

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

MSDS No: M00931

## SAFETY DATA SHEET

---

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** MUG Fluorescence Crystals  
**Catalog Number:** 2184421

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:** M00931  
**Chemical Name:** 4-Methylumbelliferyl- $\beta$ -d-Glucuronide  
**CAS Number:** 6160-80-1  
**Additional CAS No. (for hydrated forms):**  
**Chemical Formula:** C<sub>16</sub>H<sub>16</sub>O<sub>9</sub>  
**Chemical Family:** Heterocyclic Compounds  
**Intended Use:** Microbiological testing

---

### 2. HAZARDS IDENTIFICATION

This substance is not classified as hazardous per GHS (UN publication ST/SG/AC.10/36/Add.3)

**GHS Classification:**  
**Hazard categories:** Not applicable  
**GHS Label Elements:**

**Hazard statements:** Not applicable  
**Precautionary statements:** Not applicable

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

**NFPA:**  
**Health:** 1  
**Flammability:** 1  
**Reactivity:** 0  
**Symbol:** Not applicable  
**WHMIS Hazard Classification:** Not applicable  
**WHMIS Symbols:** Not applicable

---

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Hazardous Components according to GHS:** No  
**4-Methylumbelliferyl- $\beta$ -D-Glucuronide**

**CAS Number:** 6160-80-1  
**Chemical Formula:** C<sub>16</sub>H<sub>16</sub>O<sub>9</sub>  
**GHS Classification:** Non Hazardous  
**Percent Range:** 100.0  
**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 soap and plenty of water for 15 minutes. Call physician if irritation develops.

**Inhalation:** Remove to fresh air.

**Ingestion (First Aid):** Give large quantities of water. Call physician immediately.

---

#### 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Can burn in fire, releasing toxic vapors.

**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:** None reported

**Hazardous Combustion Products:** Toxic fumes of: 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.

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

**Clean-up Technique:** Sweep up material. Mix with combustible solvent. Incinerate material at a government approved hazardous waste facility.

**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 Do not breathe dust. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.

**Storage:** Store in a: refrigerator dessicator

**Flammability Class:** Not applicable

---

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Have an eyewash station nearby. Maintain general industrial hygiene practices when using this product.

**Personal Protective Equipment:**

**Eye Protection:** safety glasses with top and side shields

**Skin Protection:** lab coat disposable latex gloves

**Inhalation Protection:** adequate ventilation

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

**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 powder  
**Physical State:** Solid  
**Molecular Weight:** 352.30  
**Odor:** Not determined  
**Odor Threshold:** Not available  
**pH:** of 1% solution = 2.88  
**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):** 1.32  
**Viscosity:** Not determined  
**Solubility:**  
**Water:** Soluble in hot water  
**Acid:** Soluble  
**Other:** Not determined  
**Partition Coefficient (n-octanol / water):** Not applicable  
**Coefficient of Water / Oil:** Not applicable  
**Melting Point:** 100-110° C (212-230° 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 determined  
**Flammable Properties:** Can burn in fire, releasing toxic vapors.  
**Flash Point:** Not applicable  
**Method:** Not applicable  
**Flammability Limits:**  
**Lower Explosion Limits:** Not applicable  
**Upper Explosion Limits:** Not applicable  
**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  
**Hazardous Decomposition:** Heating to decomposition releases: carbon dioxide carbon monoxide  
**Conditions to Avoid:** Excess moisture Heat

---

## 11. TOXICOLOGICAL INFORMATION

**Toxicokinetics, Metabolism and Distribution:** No information available  
**Toxicologically Synergistic Products:** None reported  
**Acute Toxicity:** 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:** Based on classification principles, the classification criteria are not met.

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

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

**CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction):** No germ cell mutagenicity, carcinogenicity or reproductive toxicity data found.

IARC Listed: No

NTP Listed: No

O.S.H.A. Listed: No

**Symptoms/Effects:**

**Ingestion:** None reported

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

**Skin Absorption:** None Reported

**Chronic Effects:** None reported

**Medical Conditions Aggravated:** None reported

---

## 12. ECOLOGICAL INFORMATION

**Product Ecological Information: --**

No ecological data available for this product.

**Ingredient Ecological Information: --**

Not applicable

---

## 13. DISPOSAL CONSIDERATIONS

**EPA Waste ID Number:** Not determined

**Special Instructions (Disposal):** Mix with combustible solvent. Incinerate material at an E.P.A. approved hazardous waste facility.

**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

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

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

**California Perchlorate Rule CCR Title 22 Chap 33:** Not applicable

**Trade Secret Registry:** Not applicable

### **National Inventories:**

**U.S. Inventory Status:** TSCA Listed: Yes

**CAS Number:** 6160-80-1

**Canadian Inventory Status:** DSL Listed: Yes

**EEC Inventory Status:** EINECS Listed: Yes

**Australian Inventory (AICS) Status:** Not determined

**New Zealand Inventory (NZIoC) Status:** Not determined

**Korean Inventory (KECI) Status:** Listed

**Japan (ENCs) Inventory Status:** Not determined

**China (PRC) Inventory (MEP) Status:** Not determined

---

## 16. OTHER INFORMATION

**References:** 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. In-house information. Vendor Information. Technical Judgment.

**Complete Text of H phrases referred to in Section 3:**

**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:** 11

**Month:** December

**Year:** 2014

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

**CCOHS Evaluation Note:**

---

### **Legend:**

NA - Not Applicable

ND - Not Determined

NV - Not Available

w/w - weight/weight

w/v - weight/volume

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**