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MSDS No: M00116

# SAFETY DATA SHEET

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

**Product Name:** TPTZ Iron Reagent  
**Catalog Number:** 2510025

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:** M00116

**Chemical Name:** Not applicable

**Chemical Formula:** Not applicable

**Chemical Family:** Not applicable

**Use of the substance/preparation:** Iron determination

**CAS No.:** Not applicable

**Hazard:** Causes irritation. May cause allergic reaction.

**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

### Sodium Hydrosulfite

**EEC Number:** 2318900

**CAS No.:** 7775146

**Percent Range:** 10,0 - 20,0

**Percent Range Units:** weight / weight

**Ingredient EEC Symbol:** Xn - HARMFUL

**Ingredient R phrase(s) (R phrase details given in Heading 16):** R 22

**TLV:** Not established

**PEL:** Not established

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

### 2,4,6-Tri-(2-Pyridyl)-1,3,5-Triazine 1:3 Salt with p-Toluenesulfonic acid

**EEC Number:** None

**CAS No.:** None

**Percent Range:** 0,5 - 3,0

**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

### Citric acid, monosodium salt

**EEC Number:** 2427346

**CAS No.:** 18996-35-5

**Percent Range:** 15,0 - 25,0

**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

#### **Sodium Thiosulfate**

**EEC Number:** 2318675  
**CAS No.:** 10102-17-7  
**Percent Range:** 35,0 - 45,0  
**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

#### **Sodium Metabisulfite**

**EEC Number:** 2316730  
**CAS No.:** 7684574  
**Percent Range:** 15,0 - 25,0  
**Percent Range Units:** weight / weight  
**Ingredient EEC Symbol:** Xn - HARMFUL  
**Ingredient R phrase(s) (R phrase details given in Heading 16):** R 22 R 36/37/38 R 31  
**TLV:** 5 mg/m<sup>3</sup> (ACGIH - TWA)  
**PEL:** Not established  
**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup>, Inhalable dust

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### **3. HAZARDS IDENTIFICATION**

#### **Emergency Overview:**

**Appearance:** White powder  
**Odor:** Sulfur-like  
**EU Symbols:** Xn - HARMFUL  
**R PHRASES:** R 31: Contact with acids liberates toxic gas. R 22: Harmful if swallowed. R 36/37/38: Irritating to eyes, respiratory system and skin.

#### **Protective Equipment:**

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

**Eye Contact (EC):** Causes irritation  
**Skin Contact (EC):** May cause irritation  
**Skin Absorption (EC):** None Reported  
**Target Organs (SA E):** None Reported  
**Ingestion (EC):** May cause: allergic respiratory reaction gastrointestinal tract irritation abdominal pain diarrhea circulatory disturbances central nervous system depression Very large doses may cause: colic depression death  
**Target Organs (Ing E):** None Reported  
**Inhalation:** Causes: respiratory tract irritation May cause: allergic respiratory reaction difficult breathing sweating rapid pulse and respirations blood pressure changes coughing flushing hives  
**Target Organs (Inh E):** None Reported  
**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.  
**Chronic Effects:** Chronic overexposure may cause allergic respiratory reactions  
**Cancer / Reproductive Toxicity Information:**  
An ingredient of this mixture is: IARC Group 3: Non-classifiable  
Metabisulfites  
**Additional Cancer / Reproductive Toxicity Information:** Contains: an experimental mutagen.  
**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. Call physician if irritation develops.  
**Ingestion (First Aid):** Do not induce vomiting. Give 1-2 glasses of water. Call physician immediately. Never give anything by mouth to an unconscious person.  
**Inhalation:** Remove to fresh air. Give artificial respiration if necessary. Call physician.

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## 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Can burn in fire, releasing toxic vapors.  
**Hazardous Combustion Products:** Toxic fumes of: sulfur oxides. nitrogen oxides. sodium monoxide carbon monoxide, carbon dioxide.  
**Fire / Explosion Hazards:** May react violently with: acids oxidizers  
**Static Discharge:** None reported.  
**Mechanical Impact:** None reported  
**Extinguishing Media:** Water. Carbon dioxide  
**Extinguishing Media NOT To Be Used:** Not applicable 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:** Work in an approved fume hood. 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 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.

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## 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:** Protect from: heat moisture Keep away from: acids oxidizers Store between 10° and 25°C.  
**Special Packaging Instructions:** Not applicable  
**Use of the substance/preparation:** Iron determination

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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:** disposable latex gloves lab coat  
**Inhalation Protection:** adequate ventilation  
**Precautionary Measures:** Avoid contact with: eyes skin clothing Do not breathe: dust Wash thoroughly after handling. Protect from: heat moisture Keep away from: acids/acid fumes 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:** White powder  
**Physical State:** Solid  
**Odor:** Sulfur-like  
**pH:** 1% solution = 3,8

**Vapor Pressure:** Not applicable  
**Vapor Density (air = 1):** Not applicable  
**Boiling Point:** Not applicable  
**Melting Point:** 180°-185° C  
**Flash Point:** Not applicable  
**Method:** Not applicable  
**Autoignition Temperature:** Not available  
**Flammability Limits:**  
**Lower Explosion Limits:** Not applicable  
**Upper Explosion Limits:** Not applicable  
**Specific Gravity (water = 1):** 2,23  
**Evaporation Rate (water = 1):** Not applicable  
**Volatile Organic Compounds Content:** Not applicable  
**Partition Coefficient (n-octanol / water):** Not applicable  
**Solubility:**  
**Water:** Soluble  
**Acid:** Not determined  
**Other:** Not determined  
**Metal Corrosivity:**  
**Steel:** 0,162 in/yr  
**Aluminum:** 0,007 in/yr

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## 10. STABILITY / REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions.  
**Conditions to Avoid:** Heat Excess moisture  
**Reactivity / Incompatibility:** Incompatible with: acids oxidizers  
**Hazardous Decomposition:** Heating to decomposition releases toxic and/or corrosive fumes of: sulfur oxides nitrogen oxides sodium monoxide carbon dioxide carbon monoxide  
**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:** Sodium Metabisulphite: Cytogenic analysis hamster ovary 180 µg/l; Sister chromatid exchange hamster ovary 200 µg/l

**Reproductive Effects Data:** Sodium Metabisulphite: Oral rat TDLo = 20 g/kg effects on newborn - stillbirth; Oral rat TDLo = 40 g/kg effects on newborn - weaning or lactation index

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**Ingredient Toxicological Data:** Sodium Thiosulphate Oral rat LD50 > 8 g/kg; Sodium Hydrosulphite Oral rat LD50 > 500 mg/kg

An ingredient of this mixture is: IARC Group 3: Non-classifiable  
Metabisulfites

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## 12. ECOLOGICAL INFORMATION

**Product Ecological Information:** --

No ecological data available for this product.

**Ingredient Ecological Information:** Sodium Thiosulphate Aquatic toxicity 24000 mg / l / 96 hours / mosquito fish / TLm / turbid water @ 22°C; Sodium Metabisulphite (converted from bisulfite) Aquatic toxicity 120 ppm / 24, 48 & 96 hours / mosquito fish / TLm / fresh water

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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 or are placed on the market in quantities less than 10 kg per year.

**EEC Number:** Not applicable

**EEC LABEL COPY:**

**EU Symbols:** Xn - HARMFUL

**R PHRASES:** R 31: Contact with acids liberates toxic gas. R 22: Harmful if swallowed. R 36/37/38: Irritating to eyes, respiratory system and skin.

**S PHRASES:** S 22: Do not breathe dust. S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S 37/39: Wear suitable gloves and eye / face protection.

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## 16. OTHER INFORMATION

**References:** 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). 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. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans. World Health Organization (Volumes 1-42) Supplement 7. France: 1987. In-house information. Outside Testing. Technical Judgment. Gosselin, R. E. et al. Clinical Toxicology of Commercial Products, 5th Ed. Baltimore: The Williams and Wilkins Co., 1984.

**R PHRASES:** R 31: Contact with acids liberates toxic gas. R 22: Harmful if swallowed. R 36/37/38: Irritating to eyes, respiratory system and skin.

**Use of the substance/preparation:** Iron determination

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

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**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.  
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