

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

MSDS No: M00166

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product Name:** ECR Reagent  
**Catalog Number:** 2603849

HACH LANGE GmbH  
Willstätterstrasse 11  
40549 Düsseldorf, Germany  
+49-(0)211-52880

Emergency Telephone Numbers:  
(Poison Information Center Main)  
(+49 (0) 6131 19240) 24 HR

**SDS Number:** M00166  
**Chemical Name:** Not applicable  
**Chemical Formula:** Not applicable  
**Chemical Family:** Not applicable  
**Use of the substance/preparation:** Indicator for aluminum  
**CAS No.:** Not applicable  
**Hazard:** Causes irritation.  
**Date of MSDS Preparation:**  
**Day:** 12  
**Month:** 01  
**Year:** 2006

**Additional Emergency Response Numbers:** Austria: +49 (0)6131 19240, Belgium: +32(0)70 -245245, France: +33 (0)1-40370404, Italy: +39-0266101029, Netherlands: +31 -(0)30-2748888, Switzerland: +41-(0)1-2515151

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

### 2-Furoic acid

**EEC Number:** 2018030  
**CAS No.:** 88142  
**Percent Range:** 1,0 - 5,0  
**Percent Range Units:** weight / weight  
**Ingredient EEC Symbol:** Not applicable  
**Ingredient R phrase(s) (R phrase details given in Heading 16):** Not applicable  
**TLV:** Not established  
**PEL:** Not established  
**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup>, Inhalable dust

### Mercaptosuccinic Acid

**EEC Number:** 2007364  
**CAS No.:** 70495  
**Percent Range:** 1,0 - 10,0  
**Percent Range Units:** weight / weight  
**Ingredient EEC Symbol:** Not applicable  
**Ingredient R phrase(s) (R phrase details given in Heading 16):** Not applicable  
**TLV:** Not established  
**PEL:** Not established  
**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup>, Inhalable dust

### Eriochrome Cyanine R

**EEC Number:** 2199724  
**CAS No.:** 2588241  
**Percent Range:** < 0,01  
**Percent Range Units:** weight / weight

**Ingredient EEC Symbol:** Not applicable  
**Ingredient R phrase(s) (R phrase details given in Heading 16):** Not applicable  
**TLV:** Not established  
**PEL:** Not established  
**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup> Inhalable dust

#### **Ammonium Sulfate**

**EEC Number:** 2319841  
**CAS No.:** 7783202  
**Percent Range:** 85,0 - 95,0  
**Percent Range Units:** weight / weight  
**Ingredient EEC Symbol:** Not applicable  
**Ingredient R phrase(s) (R phrase details given in Heading 16):** Not applicable  
**TLV:** Not established  
**PEL:** Not established  
**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup>, Inhalable dust. For ammonia, 20 ppm (14 mg/m<sup>3</sup>); STEL: 50 ppm (36 mg/m<sup>3</sup>) Recommended

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### **3. HAZARDS IDENTIFICATION**

#### **Emergency Overview:**

**Appearance:** Orange powder  
**Odor:** None  
**EU Symbols:** Not applicable  
**R PHRASES:** Not applicable

#### **Protective Equipment:**

#### **Potential Health Effects:**

**Eye Contact (EC):** May cause irritation  
**Skin Contact (EC):** May cause irritation May cause allergic reaction  
**Skin Absorption (EC):** None Reported  
**Target Organs (SA E):** None Reported  
**Ingestion (EC):** May cause: abdominal pain nausea vomiting diarrhea Very large doses may cause: increased urinary output systemic ammonia poisoning  
**Target Organs (Ing E):** None Reported  
**Inhalation:** May cause: respiratory tract irritation sore throat coughing headache  
**Target Organs (Inh E):** None Reported  
**Medical Conditions Aggravated:** Pre-existing: Eye conditions Skin conditions Respiratory conditions  
**Chronic Effects:** None reported  
**Cancer / Reproductive Toxicity Information:**  
IARC Listed: No

**Additional Cancer / Reproductive Toxicity Information:** None reported  
**Toxicologically Synergistic Products:** None reported

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### **4. FIRST AID MEASURES**

**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 immediately.  
**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:** During a fire, corrosive and toxic gases may be generated by thermal decomposition.  
**Hazardous Combustion Products:** Toxic fumes of: ammonia nitrogen oxides. sulfur oxides.  
**Fire / Explosion Hazards:** May react violently with: alkali metals strong oxidizers  
**Static Discharge:** None reported.  
**Mechanical Impact:** None reported  
**Extinguishing Media:** Use media appropriate to surrounding fire conditions

**Extinguishing Media NOT To Be Used:** Not applicable

**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 should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

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

**Clean-up Technique:** Scoop up spilled material into a large beaker and dissolve with 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.

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## 7. HANDLING AND 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 away from: oxidizers

**Special Packaging Instructions:** Not applicable

**Use of the substance/preparation:** Indicator for aluminum

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## 8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

**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 / Hand Protection:** lab coat disposable latex gloves

**Inhalation Protection:** adequate ventilation

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

**TLV:** Not established

**PEL:** Not established

**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup>, Inhalable dust

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## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Orange powder

**Physical State:** Solid

**Odor:** None

**pH:** 5% solution = 2,78

**Vapor Pressure:** Not applicable

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

**Boiling Point:** Not applicable

**Melting Point:** 133°C; 271°F

**Flash Point:** Not applicable

**Method:** Not applicable

**Autoignition Temperature:** Not applicable

**Flammability Limits:**

**Lower Explosion Limits:** Not applicable

**Upper Explosion Limits:** Not applicable

**Specific Gravity (water = 1):** 1,734

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

**Volatile Organic Compounds Content:** Not available

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

**Solubility:**

**Water:** Soluble

*Acid:* Soluble  
*Other:* Not determined  
***Metal Corrosivity:***  
*Steel:* 0,064 in/year  
*Aluminum:* 0,022 in/year

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## 10. STABILITY / REACTIVITY

***Chemical Stability:*** Stable when stored under proper conditions.  
***Conditions to Avoid:*** Heating to decomposition.  
***Reactivity / Incompatibility:*** Incompatible with: oxidizers chlorates metal nitrites  
***Hazardous Decomposition:*** Heating to decomposition releases toxic and/or corrosive fumes of: nitrogen oxides ammonia sulfur oxides  
***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

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***Ingredient Toxicological Data:*** Ammonium Sulfate - Oral rat LD50 = 2840 mg/kg; Mercaptosuccinic acid - Oral rat LD50 = 800 mg/kg; 2-Furoic acid - Oral mouse LD50 = 1000 mg/kg

IARC Listed: No

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## 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.

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## 13. DISPOSAL CONSIDERATIONS

***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.

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## 14. TRANSPORT INFORMATION

***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 UN/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. UN Number:*** NA

*I.M.O. Packing Group:* NA  
*A.D.R.:*  
*A.D.R. Proper Shipping Name:* Not Currently Regulated  
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*A.D.R Hazard Class:* NA  
*A.D.R. Subsidiary Risk:* NA  
*A.D.R. UN-Number::* NA  
*A.D.R. Packing Group:* NA

*Additional Information:* This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit Hazard Class: 9 UN Number 3316

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## 15. REGULATORY INFORMATION

*National Inventories:*

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

*EEC Number:* Not applicable

*EEC LABEL COPY:*

*EU Symbols:* Not applicable

*R PHRASES:* Not applicable

*S PHRASES:* Not applicable

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## 16. OTHER INFORMATION

*References:* In-house information. Technical Judgment. Vendor Information. Gosselin, R. E. et al. Clinical Toxicology of Commercial Products, 5th Ed. Baltimore: The Williams and Wilkins Co., 1984. The Merck Index, 11th Ed. Rahway, New Jersey: Merck and Co., Inc., 1989. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor).

*R PHRASES:* Not applicable

*Use of the substance/preparation:* Indicator for aluminum

*Revision Summary:* Updates in Section(s) 14,

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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.

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