Ingredient(s): Not applicable

Trade Secret Registry: Not applicable

National Inventories:

U.S. Inventory Status: All ingredients in this product are listed on the TSCA 8(b) Inventory (40 CFR 710).

TSCA CAS Number: Not applicable

16. OTHER INFORMATION

Intended Use: Indicator for calcium Indicator for Magnesium.


Revision Summary: Updates in Section(s) 14,

Legend:

NA - Not Applicable             w/w - weight/weight
ND - Not Determined             w/v - weight/volume
NV - Not Available             v/v - volume/volume

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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