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: 1
MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Ammonia Salicylate Reagent

**Catalog Number:** 2653299

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

**Emergency Telephone Numbers:**  
(P.O.Box 389)  (Medical and Transportation)  
Loveland, CO USA 80539  (303) 623-5716  24 Hour Service  
(970) 669-3050  (515)232-2533  8am - 4pm CST  

**MSDS Number:** M00127  
**Chemical Name:** Not applicable  
**CAS No.:** Not applicable  
**Chemical Formula:** Not applicable  
**Chemical Family:** Not applicable  
**Hazard:** May cause irritation. Harmful if swallowed  
**Date of MSDS Preparation:**  
Day: 22  
Month: 09  
Year: 2004

2. COMPOSITION / INFORMATION ON INGREDIENTS

**Sodium Salicylate**

**CAS No.:** 54-21-7  
**TSCA CAS Number:** 54-21-7  
**Percent Range:** 40.0 - 50.0  
**Percent Range Units:** weight / weight  
**LD50:** Oral rat LD₅₀ = 1200 mg/kg; Oral mouse LD₅₀ = 540 mg/kg; Oral rabbit LD₅₀ = 1700 mg/kg.  
**LC₅₀:** None reported.  
**TLV:** Not established.  
**PEL:** Not established.  
**Hazard:** May cause irritation. Experimental teratogen. Experimental mutagen. May be embryotoxic.

**Sodium Nitroferricyanide**

**CAS No.:** 14402-89-2  
**TSCA CAS Number:** 14402-89-2  
**Percent Range:** < 1.0  
**Percent Range Units:** weight / weight  
**LD50:** Oral rat LD₅₀ = 99 mg/kg (anhydrous).  
**LC₅₀:** None reported.  
**TLV:** 5 mg/m³ as CN⁻.  
**PEL:** 5 mg/m³ as CN⁻.  
**Hazard:** Highly toxic. Harmful if inhaled.

**Other components, each**

**CAS No.:** Not applicable  
**TSCA CAS Number:** Not applicable  
**Percent Range:** 0.1 - 1.0  
**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.

**Sodium Citrate**
- **CAS No.:** 68-04-2
- **TSCA CAS Number:** 68-04-2
- **Percent Range:** 40.0 - 50.0
- **Percent Range Units:** weight / weight
- **LD50:** Oral rat LD50 >8 g/Kg
- **LC50:** None reported
- **TLV:** Not established
- **PEL:** Not established
- **Hazard:** May cause irritation.

**Sodium Tartrate**
- **CAS No.:** 6106-24-7
- **TSCA CAS Number:** 868-18-8
- **Percent Range:** 10.0 - 20.0
- **Percent Range Units:** weight / weight
- **LD50:** Oral rabbit LD50 = 5290 mg/kg
- **LC50:** None reported
- **TLV:** Not established
- **PEL:** Not established
- **Hazard:** May cause irritation.

---

### 3. HAZARDS IDENTIFICATION

**Emergency Overview:**
- **Appearance:** Tan powder
- **Odor:** None
- **HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION
  - CONTACT WITH ACIDS FORMS TOXIC FUMES

**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

**Potential Health Effects:**
- **Eye Contact:** May cause irritation
- **Skin Contact:** May cause irritation
- **Skin Absorption:** Harmful if absorbed through the skin Effects similar to those of ingestion Sodium nitroferricyanide produces a delayed cyanide poisoning reaction.
  - **Target Organs:** Central nervous system Blood
- **Ingestion:** Sodium nitroferricyanide produces a delayed cyanide poisoning reaction. May cause: headache nausea vomiting central nervous system effects
  - **Target Organs:** Central nervous system Blood
- **Inhalation:** Sodium nitroferricyanide produces a delayed cyanide poisoning reaction. May cause: headache nausea, vomiting central nervous system effects
  - **Target Organs:** Central nervous system Blood

**Medical Conditions Aggravated:** Allergies or sensitivity to aspirin or salicylates.

**Chronic Effects:** Chronic overexposure may cause confusion diarrhea fatigue weakness death Salicylates may cause ringing in the ears (tinnitus), abnormal bleeding, gastric ulceration, mental deterioration, skin eruption, temporary vision loss, and other optical effects.
**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:** Contains: an experimental mutagen. an experimental teratogen.

**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 soap and plenty of water. Remove contaminated clothing. Call physician immediately.

**Ingestion (First Aid):** Induce vomiting using syrup of ipecac or by sticking finger down throat. Never give anything by mouth to an unconscious person. Call physician immediately.

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

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### 5. FIRE FIGHTING MEASURES

**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 determined.

**Hazardous Combustion Products:** May emit acrid smoke and fumes.

**Fire / Explosion Hazards:** This product will not burn or explode.

**Static Discharge:** None reported.

**Mechanical Impact:** None reported

**Extinguishing Media:** Dry chemical. Carbon dioxide. Alcohol foam.

**Fire Fighting Instruction:** As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear. Evacuate area and fight fire from a safe distance.

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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:** Releases of this material may contaminate the environment. Stop spilled material from being released to the environment.

**Clean-up Technique:** Avoid contact with spilled material. Sweep up material. 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.

**Evacuation Procedure:** Evacuate local area (15 foot radius or as directed by your facility’s emergency response plan) when: a pound or more of loose powder is spilled. If conditions warrant, increase the size of the evacuation.

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

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

**Storage:** Store between 10° and 25°C. Keep away from: acids / acid fumes. oxidizers

**Flammability Class:** Not applicable
8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Use a fume hood to avoid exposure to dust, mist or vapor.

Personal Protective Equipment:
- Eye Protection: safety glasses with top and side shields
- Skin Protection: lab coat disposable latex gloves
- Inhalation Protection: laboratory fume hood

Precautionary Measures: eyes skin clothing Do not breathe: dust Wash thoroughly after handling. Use with adequate ventilation. Keep away from acids/acid fumes oxidizers

TLV: Not established.
PEL: Not established.

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Tan powder
Physical State: Solid
Molecular Weight: Not applicable
Odor: None
pH: 7.84 (5% solution)
Vapor Pressure: Not applicable
Vapor Density (air = 1): Not applicable
Boiling Point: Not applicable
Melting Point: 97°C (206.6°F)
Specific Gravity (water = 1): 1.689
Evaporation Rate (water = 1): Not applicable
Partition Coefficient (n-octanol / water): Not applicable
Solubility:
- Water: Soluble.
- Acid: Soluble.
- Other: Not determined.

Metal Corrosivity:
- Steel: Not applicable
- Aluminum: Not applicable

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Conditions to Avoid: Heating to decomposition. Extreme temperatures
Reactivity / Incompatibility: Incompatible with: acids iodine iron salts lead acetate organic materials oxidizers silver nitrate sodium phosphate
Hazardous Decomposition: Contact with acids/acid fumes releases toxic cyanide gas. Heating to decomposition releases toxic and/or corrosive fumes of cyanide nitrogen oxides sodium oxides
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:
- Sodium Salicylate: Oral rat LD₅₀ = 1200 mg/kg; Sodium Citrate: Oral rat LD₅₀ > 8 g/kg; Sodium Tartrate: Oral rabbit LD₅₀ = 5290 mg/kg; Sodium Nitroferricyanide: Oral rat LD₅₀ = 99 mg/kg.

12. ECOLOGICAL INFORMATION
13. DISPOSAL CONSIDERATIONS

**EPA Waste ID Number:** None

**Special Instructions (Disposal):** Dilute to 3 to 5 times the volume with cold water. 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.

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
- **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:** 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

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 contains a chemical(s) subject to the reporting requirements of Section 313 of Title III of SARA.
  - Sodium Nitroferricyanide: Not applicable
  - 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 RCRA regulated substances. See Section 13, EPA Waste ID Number.

**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: Reagent for ammonia test


   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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