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

*MSDS No: M00107*

# SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

***Product Name:*** Hydrosulfite Reagent for Total Copper
***Catalog Number:*** 2118869

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:*** M00107
***Chemical Name:*** Dithionous acid, disodium salt
***CAS Number:*** 7775-14-6
***Additional CAS No. (for hydrated forms):*** Not applicable
***Chemical Formula:*** $Na_2S_2O_4$
***Chemical Family:*** Reducing Agent
***Intended Use:*** Laboratory Use

## 2. HAZARDS IDENTIFICATION

***GHS Classification:***

***Hazard categories:*** Self Heating: Self-heat. 1 Acute Toxicity: Acute Tox. 4-Orl . Serious Eye Damage/Eye Irritation:Eye Irrit. 2 Specific Target Organ Toxicity - Single Exposure: STOT SE 3 Hazardous to the Aquatic Environment: Aquatic Chronic 3

***GHS Label Elements:***

DANGER

***Hazard statements:*** Self-heating: maycatch fire. Harmful if swallowed. . Causes serious eye irritation. May cause respiratory irritation. Harmful to aquatic life with long lasting effects.

***Precautionary statements:*** Avoid breathing dust/fume/gas/mist/vapours/spray. Handle environmental release according to local, state, federal, provincial requirements. 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. IF INHALED: Remove victim/person to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Store in a well-ventilated place. Keep container tightly closed. P407 Maintain air gap between stacks/pallets. P420 Store away from other materials. Dispose of contents/container according to state, local, federal or national regulations.

***HMIS:***

***Health:*** 1
***Flammability:*** 3
***Reactivity:*** 2
***Protective Equipment:*** X - See protective equipment, Section 8.

***NFPA:***

***Health:*** 1
***Flammability:*** 3
***Reactivity:*** 2
***Symbol:*** Water Reactive

***WHMIS Hazard Classification:*** Class D, Division 2, Subdivision B - Toxic material (other toxic effects) Class B, Division 6 - Reactive flammable materials
***WHMIS Symbols:*** Other Toxic Effects Flammable / Combustible

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

***Hazardous Components according to GHS:***

**Sodium Hydrosulfite**

***CAS Number:*** 7775-14-6
***Chemical Formula:*** $Na_2S_2O_4$
***GHS Classification:*** Self-Heating 1, H251; Acute Tox. 4 -Orl, H302; Skin Irrit. 3, H316; Eye Irrit. 2A, H319; STOT Single 3, H335; Aquatic Chronic 3, H412
***Percent Range (Trade Secret):*** 100.0
***Percent Range Units:*** weight / weight
***PEL:*** 15 $mg/m^3$ as inhalable dust; 5 $mg/m^3$ as respirable dust
***TLV:*** 10 $mg/m^3$ as inhalable dust; 3 $mg/m^3$ as respirable dust

***WHMIS Symbols:*** Other Toxic EffectsFlammable / Combustible

## 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):*** Wash skin with plenty of water. Call physician if irritation develops. Remove contaminated clothing.
***Inhalation:*** Remove to fresh air. Give artificial respiration if necessary. Call physician.
***Ingestion (First Aid):*** Never give anything by mouth to an unconscious person. Do not induce vomiting. Rinse mouth with plenty of water. Give large quantities of water. If you feel unwell, contact a physician.

## 5. FIRE FIGHTING MEASURES

***Flammable Properties:*** Material is not classified as flammable according to GHS criteria. Dusts at sufficient concentrations can form explosive mixtures with air. Exposure to moisture can result in spontaneous combustion. Combustion generates toxic fumes. During a fire, corrosive and toxic gases may be generated by thermal decomposition.
***Fire Fighting Instruction:*** Containers can build up pressure if exposed to heat. As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.
***Extinguishing Media:*** Water. Carbon dioxide Dry chemical. Dry sand,
***Extinguishing Media NOT To Be Used:*** Not applicable
***Fire / Explosion Hazards:*** Do not expose to sparks or other ignition sources. Do not expose to flames. Exposure to moisture can result in spontaneous combustion. Finely divided dust may form a flammable or explosive mixture with air. May react violently with: strong acids strong oxidizers water
***Hazardous Combustion Products:*** Toxic fumes of: sodium monoxide sulfur 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:*** Remove all combustible material from spill area. Remove all ignition and spark-creating sources from the spill area. May be ignited by: damp conditions or water. Cover spilled solid material with sand or other inert material. Stop spilled material from being released to the environment. Releases of this material may contaminate the environment.
***Clean-up Technique:*** Wear appropriate protective equipment as defined by MSDS Avoid breathing spilled material. Avoid contact with spilled material. Eliminate all sources of ignition. Remove all combustible materials from the spill area. Use non-sparking tools and equipment Cover with an inert material, such as sand. Carefully mist spill with bleach

until saturated. Working in a large container, cautiously add small portions of the spilled material to cold water with agitation. React the spilled material in bleach at a ratio of 25 mLs of 5% Sodium hypochlorite solution (household bleach) to 1 gram of sodium hydrosulfite. Filter to remove solids. If permitted by regulation, Flush reacted material to the drain with a large excess of water. Otherwise, Decontaminate the area of the spill with a soap solution. Dispose of in accordance with local, state and federal regulations or laws.
***Evacuation Procedure:*** Evacuate local area (15 foot radius or as directed by your facility's emergency response plan) when: any quantity is spilled. If conditions warrant, increase the size of the evacuation.
***DOT Emergency Response Guide Number:*** 135

## 7. HANDLING AND 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:*** Keep material dry. Keep container tightly closed when not in use. Keep this product in its original container when not in use. Store in a cool, dry, well-ventilated place. Protect from: air moisture Keep away from: acids oxidizers water
***Flammability Class:*** Not applicable

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

***Engineering Controls:*** Maintain general industrial hygiene practices when using this product. Have an eyewash station nearby. A system of local and/or general exhaust is recommended to keep exposures as low as possible
***Personal Protective Equipment:***
***Eye Protection:*** safety glasses with top and side shields
***Skin Protection:*** lab coat 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.
***Inhalation Protection:*** adequate ventilation
***Precautionary Measures:*** Avoid contact with: eyes skin Do not breathe: dust Wash thoroughly after handling. Keep away from: acids/acid fumes oxidizers water moisture air
***TLV:*** 10 $mg/m^3$ as inhalable dust; 3 $mg/m^3$ as respirable dust
***PEL:*** 15 $mg/m^3$ as inhalable dust; 5 $mg/m^3$ as respirable dust
***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:*** 174.10 g/mol
***Odor:*** Sulfur-like
***Odor Threshold:*** Not available
***pH:*** 3.04 (5% solution)
***Metal Corrosivity:***
***Corrosivity Classification:*** Not classified as corrosive to metals according to GHS criteria.
***Steel:*** 0.119 inch/year
***Aluminum:*** 0.002 inch/year
***Specific Gravity/ Relative Density (water = 1; air =1):*** 2.2
***Viscosity:*** Not applicable
***Solubility:***
***Water:*** 25 g/100 mL; Decomposes in hot water
***Acid:*** Insoluble
***Other:*** Not determined
***Partition Coefficient (n-octanol / water):*** < -4.7
***Coefficient of Water / Oil:*** Not available
***Melting Point:*** Decomposes at 55 °C (130 °F)
***Decomposition Temperature:*** 55 °C (130 °F)
***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. Dusts at sufficient concentrations can form explosive mixtures with air. Exposure to moisture can result in spontaneous combustion. Combustion generates toxic fumes. During a fire, corrosive and toxic gases may be generated by thermal decomposition.
***Flash Point:*** Not applicable
***Method:*** Not applicable
***Flammability Limits:***
***Lower Explosion Limits:*** Not applicable
***Upper Explosion Limits:*** Not applicable
***Autoignition Temperature:*** Not available
***Explosive Properties:***
Not classified according to GHS criteria.
***Oxidizing Properties:***
Not classified according to GHS criteria.
***Reactivity Properties:***
Self-reactive substance or mixture.
Self-heat. 1, H251
***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: acids water (moisture) oxidizers sodium chlorite
***Hazardous Decomposition:*** Contact with acids releases toxic and/or corrosive fumes of: sulfur oxides
***Conditions to Avoid:*** Heating to decomposition. Contact with water or steam. Contact with acid or acid fumes Contact with oxidizers Excess moisture Exposure to air. Incompatibles Poor Ventilation Avoid creating dust.

## 11. TOXICOLOGICAL INFORMATION

***Toxicokinetics, Metabolism and Distribution:*** Summary of findings reported in the literature follow.
Under physiological condition, it is expected that sodium dithionate will rapidly convert to related sulfite spicies: sodium sulfite, sodium hydrogen sulfite, and sodium metabisulfite. Toxcicity data for these compounds should be considered.
***Toxicologically Synergistic Products:*** None reported
***Acute Toxicity:*** Toxicological Testing Route Data Given Below
Oral Rat LD50 = 2500 mg/kg; Oral Mouse LD50 = 1500 mg/kg
***Specific Target Organ Toxicity - Single Exposure (STOT-SE):*** Target Organs Respiratory Tract
Irritating to the respiratory tract.
***Specific Target Organ Toxicity - Repeat Exposure (STOT-RE):*** Based on classification principles, the classification criteria are not met. Summary of findings reported in the literature follow.
Oral Rat NOAEL = 217 mg/kg
***Skin Corrosion/Irritation:*** Mildly irritating to skin. Testing data given below.
Skin - Rabbit - 80% solution - Mild irritation
***Eye Damage:*** Irritating to eyes. Test data follows.
Eyes - Rabbit - 100 mg - Irritating to the eyes
***Sensitization:*** Based on classification principles, the classification criteria are not met. Testing data given below.
In humans, allergic dermatitis from exposure to sulfites is rare and, sodium bisulfite is not considered to possess a significant skin sensitization potential. It may cause an allergic reaction to those who are sensitive to sulfites.
***CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction):*** No data supporting germ cell mutagenicity, carcinogenicity or reproductive toxicity was found. Based on classification principles, the classification criteria are not met. Summary of findings reported in the literature follow.
Ames Test - Salmonella typhimurium - Negative; Bacetrial Gene Mutation Assay - Negative; Oral Rat - Cytogentic Analysis - 1200 mg/kg/Negative; Inraperitoneal Mouse 300 mg/kg/Negative; Oral Rat 942 mg/kg/2 yr/Negative for carcinogenicty.
No reproductive developmental effects were found in rats or rabbits at 123 mg/kg/day.
IARC Listed: No
NTP Listed: No
O.S.H.A. Listed: No
***Symptoms/Effects:***

***Ingestion:*** Harmful May cause: abdominal pain gastrointestinal tract irritation nausea diarrhea vomiting circulatory disturbances central nervous system depression allergic respiratory reaction
***Inhalation:*** May cause: allergic respiratory reaction respiratory tract irritation
***Skin Absorption:*** None Reported
***Chronic Effects:*** Chronic overexposure may cause allergic respiratory reactions allergic skin reactions
***Medical Conditions Aggravated:*** Sulfites are strong sensitizers. Inhalation and ingestion may cause allergic respiratory reactions in asthmatics. Persons with respiratory conditions should take special care when working with products that contain sulfites. Pre-existing: Eye conditions Skin conditions Central nervous system diseases

## 12. ECOLOGICAL INFORMATION

***Product Ecological Information:*** 96 hr Leuciscus idus LC50 = 46-68 mg/L; 48 hr Daphnia magna EC50 = 98 mg/L.
Do not place in landfil. Recycle appropriately. Do not release into the environment. Mobility in soil: Highly mobile No bioaccumulation potential
CEPA Categorization: Persistent Not Bioaccumulative Not inherently toxic to aquatic organisms
***Ingredient Ecological Information:*** --
Not applicable

## 13. DISPOSAL CONSIDERATIONS

***EPA Waste ID Number:*** Not applicable
***Special Instructions (Disposal):*** Incinerate material at an E.P.A. approved hazardous waste facility.
***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. 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:*** Sodium Dithionite
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***Hazard Class:*** 4.2
***Subsidiary Risk:*** NA
***ID Number:*** UN1384
***Packing Group:*** II
***T.D.G.:***
***Proper Shipping Name:*** Sodium Dithionite
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***Hazard Class:*** 4.2
***Subsidiary Risk:*** NA
***UN Number/PIN:*** 1384
***Packing Group:*** II
***I.C.A.O.:***
***I.C.A.O. Proper Shipping Name:*** Sodium Dithionite
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***Hazard Class:*** 4.2
***Subsidiary Risk:*** NA
***ID Number:*** UN1384
***Packing Group:*** II
***I.M.O.:***
***Proper Shipping Name:*** Sodium Dithionite
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***Hazard Class:*** 4.2
***Subsidiary Risk:*** NA
***ID Number:*** UN1384
***Packing Group:*** II

***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 Fire Hazard Reactive

***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.

***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:*** TSCA Listed: Yes

***CAS Number:*** 7775-14-6

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

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

***Australian Inventory (AICS) Status:*** Listed

***New Zealand Inventory (NZIoC) Status:*** Listed

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

***Japan (ENCS) Inventory Status:*** Listed

***China (PRC) Inventory (MEP) Status:*** Listed

## 16. OTHER INFORMATION

***References:*** Vendor Information. Technical Judgment. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. 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).

***Complete Text of H phrases referred to in Section 3:*** H251 Self-heating: may catch fire. H302 Harmful if swallowed. H316 Causes mild skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H412 Harmful to aquatic life with long lasting effects.

***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:*** 16

***Month:*** September

***Year:*** 2014

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

***CCOHS Evaluation Note:*** 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. It is offered under exemption from WHMIS labeling as specified in the Controlled Products Regulation (CPR) Section 17. This product has been classified and labeled 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.**