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

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Total Enclosures: 3
1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Phenolphthalein Indicator Powder  
**Catalog Number:** 94299

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:** M00008  
**Chemical Name:** Not applicable  
**CAS Number:** Not applicable  
**Additional CAS No. (for hydrated forms):** Not applicable  
**Chemical Formula:** Not applicable  
**Chemical Family:** Not applicable  
**Intended Use:** Laboratory Reagent Indicator for pH

2. HAZARDS IDENTIFICATION

**GHS Classification:**  
- Serious Eye Damage/Eye Irritation: Eye Irrit. 2  
- Carcinogenicity: Carc. 1B

**GHS Label Elements:**  
DANGER

**Hazard statements:**  
- May cause cancer.  
Causes serious eye irritation.  
May cause cancer by inhalation.  
Suspected of damaging fertility.  
Suspected of damaging the unborn child.

**Precautionary statements:**  
Obtain special instructions before use.  
Wear protective gloves / protective clothing / eye protection / face protection.  
IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do.  
Continue rinsing.  
If eye irritation persists: Get medical advice/attention.  
Call a POISON CENTER or doctor/physician if you feel unwell.  
Store in a well-ventilated place, locked up.

**WHMIS:**  
- **Health:** 2*  
- **Flammability:** 0  
- **Reactivity:** 0  

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

**NFPA:**  
- **Health:** 2  
- **Flammability:** 0  
- **Reactivity:** 0  

**Symbol:** Not applicable

**WHMIS Hazard Classification:**  
Class D, Division 2, Subdivision A - Very toxic materials (other toxic effects)  
Class D, Division 2, Subdivision B - Toxic material (other toxic effects)

**WHMIS Symbols:** Other Toxic Effects

3. COMPOSITION / INFORMATION ON INGREDIENTS
4. FIRST AID MEASURES

**General Information:** In the event of exposure, show this Material Safety Data Sheet and label (where possible) to a doctor.  
**Advice to doctor:** Treat symptomatically.  
**Eye Contact:** Immediately flush eyes with water for 15 minutes. Call physician if irritation develops.  
**Skin Contact (First Aid):** Remove contaminated clothing. Wash skin with soap and plenty of water. Call physician if irritation develops.  
**Inhalation:** Remove to fresh air.  
**Ingestion (First Aid):** Give large quantities of water. Never give anything by mouth to an unconscious person. Call physician immediately.

5. FIRE FIGHTING MEASURES

**Flammable Properties:** During a fire, this product decomposes to form toxic gases.  
**Fire Fighting Instruction:** As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.  
**Extinguishing Media:** Use media appropriate to surrounding fire conditions  
**Extinguishing Media NOT To Be Used:** Not applicable  
**Fire / Explosion Hazards:** May react violently with: bromine trifluoride  
**Hazardous Combustion Products:** Toxic fumes of: chlorides sodium oxides

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, Scoop up spilled material into a large beaker and dissolve with water. Dilute with a large excess of water. Flush the spilled material to the drain with a large excess of water. Decontaminate the area of the spill with a soap solution. 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.
7. HANDLING AND STORAGE

Handling: Avoid contact with eyes skin. 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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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. Wash thoroughly after handling.
TLV: Not established
PEL: Not established
For Occupational Exposure Limits (OEL) for ingredients, see section 3 - Composition/Information on Ingredients:

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White or light pink powder
Physical State: Solid
Molecular Weight: Not applicable
Odor: None
Odor Threshold: Odorless
pH: of 5% solution = 6.2
Metal Corrosivity:
   Corrosivity Classification: Not classified as corrosive to metals according to GHS criteria.
   Steel: Not determined
   Aluminum: Not determined
Specific Gravity/ Relative Density (water = 1; air =1): 2.10
Viscosity: Not determined
Solubility:
   Water: Soluble
   Acid: Soluble
   Other: Not determined
Partition Coefficient (n-octanol / water): Not determined
Coefficient of Water / Oil: Not determined
Melting Point: 258° - 262°C (496° - 504°F)
 Decomposition Temperature: Not determined
Boiling Point: Not applicable
Vapor Pressure: Not applicable
Vapor Density (air = 1): Not applicable
Evaporation Rate (water = 1): Not applicable
Volatile Organic Compounds Content: Not applicable
Flammable Properties: During a fire, this product decomposes to form toxic gases.
Flash Point: Not applicable
Method: Not applicable
Flammability Limits:
   Lower Explosion Limits: Not applicable
   Upper Explosion Limits: Not applicable
Autoignition Temperature: Not applicable
Explosive Properties: Not classified according to GHS criteria.
Oxidizing Properties: Not classified according to GHS criteria.
Reactivity Properties:
Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria. Gas under Pressure: Not classified according to GHS criteria.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Mechanical Impact: None reported
Static Discharge: None reported.
Reactivity / Incompatibility: Incompatible with: bromine trifluoride lithium
Hazardous Decomposition: Toxic fumes of: chlorides sodium oxides
Conditions to Avoid: Heating to decomposition. Excess moisture

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, Metabolism and Distribution: No information available for mixture.
Toxicologically Synergistic Products: None reported
Acute Toxicity: Acute Toxicity Estimate (ATE) - Calculated from Ingredient Toxicity Data
ATE (mix) Oral Rat LD50 = 2930 mg/kg
ATE (mix) Dermal 400000 mg/Kg
ATE (mix) Inhalation LC50 = 440 mg/m3
Specific Target Organ Toxicity - Single Exposure (STOT-SE): Based on classification principles, the classification criteria are not met.
Specific Target Organ Toxicity - Repeat Exposure (STOT-RE): Based on classification principles, the classification criteria are not met.
Skin Corrosion/Irritation: Based on classification principles, the classification criteria are not met.
Eye Damage: Irritating to eyes.
Sensitization: Based on classification principles, the classification criteria are not met.
CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction): Contains Listed Carcinogen Contains a reproductive toxin.
   An ingredient of this mixture is: IARC Group 2B: Experimental Carcinogen Phenolphthalein
   An ingredient of this mixture is: NTP Listed Group 2B: Experimental Carcinogen Phenolphthalein
   This product does NOT contain any OSHA listed carcinogens.
Symptoms/Effects:
   Ingestion: May cause: vomiting dehydration diarrhea blood pressure problems muscular twitching rigidity
   Inhalation: No effects anticipated
   Skin Absorption: No effects anticipated
   Chronic Effects: None reported
Medications Conditions Aggravated: Pre-existing: Eye conditions

12. ECOLOGICAL INFORMATION

Product Ecological Information: --
   No ecological data available for this product. Mobility in soil: No data available
Ingredient Ecological Information: --
   No ecological data available for the ingredients of this product.
CEPA Statement: Sodium Chloride: Persistent, not bioaccumulative or inherently toxic to aquatic organisms;
   Phenolphthalein: Not persistent, not bioaccumulative or inherently toxic to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: Not applicable
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. In Europe: Chemical
and analysis solutions must be disposed of in compliance with the respective national regulations. Product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system.

14. TRANSPORT INFORMATION

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

T.D.G.:
- **Proper Shipping Name:** Not Currently Regulated
- **Hazard Class:** NA
- **Subsidiary Risk:** NA
- **UN Number/PIN:** NA
- **Packing Group:** NA

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

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 Delayed (Chronic) 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):** 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.

**State Regulations:**
- **California Prop. 65:** WARNING - This product contains a chemical known to the State of California to cause cancer.
- **Identification of Prop. 65 Ingredient(s):** Phenolphthalein
- **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).
**CAS Number:** Not applicable

**Canadian Inventory Status:** All ingredients of this product are DSL Listed.

**EEC Inventory Status:** All ingredients used to make this product are listed on EINECS / ELINCS.

**Australian Inventory (AICS) Status:** All ingredients are listed.

**New Zealand Inventory (NZIoC) Status:** All components either listed or exempt.

**Korean Inventory (KECI) Status:** All components of this product are either listed, listed as the anhydrous compound or exempt.

**Japan (ENCS) Inventory Status:** All components either listed or exempt.

**China (PRC) Inventory (MEP) Status:** All components either listed or exempt.

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**16. OTHER INFORMATION**


**Complete Text of H phrases referred to in Section 3:** Not applicable H319 Causes serious eye irritation. H350 May cause cancer.

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

**Date of MSDS Preparation:**
- Day: 22
- Month: April
- Year: 2014

**MSDS Prepared:** MSDS prepared by Product Compliance Department extension 3350

**CCOHS Evaluation Note:** It is offered under exemption from WHMIS labeling as specified in the Controlled Products Regulation (CPR) Section 17. It is offered under the interim policy that was established by Health Canada permitting use of GHS-formatted safety data sheets in Canada prior to revision of CPR to GHS. This product has been classified and labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3). This SDS has been prepared in accordance with the requirements of 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.**

HACH COMPANY ©2015
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

MSDS Number: M00009
Chemical Name: Not applicable
CAS Number: Not applicable
Additional CAS No. (for hydrated forms): Not applicable
Chemical Formula: Not applicable
Chemical Family: Mixture
Intended Use: Laboratory Reagent Indicator for pH

2. HAZARDS IDENTIFICATION

GHS Classification:
Hazard categories: . . Serious Eye Damage/Eye Irritation: Eye Irrit. 2A .
GHS Label Elements:
WARNING

Hazard statements: . . . Causes serious eye irritation.
Precautionary statements: . . Wear protective gloves / protective clothing / eye protection / face protection. . . Wear eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

HMIS:
Health: 2*
Flammability: 0
Reactivity: 0
Protective Equipment: X - See protective equipment, Section 8.

NFPA:
Health: 2
Flammability: 0
Reactivity: 0
Symbol: Not applicable

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components according to GHS:
Potassium Chloride
4. FIRST AID MEASURES

**General Information:** In the event of exposure, show this Material Safety Data Sheet and label (where possible) to a doctor.

**Advice to doctor:** Treat symptomatically.

**Eye Contact:** Immediately flush eyes with water for 15 minutes. Call physician immediately.

**Skin Contact (First Aid):** Wash skin with plenty of water. Call physician if irritation develops.

**Inhalation:** Remove to fresh air. Give artificial respiration if necessary.

**Ingestion (First Aid):** Give large quantities of water. Never give anything by mouth to an unconscious person. Call physician immediately.

5. FIRE FIGHTING MEASURES

**Flammable Properties:** Material is not classified as flammable according to GHS criteria. Does not burn, but may melt in a fire, releasing toxic fumes.
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.
Extinguishing Media: Use media appropriate to surrounding fire conditions
Extinguishing Media NOT To Be Used: Not applicable
Fire / Explosion Hazards: May react violently with: bromine trifluoride
Hazardous Combustion Products: This material will not burn.

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. Releases of this material may contaminate 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.
DOT Emergency Response Guide Number: Not applicable

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes skin clothing Use with adequate ventilation. 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. Keep material dry. Keep this product in its original container when not in use. Store in a cool, dry, well-ventilated place. Protect from: heat extreme temperatures moisture Material is hygroscopic. Keep away from: oxidizers acids / acid fumes.
Flammability Class: Not applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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: nitrile 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 clothing Use with adequate ventilation. Do not breathe: dust Wash thoroughly after handling. Protect from: heat sparks, flames and other ignition sources moisture Material is hygroscopic. Keep away from: oxidizers acids/acid fumes
TLV: Not established
PEL: Not established
For Occupational Exposure Limits (OEL) for ingredients, see section 3 - Composition/Information on Ingredients.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Red-brown to green powder
Physical State: Solid
Molecular Weight: Not applicable
Odor: Odorless
Odor Threshold: Not applicable
pH: of 5% solution = 9.0
Metal Corrosivity:
Corrosivity Classification: Not classified as corrosive to metals according to GHS criteria.
Steel: Not determined
Aluminum: Not determined
Specific Gravity/ Relative Density (water = 1; air =1): 1.91
**Viscosity:** Not determined

**Solubility:**
- **Water:** Soluble
- **Acid:** Soluble
- **Other:** Soluble in glycerol

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

**Coefficient of Water / Oil:** Not applicable

**Melting Point:** 181 °C (358 °F)

**Decomposition Temperature:** Not determined

**Boiling Point:** Not applicable

**Vapor Pressure:** Not applicable

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

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

**Volatile Organic Compounds Content:** Not applicable

**Flammable Properties:** Material is not classified as flammable according to GHS criteria. 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 applicable

**Explosive Properties:** Not classified according to GHS criteria.

**Oxidizing Properties:** Not classified according to GHS criteria.

**Reactivity Properties:**
- Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.

**Gas under Pressure:** Not classified according to GHS criteria.

### 10. STABILITY AND REACTIVITY

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

**Mechanical Impact:** None reported

**Static Discharge:** None reported.

**Reactivity / Incompatibility:** May react violently in contact with: chlorine trifluoride strong acids strong oxidizers

**Hazardous Decomposition:** Toxic fumes of: chlorides hydrogen chloride phosphorus oxides

**Conditions to Avoid:** Avoid creating dust. Poor Ventilation Extreme temperatures Excessive heat Heating to decomposition. Contact with acid or acid fumes Contact with oxidizers Contact with heat, sparks, open flames or other ignition sources. Incompatibles Moisture: substance is hygroscopic.

### 11. TOXICOLOGICAL INFORMATION

**Toxicokinetics, Metabolism and Distribution:** No information available for mixture.

**Toxicologically Synergistic Products:** None reported

**Acute Toxicity:** Acute Toxicity Estimate (ATE) - Calculated from Ingredient Toxicity Data Route Data Given Below Based on classification principles, the classification criteria are not met.

Oral Rat LD50 = 2543 mg/kg

**Specific Target Organ Toxicity - Single Exposure (STOT-SE):** Based on classification principles, the classification criteria are not met.

**Specific Target Organ Toxicity - Repeat Exposure (STOT-RE):** Based on classification principles, the classification criteria are not met.

**Skin Corrosion/Irritation:** Mildly irritating to skin.

**Eye Damage:** Irritating to eyes.

**Sensitization:** Based on classification principles, the classification criteria are not met.

**CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction):** Summary of findings reported in the literature follow.

Methyl Red: Rat Liver - Unscheduled DNA Synthesis - 0.01 mmol/L; Bacillus subtilis - DNA Repair - 2 mg/disc; Salmonella typhimurium - Mutation in microorganisms - 0.05 mg/plate
This product does NOT contain any IARC listed chemicals.
This product does NOT contain any NTP listed chemicals.
This product does NOT contain any OSHA listed carcinogens.

**Symptoms/Effects:**
- **Ingestion:** May be harmful if swallowed. May cause: gastrointestinal disturbances, blood pressure problems, cardiac depression, gastritis, fever, anorexia, abdominal pain.
- **Inhalation:** No effects anticipated.
- **Skin Absorption:** No effects anticipated.
- **Chronic Effects:** Chronic overexposure may cause cancer.
- **Medical Conditions Aggravated:** Pre-existing: Kidney conditions, Eye conditions, Skin conditions, blood disorders, Cardiovascular diseases.

12. **ECOLOGICAL INFORMATION**

*Product Ecological Information:* --

No ecological data available for this product. Do not place in landfill. Recycle appropriately. Do not release into the environment. Mobility in soil: No data available.

Method Used for Estimation of Aquatic Toxicity of Mixture: Summation Method. M-factor (Multiplier) for highly toxic ingredients: 1

*Ingredient Ecological Information:* Potassium Chloride: 48 hr Daphnia magna EC50 = 83 mg/L; Methyl Red: 96 hr Gambusa affinis LC50 = 7 mg/L; Potassium Hydroxide: 96 hr Gambusia affinis LC50 = 80 mg/L. Ecological structure-activity relationship (SAR) Estimation (ECOSAR U.S. EPA 2009) CEPA categorization for ingredients as follows:
- Bromocresol Green: No effects predicted at saturation. Bromocresol Green: Persistent, bioaccumulative and inherently toxic to aquatic organisms (PBiT).
- Potassium Chloride, Potassium Hydroxide, Methyl Red: Persistent, not bioaccumulative or inherently toxic to aquatic organisms.
- Citric Acid, Sodium Citrate: Not persistent, bioaccumulative or inherently toxic to aquatic organisms.

13. **DISPOSAL CONSIDERATIONS**

*EPA Waste ID Number:* Not applicable

*Special Instructions (Disposal):* Dilute material with excess water making a weaker than 5% solution. If permitted by regulation. Open cold water tap completely, slowly pour the material to the drain. Flush system with plenty of water. Otherwise, Check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.

*Empty Containers:* Working in a well-ventilated area, Rinse three times with an appropriate solvent. Collect rinsate and dispose of according to local, state or federal regulations. Dispose of empty container as normal trash. In the US, rinsate from empty containers is classified as hazardous waste and should be disposed of at an E.P.A. approved facility. Rinse from empty containers may contain sufficient product to require disposal as hazardous waste.

*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. In Europe: Chemical and analysis solutions must be disposed of in compliance with the respective national regulations. Product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system.

14. **TRANSPORT INFORMATION**

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

*T.D.G.:*
- **Proper Shipping Name:** Not Currently Regulated
- **Hazard Class:** NA
- **Subsidiary Risk:** NA
- **UN Number/PIN:** NA
- **Packing Group:** NA

*I.C.A.O.:*
I.C.A.O. Proper Shipping Name: Not Currently Regulated

---

Hazard Class: NA
Subsidiary Risk: NA
ID Number: NA
Packing Group: NA

I.M.O.:
Proper Shipping Name: Not Currently Regulated

---

Hazard Class: NA
Subsidiary Risk: NA
ID Number: NA
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.

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 Delayed (Chronic) 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 (EHHS) TPQ (40 CFR 355): Not applicable
304 CERCLA RQ (40 CFR 302.4): Potassium hydroxide 1000 lbs.
304 EHS RQ (40 CFR 355): Not applicable


RCRA: Contains no RCRA regulated substances.

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).
CAS Number: Not applicable

Canadian Inventory Status: All ingredients of this product are DSL Listed.

EEC Inventory Status: All ingredients used to make this product are listed on EINECS / ELINCS.

Australian Inventory (AICS) Status: All ingredients are listed.

New Zealand Inventory (NZIoC) Status: All components either listed or exempt.

Korean Inventory (KECI) Status: All components of this product are either listed, listed as the anhydrous compound or exempt.

Japan (ENCS) Inventory Status: All components either listed or exempt.

China (PRC) Inventory (MEP) Status: All components either listed or exempt.

16. OTHER INFORMATION


Complete Text of I phrases referred to in Section 3: H319 Causes serious eye irritation.

Revision Summary: Substantial revision to comply with EU Reg 1272/2008, Reg 1907/2006 and UN GHS (ST/SG/AC.10/36/Add.3).
Date of MSDS Preparation:
Day: 05
Month: December
Year: 2014
MSDS Prepared: MSDS prepared by Product Compliance Department extension 3350
CCOHS Evaluation Note: It is offered under exemption from WHMIS labeling as specified in the Controlled Products Regulation (CPR) Section 17. It is offered under the interim policy that was established by Health Canada permitting use of GHS-formatted safety data sheets in Canada prior to revision of CPR to GHS. This product has been classified and labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3). This SDS has been prepared in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3).

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.

HACH COMPANY ©2015
SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Sulfuric Acid Standard Solution 0.035 N  
**Catalog Number:** 2349732

<table>
<thead>
<tr>
<th>Company Details</th>
<th>Emergency Telephone Numbers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hach Company</td>
<td>(Medical and Transportation)</td>
</tr>
<tr>
<td>P.O.Box 389</td>
<td>(Medical and Transportation)</td>
</tr>
<tr>
<td>Loveland, CO USA 80539</td>
<td>(Medical and Transportation)</td>
</tr>
<tr>
<td>(970) 669-3050</td>
<td>(Medical and Transportation)</td>
</tr>
</tbody>
</table>

**MSDS Number:** M00621  
**Chemical Name:** Not applicable  
**CAS Number:** Not applicable  
**Additional CAS No. (for hydrated forms):** Not applicable  
**Chemical Formula:** Not applicable  
**Chemical Family:** Mixture  
**Intended Use:** Laboratory Reagent Standard solution

2. HAZARDS IDENTIFICATION

**GHS Classification:**  
**Hazard categories:** Serious Eye Damage/Eye Irritation: Eye Dam. 1

**GHS Label Elements:**  
DANGER

**Hazard statements:** Causes serious eye damage.  
**Precautionary statements:** Wear eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. If skin irritation occurs: Get medical advice/attention.

**HMIS:**  
Health: 3  
Flammability: 1  
Reactivity: 0  
**Protective Equipment:** X - See protective equipment, Section 8.

**NFPA:**  
Health: 3  
Flammability: 1  
Reactivity: 0  
**Symbol:** Not applicable

**WHMIS Hazard Classification:** Class D, Division 2, Subdivision B - Toxic material (other toxic effects)  
**WHMIS Symbols:** Other Toxic Effects

3. COMPOSITION / INFORMATION ON INGREDIENTS

**Hazardous Components according to GHS:**  
Isopropanol
**CAS Number:** 67-63-0  
**Chemical Formula:** C₃H₈O  
**GHS Classification:**  
**Percent Range (Trade Secret):** 1.0 - 5.0  
**Percent Range Units:** weight / weight  
**PEL:** 400 ppm (980 mg/m³)  
**TLV:** 200 ppm (492 mg/m³)  

**WHMIS Symbols:** Flammable / CombustibleOther Toxic Effects

**Sulfuric Acid**

**CAS Number:** 7664-93-9  
**Chemical Formula:** H₂SO₄  
**GHS Classification:** Met. Corr. 1 H290; Skin Corr. 1A, H314; Aquatic Acute 3, H402  
**Percent Range (Trade Secret):** < 0.5  
**Percent Range Units:** weight / weight  
**PEL:** 1 mg/m³  
**TLV:** 1 mg/m³  

**WHMIS Symbols:** Acute PoisonCorrosive

**Hazardous Components according to GHS:** No

**Demineralized Water**

**CAS Number:** 7732-18-5  
**Chemical Formula:** H₂O  
**GHS Classification:** Not a dangerous substance according to GHS.  
**Percent Range (Trade Secret):** >95.0  
**Percent Range Units:** weight / weight  
**PEL:** Not established  
**TLV:** Not established  

**WHMIS Symbols:** Not applicable

### 4. FIRST AID MEASURES

**General Information:** In the event of exposure, show this Material Safety Data Sheet and label (where possible) to a doctor.  
**Advice to doctor:** Treat symptomatically.  
**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.  
**Inhalation:** Remove to fresh air. If you feel unwell, contact a physician  
**Ingestion (First Aid):** Rinse mouth with plenty of water. Give large quantities of water. Never give anything by mouth to an unconscious person. If you feel unwell, contact a physician.

### 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Material is not classified as flammable according to GHS criteria. May be combustible at high temperature.  
**Fire Fighting Instruction:** As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.  
**Extinguishing Media:** Water. Carbon dioxide Dry chemical.  
**Extinguishing Media NOT To Be Used:** Not applicable  
**Fire / Explosion Hazards:** May react violently with: strong oxidizers strong bases alkali metals  
**Hazardous Combustion Products:** Toxic fumes of: sulfur oxides. carbon monoxide, carbon dioxide.

### 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. Absorb spilled liquid with non-reactive sorbent material. Releases of this material may contaminate 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. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Decontaminate the area of the spill with a soap solution. If permitted by regulation, Flush reacted material to the drain with a large excess of water. Otherwise, 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.

**DOT Emergency Response Guide Number:** Not applicable

### 7. HANDLING AND STORAGE

**Handling:** Avoid contact with eyes skin clothing Wash thoroughly after handling. Use with adequate ventilation. Do not breathe mist or vapors. Maintain general industrial hygiene practices when using this product.

**Storage:** Keep container tightly closed when not in use. Keep this product in its original container when not in use. Store in a cool, well-ventilated place. Keep away from: oxidizers metals bases Protect from: heat sparks, flames and other ignition sources

**Flammability Class:** Class IIIB

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Have an eyewash station nearby. Use general ventilation to minimize exposure to mist, vapor or dust. Maintain general industrial hygiene practices when using this product.

**Personal Protective Equipment:**

- **Eye Protection:** chemical splash goggles Suitable facilities (eyewash station or bottle) for flushing of the eyes
- **Skin Protection:** nitrile 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 clothing Wash thoroughly after handling. Use with adequate ventilation. Do not breathe: mist/vapor Keep away from: oxidizers metals bases Protect from: heat sparks, flames and other ignition sources freezing

**TLV:** Not established

**PEL:** Not established

*For Occupational Exposure Limits (OEL) for ingredients, see section 3 - Composition/Information on Ingredients.*

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Clear, colorless liquid

**Physical State:** Liquid

**Molecular Weight:** Not applicable

**Odor:** Alcoholic

**Odor Threshold:** Isopropanol: 50 ppm

**pH:** 1.6

**Metal Corrosivity:**

- **Corrosivity Classification:** Not classified as corrosive to metals according to GHS criteria.

**Steel:** 0.055 in/yr

**Aluminum:** 0.041 in/yr

**Specific Gravity/ Relative Density (water = 1; air =1):** 0.9943

**Viscosity:** ~ 1.2 mPa-s

**Solubility:**

- **Water:** Soluble
- **Acid:** Soluble
- **Other:** Soluble in methanol and ethanol.

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

**Coefficient of Water / Oil:** Not applicable

**Melting Point:** -1 °C (30 °F)

**Decomposition Temperature:** Not applicable

**Boiling Point:** 89 °C (192 °F)

**Vapor Pressure:** 17.30 mm Hg (2.25 kPa) at 20 °C (68 °F)
Vapor Density (air = 1): 0.64
Evaporation Rate (water = 1): 0.86
Volatile Organic Compounds Content: 3.55% Isopropanol
Flammable Properties: Material is not classified as flammable according to GHS criteria. May be combustible at high temperature.
Flash Point: > 100 °C (> 212 °F)
   Method: Closed cup
Flammability Limits:
   Lower Explosion Limits: Not determined
   Upper Explosion Limits: Not determined
Autoignition Temperature: Not determined
Explosive Properties: Not classified according to GHS criteria.
Oxidizing Properties: Not classified according to GHS criteria.
Reactivity Properties:
   Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.
Gas under Pressure: Not classified according to GHS criteria.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Mechanical Impact: None reported
Static Discharge: None reported
Reactivity / Incompatibility: Incompatible with: oxidizers reducers potassium-tert-butoxide cobalt chloride aluminum oleum nitro compounds metals chlorosulfonic acid
Hazardous Decomposition: In a fire, can release toxic fumes of: sulfur oxides carbon monoxide carbon dioxide
Conditions to Avoid: Contact with heat, sparks, open flames or other ignition sources. Extreme temperatures Excessiv heat Contact with oxidizers Poor Ventilation Incompatibles

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, Metabolism and Distribution: No information available for mixture.
Toxically Synergistic Products: None reported
Acute Toxicity: Acute Toxicity Estimate (ATE) - Calculated from Ingredient Toxicity Data Practically Non-toxic Based on classification principles, the classification criteria are not met.
Specific Target Organ Toxicity - Single Exposure (STOT-SE): Based on classification principles, the classification criteria are not met.
Specific Target Organ Toxicity - Repeat Exposure (STOT-RE): Based on classification principles, the classification criteria are not met.
Skin Corrosion/Irritation: Mildly irritating to skin.
Eye Damage: Corrosive to eyes. Assessment based on pH
Sensitization: Based on classification principles, the classification criteria are not met.
CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction): Based on classification principles, the classification criteria are not met.
   An ingredient of this mixture is: IARC Group 1: Recognized Carcinogen
   Sulfuric Acid - The IARC evaluation was based on exposure to the mist or vapor of concentrated sulfuric acid generated during chemical processes.
   An ingredient of this mixture is: NTP Listed Group 1: Recognized Carcinogen
   Sulfuric Acid Mist or Vapor
   This product does NOT contain any OSHA listed carcinogens.
Symptoms/Effects:
   Ingestion: May cause: irritation of the mouth and esophagus Very large doses may cause: drowsiness dizziness incoordination headache abdominal pain nausea vomiting diarrhea blood pressure problems rapid pulse and respirations burns of the mouth, esophagus and stomach
   Inhalation: Large doses may cause: central nervous system effects burning sensation burns
   Skin Absorption: No effects anticipated
   Chronic Effects: Chronic overexposure may cause central nervous system effects destruction of any tissue contacted
12. ECOLOGICAL INFORMATION

Product Ecological Information: --
No ecological data available for this product. Based on classification principles, not classified as hazardous to the environment. No bioaccumulation potential. Mobility in soil: Highly mobile

Method Used for Estimation of Aquatic Toxicity of Mixture: Summation Method
Mu (Multiplier) for highly toxic ingredients: 1

Ingredient Ecological Information:
Sulfuric Acid: 96 hr Lepomis macrochirus LC50 = 16-28 mg/L; 24 hr LC50 = 82 mg/L; 48 hr Crangon crangon EC50 = 70-80 mg/L.
Isopropanol: 96 hr Pimephales promelas LC50 = 4200 mg/L; 48 hr Crustaceans LC50 = 1400 mg/L; Crangon crangon EC50 = 1099 mg/L; 72 hr Scenedesmus subspicatus ErC50 >1000mg/L.

CEPA categorization for each and every ingredient: Persistent Not bioaccumulative and not inherently toxic to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: D002
Special Instructions (Disposal): Dilute to 3 to 5 times the volume with cold water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. If permitted by regulation, Open cold water tap completely, slowly pour the reacted material to the drain. Flush system with plenty of water. Otherwise, Check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.

Empty Containers: Rinse three times with an appropriate solvent. Working in a well-ventilated area, Collect rinsate and dispose of according to local, state or federal regulations. In the US, rinsate from empty containers is classified as hazardous waste and should be disposed of at an E.P. A. approved facility. Rinsate from empty containers may contain sufficient product to require disposal as hazardous waste. 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. In Europe: Chemical and analysis solutions must be disposed of in compliance with the respective national regulations. Product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system.

14. TRANSPORT INFORMATION

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

T.D.G.
Proper Shipping Name: Not Currently Regulated
--
Hazard Class: NA
Subsidiary Risk: NA
UN Number/PIN: NA
Packing Group: NA

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

I.M.O.
Proper Shipping Name: Not Currently Regulated
--
Hazard Class: NA
Subsidiary Risk: NA
ID Number: NA
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.

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): Sulfuric Acid 1000 lbs.
304 CERCLA RQ (40 CFR 302.4): Sulfuric Acid 1000 lbs.
304 EHS RQ (40 CFR 355): Sulfuric Acid - RQ 1000 lbs.
RCRA: Contains RCRA regulated substances. See Section 13, EPA Waste ID Number.

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 3: 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).
CAS Number: Not applicable
Canadian Inventory Status: All ingredients of this product are DSL Listed.
EEC Inventory Status: All ingredients used to make this product are listed on EINECS / ELINCS.
Australian Inventory (AICS) Status: All ingredients are listed.
New Zealand Inventory (NZIoC) Status: All components either listed or exempt.
Japanese Inventory (EINECS) Status: All components either listed or exempt.
China (PRC) Inventory (MEP) Status: All components either listed or exempt.

16. OTHER INFORMATION

Complete Text of H phrases referred to in Section 3: Not applicable
Revision Summary: . Substantial revision to comply with EU Reg 1272/2008, Reg 1907/2006 and UN GHS (ST/SG/AC.10/36/Add.3).
Date of MSDS Preparation:
Day: 23
Month: April
Year: 2014
MSDS Prepared: MSDS prepared by Product Compliance Department extension 3350
CCOHS Evaluation Note: It is offered under exemption from WHMIS labeling as specified in the Controlled Products Regulation (CPR) Section 17. It is offered under the interim policy that was established by Health Canada permitting use of GHS-formatted safety data sheets in Canada prior to revision of CPR to GHS. This product has been classified and labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3). This SDS has been prepared in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3).
Legend:

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

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