The following list contains the Material Safety Data Sheets you requested. Please scoll down to view the requested MSDS(s).

Product	MSDS	Distributor	Format	Language	Quantity
2444400	105599	Hach Company	ROWGHS	English	1
2444400	107799	Hach Company	ROWGHS	English	1
2444400	2409232	Hach Company	ROWGHS	English	1

Total Enclosures: 3

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

MSDS No: M00007

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sulfamic Acid
Catalog Number: 105599

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: M00007
Chemical Name: Sulfamic Acid
CAS Number: 5329-14-6
Additional CAS No. (for hydrated forms): Not applicable
Chemical Formula: H_3NO_3S
Chemical Family: Inorganic Acid
Intended Use: Laboratory Use

2. HAZARDS IDENTIFICATION

GHS Classification:
Hazard categories: Corrosive to Metals: Met. Corr. 1 Acute Toxicity: Acute Tox. 4-Orl Skin Corrosion/Irritation: Skin Irrit. 2 Serious Eye Damage/Eye Irritation:Eye Irrit. 2 Hazardous to the Aquatic Environment: Aquatic Chronic 3
GHS Label Elements:
WARNING

Hazard statements: May be corrosive to metals. Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. Harmful to aquatic life with long lasting effects.
Precautionary statements: Wear protective gloves / protective clothing / eye protection / face protection. Do no eat, drink or smoke when using this product. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Absorb spillage to prevent material damage.
HMIS:
Health: 1
Flammability: 1
Reactivity: 1
Protective Equipment: X - See protective equipment, Section 8.
NFPA:
Health: 1
Flammability: 1
Reactivity: 1
Symbol: Not applicable
WHMIS Hazard Classification: Class E - Corrosive material
WHMIS Symbols: Corrosive

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components according to GHS:

Sulfamic Acid

CAS Number: 5329-14-6
Chemical Formula: H_3NO_3S
GHS Classification: Met. Corr. 1, H290; Acute Tox 4 -Orl, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Aquatic Chronic 3, H412;
Percent Range: > 99.0
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: Corrosive

Hazardous Components according to GHS: No

Magnesium Sulfate

CAS Number: 7487-88-9
Chemical Formula: $MgSO_4$
GHS Classification: Not applicable
Percent Range: < 1.0
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: 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 if irritation develops.
Skin Contact (First Aid): Wash skin with plenty of water for 15 minutes. Call physician if irritation develops.
Inhalation: Remove to fresh air.
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.

5. FIRE FIGHTING MEASURES

Flammable Properties: During a fire, irritating and highly toxic gases may be generated by thermal decomposition. Material is not classified as flammable according to GHS criteria.
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.
Extinguishing Media: Dry chemical. Water.
Extinguishing Media NOT To Be Used: Not applicable
Fire / Explosion Hazards: May react violently with: chlorine / chlorine compounds metal nitrates metal nitrites nitric acid
Hazardous Combustion Products: Toxic fumes of: ammonia nitrogen oxides. 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: Stop spilled material from being released to the environment. Cover spilled solid material with sand or other inert material.
Clean-up Technique: If permitted by regulation, 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. Otherwise, Pick up spill for disposal and place in a closed container 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: a pound or more of loose powder is spilled. If conditions warrant, increase the size of the evacuation.
DOT Emergency Response Guide Number: 154

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes skin Do not breathe dust. Maintain general industrial hygiene practices when using this product.
Storage: Store away from: oxidizers alkalies chlorine/chlorinated metals Protect from: heat moisture
Flammability Class: Not applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Maintain general industrial hygiene practices when using this product.
Personal Protective Equipment:
Eye Protection: safety glasses with top and side shields
Skin Protection: disposable latex gloves In the EU, the selected gloves must satisfy the specifications of EU Directive 89/686/EEC and standard EN 374 derived from it. lab coat
Inhalation Protection: adequate ventilation
Precautionary Measures: Avoid contact with: eyes skin Do not breathe: dust Wash thoroughly after handling. Keep away from: alkalies metals Protect from: heat 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 crystals
Physical State: Solid
Molecular Weight: 97.10
Odor: Odorless
Odor Threshold:
pH: 1% soln = 1.18
Metal Corrosivity:
Corrosivity Classification: Classified as corrosive to metals.
Steel: 0.814 in/yr
Aluminum: 0.212 in/yr
Specific Gravity/ Relative Density (water = 1; air =1): 2.15
Viscosity: Not determined
Solubility:
Water: 1:2 ratio at 80 °C (176 °F)
Acid: Soluble
Other: Slightly soluble in alcohol, methanol.
Partition Coefficient (n-octanol / water): Not determined
Coefficient of Water / Oil: None reported
Melting Point: Product decomposes at 205 °C (401 °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 applicable
Flammable Properties: During a fire, irritating and highly toxic gases may be generated by thermal decomposition. Material is not classified as flammable according to GHS criteria.
Flash Point: Not applicable
Method: Not applicable
Flammability Limits:
Lower Explosion Limits: Not applicable
Upper Explosion Limits: Not applicable

Autoignition Temperature: Not applicable
Explosive Properties:
Not classified according to GHS criteria.
Oxidizing Properties:
Not classified according to GHS criteria.
Reactivity Properties:
Not classifed 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: May react violently in contact with: chlorates metal nitrates metal nitrites nitric acid
Incompatible with: alkalies oxidizers
Hazardous Decomposition: Heating to decomposition releases toxic and/or corrosive fumes of: ammonia nitrogen oxides sulfur oxides
Conditions to Avoid: Heating to decomposition. Excess moisture

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, Metabolism and Distribution: No information available
Toxicologically Synergistic Products: None reported
Acute Toxicity: Route Data Given Below Acute Toxicity Estimate (ATE) - Calculated from Ingredient Toxicity Data
ATE Oral LD50 = 1054 mg/kg
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: Irritating to skin.
Skin Rabbit = irritating
Eye Damage: Irritating to eyes.
Eye rabbit = irritating
Sensitization: Based on classification principles, the classification criteria are not met.
CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction): Data insufficient for classification
Genetic Toxicity "in vitro", Ames Test = Negative
IARC Listed: No
NTP Listed: No
O.S.H.A. Listed: No
Symptoms/Effects:
Ingestion: Harmful May cause: irritation of the mouth and esophagus gastrointestinal tract irritation
Inhalation: May cause: irritation of nose and throat
Skin Absorption: None Reported
Chronic Effects: None reported
Medical Conditions Aggravated: Pre-existing: Eye conditions Skin conditions Respiratory conditions

12. ECOLOGICAL INFORMATION

Product Ecological Information: 96 hr Pimephales promelas LC50 = 42.2 mg/L
No ecological data available for this product. 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): Dilute to 3 to 5 times the volume with cold water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. If permitted by regulation, Open cold water tap completely, slowly pour the reacted material to the drain. Otherwise, Check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.
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. Dispose of empty container as normal trash. 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.
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: Sulphamic Acid
--
Hazard Class: 8
Subsidiary Risk: NA
ID Number: UN2967
Packing Group: III
T.D.G.:
Proper Shipping Name: Sulphamic Acid
--
Hazard Class: 8
Subsidiary Risk: NA
UN Number/PIN: 2967
Packing Group: III
I.C.A.O.:
I.C.A.O. Proper Shipping Name: Sulphamic Acid
--
Hazard Class: 8
Subsidiary Risk: NA
ID Number: UN2967
Packing Group: III
I.M.O.:
Proper Shipping Name: Sulphamic Acid
--
Hazard Class: 8
Subsidiary Risk: NA
ID Number: UN2967
Packing Group: III
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: 5329-14-6
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. NIOSH Registry of Toxic Effects of Chemical Substances, 1985-86. Cincinnati: U.S. Department of Health and Human Services, April, 1987. Gosselin, R. E. et al. Clinical Toxicology of Commercial Products, 5th Ed. Baltimore: The Williams and Wilkins Co., 1984. Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Association, 1991. Outside Testing. Technical Judgment. 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. 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.
Complete Text of H phrases referred to in Section 3: H290 May be corrosive to metals. H315 Causes skin irritation. H319 Causes serious eye 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: 04
Month: March
Year: 2014
MSDS Prepared: MSDS prepared by Product Compliance Department 515 232-2533 (3350)
CCOHS Evaluation Note: It is offered under exemption from WHMIS labeling as specified in the Controlled Products Regulation (CPR) Section 17. 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. This product has been classified and labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3). This SDS has been prepared 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.

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

MSDS No: M00030

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Potassium Iodide Reagent
Catalog Number: 107799

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: M00030
Chemical Name: Not applicable
CAS Number: Not applicable
Additional CAS No. (for hydrated forms): Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Intended Use: Laboratory Reagent Determination of chlorine, chromate, ozone

2. HAZARDS IDENTIFICATION

GHS Classification:
Hazard categories: Acute Toxicity: Acute Tox. 4-Orl Skin Corrosion/Irritation: Skin Irrit. 2 Serious Eye Damage/Eye Irritation: Eye Irrit. 2A
GHS Label Elements:
WARNING

Hazard statements: Harmful if swallowed. Causes skin irritation. Causes serious eye irritation.
Precautionary statements: Wear eye protection. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. 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 SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Take off contaminated clothing and wash before reuse. Dispose of contents/container according to state, local, federal or national regulations.
HMIS:
Health: 1
Flammability: 0
Reactivity: 0
Protective Equipment: X - See protective equipment, Section 8.
NFPA:
Health: 1
Flammability: 0
Reactivity: 0
Symbol: Not applicable
WHMIS Hazard Classification: Not applicable
WHMIS Symbols: Not applicable

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components according to GHS:

Potassium Iodide

CAS Number: 7681-11-0
Chemical Formula: KI
GHS Classification: Acute Tox 5 -Orl, H303; Skin Irr. 2, H315; Eye Irr. 2A, H319
Percent Range: > 99.0
Percent Range Units: weight / weight
PEL: 15 mg/m^3 as total 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 Effects

Hazardous Components according to GHS: No

Silica

CAS Number: 7631-86-9
Chemical Formula: Not applicable
GHS Classification: Not applicable
Percent Range: < 1.0
Percent Range Units: weight / weight
PEL: 6 mg/m^3
TLV: 6 mg/m^3

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 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): Give large quantities of water. Call physician immediately. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flammable Properties: Does not burn, but may melt in a fire, releasing toxic fumes. Material is not classified as flammable according to GHS criteria.
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.
Extinguishing Media: Carbon dioxide Dry chemical. Alcohol foam.
Extinguishing Media NOT To Be Used: Not applicable
Fire / Explosion Hazards: None reported
Hazardous Combustion Products: This material will not burn.

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: Stop spilled material from being released to the environment.
Clean-up Technique: If permitted by regulation, Scoop up spilled material into a large beaker and dissolve with water. Flush the spilled material to the drain with a large excess of water. Otherwise, Pick up spill for disposal and place in a closed container Dispose of in accordance with local, state and federal regulations or laws.

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 skin Do not breathe dust. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.
Storage: Store in a cool, dry place. Protect from: moisture
Flammability Class: Not applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Maintain general industrial hygiene practices when using this product.
Personal Protective Equipment:
Eye Protection: safety glasses with top and side shields
Skin Protection: disposable latex gloves lab coat 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.
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: Not applicable
Odor: Not determined
Odor Threshold: Not established
pH: of 5% solution = 6.7
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): 3.07
Viscosity: Not Determined
Solubility:
Water: Soluble
Acid: Not determined
Other: Soluble in alcohols, methanol, glycerol, and acetone
Partition Coefficient (n-octanol / water): Not available
Coefficient of Water / Oil: Not available
Melting Point: 680 °C (1258 °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: Does not burn, but may melt in a fire, releasing toxic fumes. Material is not classified as flammable according to GHS criteria.
Flash Point: Not applicable
Method: Not applicable
Flammability Limits:
Lower Explosion Limits: Not applicable
Upper Explosion Limits: Not applicable
Autoignition Temperature: Not applicable
Explosive Properties:
Not classified according to GHS criteria.

Oxidizing Properties:
Not classified according to GHS criteria.
Reactivity Properties:
Not classifed 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.
Not Determined

10. STABILITY AND REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Mechanical Impact: None reported
Static Discharge: None reported.
Reactivity / Incompatibility: Incompatible with: alkaloidal salts metalic salts
Hazardous Decomposition: Toxic fumes of: potassium oxide Iodine iodine compounds
Conditions to Avoid: Excess moisture Exposure to air.

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, Metabolism and Distribution: No information available for mixture.
Toxicologically Synergistic Products: None reported
Acute Toxicity: Acute Toxicity Estimate (ATE) - Calculated from Ingredient Toxicity Data
ATE Oral Rat LD50 = 1005 mg/kg
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: Irritating to skin.
Eye Damage: Irritating to eyes.
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.
This product does NOT contain any IARC listed chemicals.
This product does NOT contain any NTP listed chemicals.
This product does NOT contain any OSHA listed carcinogens.
Symptoms/Effects:
Ingestion: Harmful May cause: abdominal pain
Inhalation: May cause: irritation of nose and throat
Skin Absorption: Product will not be absorbed through the skin
Chronic Effects: Iodines overdose, 'iodism', may cause skin rash, runny nose, headaches, fever and bronchitis. Chronic overexposure may cause hypothyroidism
Medical Conditions Aggravated: Pre-existing: Skin conditions Persons with pre-existing respiratory conditions may be more susceptible to the effects of Potassium Iodide exposure.

12. ECOLOGICAL INFORMATION

Product Ecological Information: --
No ecological data available for this product. Mobility in soil: No data available Do not place in landfil. Recycle appropriately. Do not release into the environment.
CEPA Categorization: Persistent and inherently toxic to non-human organisms (PiT).
Ingredient Ecological Information: Potassium Iodide: Aquatic invertebrates 48 hr EC50 = 9.8 mg/L.
--

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: Not applicable
Special Instructions (Disposal): Dilute material with excess water making a weaker than 5% solution. Open cold water tap completely, slowly pour the material to the drain.

Empty Containers: Rinse three times with an appropriate solvent. Collect rinsate and dispose of according to local, state or federal regulations. Dispose of empty container as normal trash. 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.
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): None
California Perchlorate Rule CCR Title 22 Chap 33: 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).
CAS Number: Not applicable
Canadian Inventory Status: All ingredients of this product are DSL Listed.
EEC Inventory Status: All ingredients used to make this product are listed on EINECS / ELINCS.
Australian Inventory (AICS) Status: All ingredients are listed.
New Zealand Inventory (NZIoC) Status: All components either listed or exempt.
Korean Inventory (KECI) Status: All components of this product are either listed, listed as the anhydrous compound or exempt.
Japan (ENCS) Inventory Status: All components either listed or exempt.
China (PRC) Inventory (MEP) Status: All components either listed or exempt.

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. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. In-house information. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. Technical Judgment. The Merck Index, 11th Ed. Rahway, New Jersey: Merck and Co., Inc., 1989. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992.
Complete Text of H phrases referred to in Section 3: . H315 Causes skin irritation. H319 Causes serious eye irritation.
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: 09
Month: June
Year: 2014
MSDS Prepared: MSDS prepared by Product Compliance Department extension 3350
CCOHS Evaluation Note: It is offered under exemption from WHMIS labeling as specified in the Controlled Products Regulation (CPR) Section 17. 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. This product has been classified and labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3). This SDS has been prepared 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.

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

MSDS No: M00371

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sodium Thiosulfate Standard Solution, Stabilized, 0.0246 N
Catalog Number: 2409232

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: M00371
Chemical Name: Not applicable
CAS Number: Not applicable
Additional CAS No. (for hydrated forms): Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Intended Use: Laboratory Reagent Titrant Solution

2. HAZARDS IDENTIFICATION

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

Hazard statements: Not applicable
Precautionary statements: Not applicable
HMIS:
Health: 1
Flammability: 0
Reactivity: 0
Protective Equipment: X - See protective equipment, Section 8.
NFPA:
Health: 1
Flammability: 0
Reactivity: 0
Symbol: Not applicable
WHMIS Hazard Classification: Not applicable
WHMIS Symbols: Not applicable

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components according to GHS:
Sodium Thiosulfate

CAS Number: 7772-98-7
Chemical Formula: $Na_2S_2O_3$ $5H_2O$
GHS Classification: Skin Irrit 2, H315; Eye Irrit 2, H319, STOT SE 3, H335
Percent Range: < 1.0
Percent Range Units: weight / volume
PEL: 15 mg/m^3 as total dust; 5 mg/m^3 as respirable dust
TLV: 10 mg/m^3 as inhalable dust

WHMIS Symbols: Not applicable

Hazardous Components according to GHS: No

Demineralized Water

CAS Number: 7732-18-5
Chemical Formula: H_2O
GHS Classification: Not a dangerous substance according to GHS.
Percent Range: 70.0 - 80.0
Percent Range Units: volume / volume
PEL: Not established
TLV: Not established

WHMIS Symbols: Not applicable

Propylene Glycol

CAS Number: 57-55-6
Chemical Formula: $C_3H_8O_2$
GHS Classification: Not applicable
Percent Range: 20.0 - 30.0
Percent Range Units: volume / volume
PEL: Not established
TLV: Not established

WHMIS Symbols: Not applicable

Sodium Sulfate

CAS Number: 7757-82-6
Chemical Formula: Na_2SO_4
GHS Classification: Aquatic Acute 3, H402
Percent Range: 1.0 - 5.0
Percent Range Units: weight / volume
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: 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): Remove contaminated clothing. Wash skin with soap and plenty of water. Call physician immediately.
Inhalation: Remove to fresh air.
Ingestion (First Aid): Give large quantities of water. Never give anything by mouth to an unconscious person. Call physician immediately.

5. FIRE FIGHTING MEASURES

Flammable Properties: During a fire, this product decomposes to form toxic gases.
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: sodium oxides 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. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
Containment Technique: Absorb spilled liquid with non-reactive sorbent material. Stop spilled material from being released to the environment.
Clean-up Technique: Absorb spilled liquid with non-reactive sorbent material. Sweep up material. Place material in a plastic bag. Mark bag 'Non-hazardous trash', and dispose of as normal refuse. 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.
DOT Emergency Response Guide Number: Not applicable

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes skin Do not breathe mist or vapors. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.
Storage: Protect from: oxidizers
Flammability Class: Not applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Maintain general industrial hygiene practices when using this product.
Personal Protective Equipment:
Eye Protection: safety glasses with top and side shields
Skin Protection: disposable latex gloves lab coat
Inhalation Protection: adequate ventilation
Precautionary Measures: Avoid contact with: eyes skin Do not breathe: mist/vapor Wash thoroughly after handling.
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: Clear, colorless liquid
Physical State: Liquid
Molecular Weight: Not applicable
Odor: Sweet
Odor Threshold: Not available
pH: 9.9
Metal Corrosivity:
Corrosivity Classification: Not classified as corrosive to metals according to GHS criteria.
Steel: 0.006 in/yr
Aluminum: 0.003 in/yr
Specific Gravity/ Relative Density (water = 1; air =1): 1.05
Viscosity:
Solubility:
Water: Soluble
Acid: Soluble
Other: Not determined
Partition Coefficient (n-octanol / water): Not applicable
Coefficient of Water / Oil: Not applicable
Melting Point: -5°C (23°F)
Decomposition Temperature:
Boiling Point: 99°C (210°F)
Vapor Pressure: Not determined
Vapor Density (air = 1): Not determined
Evaporation Rate (water = 1):
Volatile Organic Compounds Content: Not applicable
Flammable Properties:

Flash Point: > 100°C (212°F)
Method: Open cup
Flammability Limits:
Lower Explosion Limits: Not determined
Upper Explosion Limits: Not determined
Autoignition Temperature: Not determined
Explosive Properties:
Not classified according to GHS criteria.
Oxidizing Properties:
Not classified according to GHS criteria.
Reactivity Properties:
Not classifed 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: Toxic fumes of: sodium oxides carbon monoxide carbon dioxide
Conditions to Avoid: Heat Evaporation

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, Metabolism and Distribution: No information available for mixture.
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.
This product does NOT contain any IARC listed chemicals.
This product does NOT contain any NTP listed chemicals.
This product does NOT contain any OSHA listed carcinogens.
Symptoms/Effects:
Ingestion: Very large doses may cause: central nervous system depression kidney damage rapid pulse and respirations
Inhalation: No effects anticipated
Skin Absorption: No effects anticipated
Chronic Effects: None reported
Medical Conditions Aggravated: None reported

12. ECOLOGICAL INFORMATION

Product Ecological Information: --
No ecological data available for this product. Mobility in soil: No data available
Ingredient Ecological Information: --
No ecological data available for the ingredients of this product.

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: Not applicable

Special Instructions (Disposal): Dilute to 3 to 5 times the volume with cold water. Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. Open cold water tap completely, slowly pour the reacted material to the drain. Allow cold water to run for 5 minutes to completely flush the system.
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): None
California Perchlorate Rule CCR Title 22 Chap 33: 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).
CAS Number: Not applicable
Canadian Inventory Status: All ingredients of this product are DSL/NDSL Listed.
EEC Inventory Status: All ingredients used to make this product are listed on EINECS / ELINCS.
Australian Inventory (AICS) Status: All ingredients are listed.
New Zealand Inventory (NZIoC) Status: All components either listed or exempt.
Korean Inventory (KECI) Status: All components of this product are either listed, listed as the anhydrous compound or exempt.
Japan (ENCS) Inventory Status: All components either listed or exempt.
China (PRC) Inventory (MEP) Status: All components either listed or exempt.

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. Technical Judgment. In-house information. Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Association, 1991.
Complete Text of H phrases referred to in Section 3: Not applicable
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: 09
Month: March
Year: 2014
MSDS Prepared: MSDS prepared by Product Compliance Department extension 3350
CCOHS Evaluation Note: It is offered under exemption from WHMIS labeling as specified in the Controlled Products Regulation (CPR) Section 17. 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. This product has been classified and labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3). This SDS has been prepared in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3).

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