

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

MSDS No: M00009

# MATERIAL SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Bromcresol Green-Methyl Red Indicator Powder  
**Catalog Number:** 94399

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

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

**MSDS Number:** M00009  
**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:** 05  
**Month:** December  
**Year:** 2013

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

### Citric Acid

**CAS No.:** 77-92-9  
**TSCA CAS Number:** 77-92-9  
**Percent Range:** < 0.1  
**Percent Range Units:** weight / weight  
**LD50:** Oral rat LD<sub>50</sub> = 6730 mg/Kg; LD50 oral rat - 5,400 mg/kg; LD50 oral rat = 3,000 mg/kg;  
**LC50:** None reported  
**TLV:** 10 mg/m<sup>3</sup> as inhalable dust  
**PEL:** 15 mg/m<sup>3</sup> as total dust; 5 mg/m<sup>3</sup> as respirable dust  
**Hazard:** May be harmful if swallowed Causes eye and skin irritation

### Methyl Red, Sodium Salt

**CAS No.:** 845-10-3  
**TSCA CAS Number:** 845-10-3  
**Percent Range:** < 0.01  
**Percent Range Units:** weight / weight  
**LD50:** None reported  
**LC50:** None reported  
**TLV:** Not established  
**PEL:** Not established  
**Hazard:** Toxic properties unknown. May cause irritation.

### Bromcresol Green

**CAS No.:** 76-60-8  
**TSCA CAS Number:** 76-60-8  
**Percent Range:** < 0.0001  
**Percent Range Units:** weight / weight  
**LD50:** Oral rat LD<sub>50</sub> > 3200 mg/kg  
**LC50:** None reported  
**TLV:** 10 mg/m<sup>3</sup> as inhalable dust; 3 mg/m<sup>3</sup> as respirable dust

*PEL:* 15 mg/m<sup>3</sup> as total dust; 5 mg/m<sup>3</sup> as respirable dust  
*Hazard:* May cause irritation. Toxic properties unknown.

#### Potassium Hydroxide

*CAS No.:* 1310-58-3  
*TSCA CAS Number:* 1310-58-3  
*Percent Range:* < 0.5  
*Percent Range Units:* weight / weight  
*LD50:* Oral rat LD50 = 273 mg/kg  
*LC50:* None reported  
*TLV:* 10 mg/m<sup>3</sup> as inhalable dust; 3 mg/m<sup>3</sup> as respirable dust  
*PEL:* 15 mg/m<sup>3</sup> as inhalable dust; 5 mg/m<sup>3</sup> as respirable dust  
*Hazard:* Toxic. Causes severe burns.

#### Potassium Chloride

*CAS No.:* 7447-40-7  
*TSCA CAS Number:* 7447-40-7  
*Percent Range:* > 99.0  
*Percent Range Units:* weight / weight  
*LD50:* Oral rat LD<sub>50</sub> = 2600 mg/kg  
*LC50:* None reported.  
*TLV:* 10 mg/m<sup>3</sup> as inhalable dust; 3 mg/m<sup>3</sup> as respirable dust  
*PEL:* 15 mg/m<sup>3</sup> as inhalable dust; 5 mg/m<sup>3</sup> as respirable dust  
*Hazard:* May cause irritation.

#### Sodium Citrate

*CAS No.:* 68-04-2  
*TSCA CAS Number:* 68-04-2  
*Percent Range:* < 0.1  
*Percent Range Units:* weight / weight  
*LD50:* Oral rat LD50 > 8 g/Kg  
*LC50:* Not available  
*TLV:* 10 mg/m<sup>3</sup> as inhalable dust; 3 mg/m<sup>3</sup> as respirable dust  
*PEL:* 15 mg/m<sup>3</sup> as total dust; 5 mg/m<sup>3</sup> as respirable dust  
*Hazard:* May cause irritation.

#### Sulfuric Acid

*CAS No.:* 7664-93-9  
*TSCA CAS Number:* 7664-93-9  
*Percent Range:* < 0.2  
*Percent Range Units:* weight / weight  
*LD50:* Oral rat LD50 = 2140 mg/kg  
*LC50:* Inhalation rat LC50 = 87 ppm/4 hr  
*TLV:* 1 mg/m<sup>3</sup>  
*PEL:* 1 mg/m<sup>3</sup>  
*Hazard:* Causes severe burns. Harmful if inhaled. STRONG INORGANIC ACID MISTS CONTAINING SULFURIC ACID CAN CAUSE CANCER

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### 3. HAZARDS IDENTIFICATION

#### *Emergency Overview:*

*Appearance:* Red-brown to green powder

*Odor:* None

MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT 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:** May cause irritation

**Skin Absorption:** No effects anticipated

**Target Organs:** Not applicable

**Ingestion:** May cause: gastrointestinal disturbances blood pressure changes cardiac depression gastroenteritis

**Target Organs:** None reported

**Inhalation:** May cause: irritation of nose and throat

**Target Organs:** None reported

**Medical Conditions Aggravated:** Pre-existing: Kidney 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

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#### 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:** Remove to fresh air.

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#### 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Does not burn, but may melt in a fire, releasing toxic fumes.

**Flash Point:** Not applicable

**Method:** Not applicable

**Flammability Limits:**

**Lower Explosion Limits:** Not applicable

**Upper Explosion Limits:** Not applicable

**Autoignition Temperature:** Not determined

**Hazardous Combustion Products:** None reported

**Fire / Explosion Hazards:** None reported

**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. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

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

**Clean-up Technique:** If permitted by regulation, Sweep up material. Dilute with a large excess of water. Flush the spilled material to the drain with a large excess of water. Otherwise, Pick up spill for disposal and place in a closed container. Dispose of in accordance with local, state and federal regulations or laws.

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

**Special Instructions (for accidental release):** Not applicable

**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 skin. Do not breathe dust. 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. In the EU, the selected gloves must satisfy the specifications of EU Directive 89/686/EEC and standard EN 374 derived from it. lab coat

**Inhalation Protection:** adequate ventilation

**Precautionary Measures:** Avoid contact with: eyes skin. Do not breathe: dust. Wash thoroughly after handling.

**TLV:** Not established

**PEL:** Not established

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## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Red-brown to green powder

**Physical State:** Solid

**Molecular Weight:** Not applicable

**Odor:** None

**pH:** of 5% solution = 9.0

**Vapor Pressure:** Not applicable

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

**Boiling Point:** Not applicable

**Melting Point:** 181°C (358°F)

**Specific Gravity/ Relative Density (water = 1; air = 1):** 1.91

**Evaporation Rate (water = 1):** Not applicable

**Volatile Organic Compounds Content:** Not applicable

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

**Solubility:**

**Water:** Soluble

**Acid:** Soluble

**Other:** Not determined

**Metal Corrosivity:**

**Steel:** Not determined

**Aluminum:** Not determined

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## 10. STABILITY / REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions.

**Conditions to Avoid:** Extreme temperatures. Excess moisture.

**Reactivity / Incompatibility:** None reported.

**Hazardous Decomposition:** Toxic fumes of: chlorides.

**Hazardous Polymerization:** Will not occur.

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## 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:* Potassium Chloride: Oral rat LD<sub>50</sub> = 2600 mg/kg, Oral man LD<sub>Lo</sub> = 20 mg/kg

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## 12. ECOLOGICAL INFORMATION

*Product Ecological Information:* --

No ecological data available for this product. Mobility in soil: No data available

*Ingredient Ecological Information:* Potassium Chloride: EC50 Daphnia magna 48h = 83 mg/l;

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## 13. DISPOSAL CONSIDERATIONS

*EPA Waste ID Number:* None

*Special Instructions (Disposal):* Dilute material with excess water making a weaker than 5% solution. Open cold water tap completely, slowly pour the material to the drain. Flush system with plenty of water.

*Empty Containers:* Rinse three times with an appropriate solvent. Dispose of empty container as normal trash.

*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.

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## 14. TRANSPORT INFORMATION

*D.O.T.:*

*D.O.T. Proper Shipping Name:* Not Currently Regulated

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*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

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*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

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*I.M.O. Hazard Class:* NA

*I.M.O. Subsidiary Risk:* NA

*I.M.O. ID Number:* NA

*I.M.O. Packing Group:* NA

*Additional Information:* There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is NOT in a set or kit, the classification given above applies. If the item IS part of a set or kit, the classification would change to the following: UN3316 Chemical Kit, Class 9, PG II or III. If the item is not regulated, the Chemical Kit classification does not apply.

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## 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.

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

*304 CERCLA RQ (40 CFR 302.4):* Not applicable

*304 EHS RQ (40 CFR 355):* Not applicable

*Clean Water Act (40 CFR 116.4):* 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):* None

*California Perchlorate Rule CCR Title 22 Chap 33:* 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

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## 16. OTHER INFORMATION

*Intended Use:* Laboratory Reagent Indicator for pH

*References:* 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. Technical Judgment. In-house information. Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Association, 1991.

*Revision Summary:* Substantial revision to comply with EU Reg 1272/2008, Reg 1907/2006 and UN GHS (ST/SG/AC.10/36/Add.3).

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**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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