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

MSDS No: M00001

SAFETY DATA SHEET

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

Product Name: ChromaVer ® 3 Chromium Reagent
Catalog Number: 1206699

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: M00001
Chemical Name: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Use of the substance/preparation: Indicator for chromium
CAS No.: Not applicable
Hazard: Causes eye burns.
Date of MSDS Preparation:
Day: 18
Month: July
Year: 2006
Additional Emergency Response Numbers: Austria: +49 (0)6131 19240, Belgium: +32-(0)70-245245, France: +33-(0)1-40370404, Italy: +39-02-66101029, Netherlands: +31-(0)30-2748888, Switzerland: +41-(0)1-2515151

2. COMPOSITION / INFORMATION ON INGREDIENTS

Potassium Pyrosulfate
EEC Number: 2322168
CAS No.: 7790-62-7
Percent Range: 75,0 - 85,0
Percent Range Units: weight / weight
Ingredient EEC Symbol: Xi - IRRITATING
Ingredient R phrase(s) (R phrase details given in Heading 16): R 41
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: 3 mg/m^3, Inhalable dust

Magnesium Sulfate
EEC Number: 2312982
CAS No.: 10034-99-8
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^3, Inhalable dust

1,5-Diphenylcarbohydrazide
EEC Number: 2054037
CAS No.: 140-22-7
Percent Range: 0,01 - 0,1
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^3, Inhalable dust

3. HAZARDS IDENTIFICATION

Emergency Overview:
Appearance: White or light pink powder
Odor: Not determined
EU Symbols: Xi - IRRITATING
R PHRASES: R 41: Risk of serious damage to eyes.

Protective Equipment:
Potential Health Effects:
Eye Contact (EC): Causes burns
Skin Contact (EC): May cause irritation
Skin Absorption (EC): None Reported
Target Organs (SA E): None Reported
Ingestion (EC): May cause: gastrointestinal tract irritation
Target Organs (Ing E): None Reported
Inhalation: May cause: irritation of nose and throat
Target Organs (Inh E): None Reported
Medical Conditions Aggravated: Pre-existing: Eye conditions Skin conditions Respiratory conditions
Chronic Effects: None reported
Cancer / Reproductive Toxicity Information:
This product does NOT contain any IARC listed chemicals.

Additional Cancer / Reproductive Toxicity Information: Contains: an experimental mutagen.
Toxicologically Synergistic Products: None reported

4. FIRST AID MEASURES

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.
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.

5. FIRE FIGHTING MEASURES

Flammable Properties: Combustion generates toxic fumes.
Hazardous Combustion Products: Toxic fumes of: sulfur oxides.
Fire / Explosion Hazards: May react violently with: strong bases strong reducers
Static Discharge: None reported.
Mechanical Impact: None reported

Extinguishing Media: Dry chemical. Carbon dioxide Alcohol foam.
Extinguishing Media NOT To Be Used: Not applicable Not applicable Not applicable
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

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. Cover spilled solid material with sand or other inert material.
Clean-up Technique: Scoop up spilled material into a large beaker and dissolve with water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Flush reacted material to the drain with a large excess of water. Decontaminate the area of the spill with a soap solution.
Evacuation Procedure: Evacuate 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.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes Do not breathe dust. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.
Storage: Keep away from: reducers Protect from: moisture Store between 10° and 25°C.
Special Packaging Instructions: Not applicable
Use of the substance/preparation: Indicator for chromium

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Use general ventilation to minimize exposure to mist, vapor or dust. Maintain general industrial hygiene practices when using this product.
Personal Protective Equipment:
Eye Protection: safety glasses with top and side shields
Skin / Hand Protection: lab coat disposable latex gloves
Inhalation Protection: adequate ventilation
Precautionary Measures: Avoid contact with: eyes Do not breathe: dust Wash thoroughly after handling. Keep away from: reducers
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: 3 mg/m^3, Inhalable dust

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: White or light pink powder
Physical State: Solid
Odor: Not determined
pH: of 5% solution = 1,1
Vapor Pressure: Not applicable
Vapor Density (air = 1): Not applicable
Boiling Point: Not applicable
Melting Point: Decomposes at 215°C; 419°F
Flash Point: Not applicable
Method: Not applicable
Autoignition Temperature: Not determined

Flammability Limits:
Lower Explosion Limits: Not applicable
Upper Explosion Limits: Not applicable
Specific Gravity (water = 1): 2,26
Evaporation Rate (water = 1): Not applicable
Volatile Organic Compounds Content: Not determined
Partition Coefficient (n-octanol / water): Not determined
Solubility:
Water: Slightly 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: Excess moisture Heating to decomposition.
Reactivity / Incompatibility: Incompatible with: strong bases reducers
Hazardous Decomposition: Heating to decomposition releases toxic and/or corrosive fumes of: sulfur 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: Skin: Not corrosive, no edema, no erythema
Mutation Data: None reported
Reproductive Effects Data: None reported
--
Ingredient Toxicological Data: Potassium Pyrosulfate: Oral rat LD50 = 2340 mg/kg

This product does NOT contain any IARC listed chemicals.

12. ECOLOGICAL INFORMATION

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

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.

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

15. REGULATORY INFORMATION

National Inventories:

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

EEC Number: Not applicable

EEC LABEL COPY:

EU Symbols: Xi - IRRITATING

R PHRASES: R 41: Risk of serious damage to eyes.

S PHRASES: 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.

16. OTHER INFORMATION

References: TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. Technical Judgment. Outside Testing. In-house information. Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor).

R PHRASES: R 41: Risk of serious damage to eyes.

Use of the substance/preparation: Indicator for chromium

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.

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(970) 669-3050

MSDS No: M00033

SAFETY DATA SHEET

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

Product Name: Chromium 1 Reagent
Catalog Number: 204399

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: M00033
Chemical Name: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Use of the substance/preparation: Determination of chromium
CAS No.: Not applicable
Hazard: Causes severe burns. Toxic.
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: +39-02-66101029, Netherlands: +31 -(0)30-2748888, Switzerland: +41-(0)1-2515151

2. COMPOSITION / INFORMATION ON INGREDIENTS

Lithium Hypobromite
EEC Number: None
CAS No.: 13824-95-8
Percent Range: 10,0 - 20,0
Percent Range Units: weight / weight
Ingredient EEC Symbol: C - CORROSIVE
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^3, Inhalable dust

Lithium Hydroxide, Anhydrous
EEC Number: 215-183-4
CAS No.: 1310-65-2
Percent Range: 40,0 - 50,0
Percent Range Units: weight / weight
Ingredient EEC Symbol: C - CORROSIVE Xn - HARMFUL
Ingredient R phrase(s) (R phrase details given in Heading 16): R 22 R 35
TLV: STEL 2 mg/m^3 (ceiling)
PEL: 2 mg/m^3
EU Occupational Exposure Limits: 3 mg/m^3, Inhalable dust

Sodium Sulfate
EEC Number: 231-820-9
CAS No.: 7757-82-6

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^3, Inhalable dust

3. HAZARDS IDENTIFICATION

Emergency Overview:
Appearance: Bright yellow powder
Odor: Not determined
EU Symbols: C - CORROSIVE T - TOXIC
R PHRASES: R 22: Harmful if swallowed. R 23: Toxic by inhalation. R 35: Causes severe burns.

Protective Equipment:
Potential Health Effects:
Eye Contact (EC): Causes burns
Skin Contact (EC): Causes burns
Skin Absorption (EC): None Reported
Target Organs (SA E): None Reported
Ingestion (EC): Harmful Causes: severe burns May cause: central nervous system effects kidney damage liver damage dizziness nausea vomiting coma death
Target Organs (Ing E): Liver Kidneys Central nervous system Bone marrow
Inhalation: Causes: severe burns shortness of breath coughing
Target Organs (Inh E): None Reported
Medical Conditions Aggravated: Pre-existing: Eye conditions Skin conditions Respiratory conditions Kidney conditions Liver conditions
Chronic Effects: Lithium compounds have been implicated in development of aplastic anemia. Signs of lithium poisoning include dehydration, extreme weight loss, fine tremor of hands, nausea, vomiting and diarrhea, Chronic overexposure may cause central nervous system effects kidney damage liver damage
Cancer / Reproductive Toxicity Information:
This product does NOT contain any IARC listed chemicals.

Additional Cancer / Reproductive Toxicity Information: Tests performed on this product / components gave insufficient evidence to classify for carcinogenicity.
Toxicologically Synergistic Products: None reported

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.
Skin Contact (First Aid): Wash skin with plenty of water for 15 minutes. Remove contaminated clothing. Call physician immediately.
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.

5. FIRE FIGHTING MEASURES

Flammable Properties: During a fire, corrosive and toxic gases may be generated by thermal decomposition.
Hazardous Combustion Products: Toxic fumes of: hydrogen bromide sulfur oxides. sodium monoxide
Fire / Explosion Hazards: Contact with metals gives off hydrogen gas which is flammable May react violently with: organic materials
Static Discharge: None reported.
Mechanical Impact: None reported
Extinguishing Media: Water. Carbon dioxide Dry chemical.
Extinguishing Media NOT To Be Used: Not applicable Not applicable Not applicable
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

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. Cover spilled solid material with sand or other inert material.
Clean-up Technique: Work in an approved fume hood. Dilute with a large excess of water. Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. 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.

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: Store between 10° and 25°C. Keep away from: acids Protect from: heat moisture
Special Packaging Instructions: Not applicable
Use of the substance/preparation: Determination of chromium

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have a safety shower nearby. Have an eyewash station nearby. Use a fume hood to avoid exposure to dust, mist or vapor. Maintain general industrial hygiene practices when using this product.
Personal Protective Equipment:
Eye Protection: safety glasses with top and side shields
Skin / Hand Protection: lab coat disposable latex gloves
Inhalation Protection: laboratory fume hood
Precautionary Measures: Avoid contact with: eyes skin clothing Do not breathe: dust Wash thoroughly after handling. Keep away from: acids/acid fumes Protect from: heat moisture
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: 3 mg/m^3, Inhalable dust

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Bright yellow powder
Physical State: Solid
Odor: Not determined
pH: aqueous solution > 11
Vapor Pressure: Not applicable
Vapor Density (air = 1): Not applicable
Boiling Point: Not applicable
Melting Point: >400°C; 752°F
Flash Point: Not applicable
Method: Not applicable
Autoignition Temperature: Not applicable
Flammability Limits:
Lower Explosion Limits: Not applicable
Upper Explosion Limits: Not applicable
Specific Gravity (water = 1): 1,48
Evaporation Rate (water = 1): Not applicable
Volatile Organic Compounds Content: Not applicable
Partition Coefficient (n-octanol / water): Not applicable
Solubility:
Water: Partially soluble
Acid: Partially 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: Excess moisture Heat
Reactivity / Incompatibility: Incompatible with: acids metals combustible materials
Hazardous Decomposition: Contact with metals may release flammable hydrogen gas. Toxic fumes of: hydrogen bromide sodium monoxide sulfur 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: Sodium Sulfate Oral mouse TDLo = 14 g/kg (Unspecified neonatal effects); TDLo = 60 mg/kg Reproductive effects - Embryo or fetus - fetotoxicity, Specific developmental abnormalities- musculoskeletal --
Ingredient Toxicological Data: Lithium Hydroxide Oral rat LD50 = 225 mg/kg; Sodium Sulfate Oral mouse LD50 = 5989 mg/kg

This product does NOT contain any IARC listed chemicals.

12. ECOLOGICAL INFORMATION

Product Ecological Information: --
No ecological data available for this product.
Ingredient Ecological Information: Sodium Sulfate aquatic toxicity: TLm 13500 mg/l bluegill sunfish/ 96 hours, TLm 16500 mg/l mosquito fish / 96 hours

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.

14. TRANSPORT INFORMATION

I.C.A.O.:
I.C.A.O. Proper Shipping Name: Corrosive Solid, Basic, Inorganic, N.O.S.
(Lithium Hypobromite/Lithium Hydroxide Mixture)
ICAO Hazard Class: 8
ICAO Subsidiary Risk: NA
ICAO UN/ID Number: UN3262
ICAO Packing Group: II
I.M.O.:
I.M.O. Proper Shipping Name: Corrosive Solid, Basic, Inorganic, N.O.S.
(Lithium Hypobromite/Lithium Hydroxide Mixture)
I.M.O. Hazard Class: 8
I.M.O. Subsidiary Risk: NA
I.M.O. UN Number: UN3262

I.M.O. Packing Group: II

A.D.R.:

A.D.R. Proper Shipping Name: Corrosive Solid, Basic, Inorganic, N.O.S. (Lithium Hypobromite/Lithium Hydroxide Mixture)

A.D.R Hazard Class: 8

A.D.R. Subsidiary Risk: NA

A.D.R. UN-Number:: 3262

A.D.R. Packing Group: II

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

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: C - CORROSIVE T - TOXIC

R PHRASES: R 22: Harmful if swallowed. R 23: Toxic by inhalation. R 35: Causes severe burns.

S PHRASES: S 22: Do not breathe dust. S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection. S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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. 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 22: Harmful if swallowed. R 23: Toxic by inhalation. R 35: Causes severe burns.

Use of the substance/preparation: Determination of chromium

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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(970) 669-3050

MSDS No: M00034

SAFETY DATA SHEET

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

Product Name: Chromium 2 Reagent
Catalog Number: 204499

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: M00034
Chemical Name: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Use of the substance/preparation: Debrominating reagent in Total Chromium Test
CAS No.: Not applicable
Hazard: Causes eye burns.
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: +39-02-66101029, Netherlands: +31 -(0)30-2748888, Switzerland: +41-(0)1-2515151

2. COMPOSITION / INFORMATION ON INGREDIENTS

5-Sulfosalicylic Acid
EEC Number: 2025556
CAS No.: 5965-83-3
Percent Range: 65,0 - 75,0
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
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: 3 mg/m^3, Inhalable dust

1,2-Cyclohexanediaminetetraacetic Acid Trisodium Salt
EEC Number: None
CAS No.: 36679-96-6
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^3, Inhalable dust

Sodium Sulfate
EEC Number: 2318209
CAS No.: 7757-82-6
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^3, Inhalable dust

3. HAZARDS IDENTIFICATION

Emergency Overview:
Appearance: White powder
Odor: Not determined
EU Symbols: Xn - HARMFUL
R PHRASES: 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 severe irritation
Skin Contact (EC): May cause irritation
Skin Absorption (EC): None Reported
Target Organs (SA E): None Reported
Ingestion (EC): May cause: gastrointestinal tract irritation nausea vomiting diarrhea
Target Organs (Ing E): None Reported
Inhalation: May cause: respiratory tract irritation
Target Organs (Inh E): None Reported
Medical Conditions Aggravated: Pre-existing: Eye conditions Skin conditions Respiratory conditions
Chronic Effects: None reported
Cancer / Reproductive Toxicity Information:
This product does NOT contain any IARC listed chemicals.

Additional Cancer / Reproductive Toxicity Information: Tests performed on this product / components gave insufficient evidence to classify for carcinogenicity.
Toxicologically Synergistic Products: None reported

4. FIRST AID MEASURES

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.
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.

5. FIRE FIGHTING MEASURES

Flammable Properties: Can burn in fire, releasing toxic vapors.
Hazardous Combustion Products: Toxic fumes of: nitrogen oxides. sodium oxides carbon monoxide, carbon dioxide. sulfur oxides.
Fire / Explosion Hazards: None reported
Static Discharge: None reported.
Mechanical Impact: None reported
Extinguishing Media: Use media appropriate to surrounding fire conditions
Extinguishing Media NOT To Be Used: Not applicable
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:

Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.
Containment Technique: Stop spilled material from being released to the environment.
Clean-up Technique: Scoop up spilled material into a large beaker and dissolve with water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Flush reacted material to the drain with a large excess of water. Decontaminate the area of the spill with a soap solution.
Evacuation Procedure: Evacuate 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.

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: Protect from: heat Keep away from: oxidizers
Special Packaging Instructions: Not applicable
Use of the substance/preparation: Debrominating reagent in Total Chromium Test

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 Do not breathe: dust Wash thoroughly after handling. Keep away from: oxidizers Protect from: heat
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: 3 mg/m^3, Inhalable dust

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: White powder
Physical State: Solid
Odor: Not determined
pH: 5% solution = 1,2
Vapor Pressure: Not applicable
Vapor Density (air = 1): Not applicable
Boiling Point: Not applicable
Melting Point: 155-170°C; 311-338°F
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): 1,61
Evaporation Rate (water = 1): Not applicable
Volatile Organic Compounds Content: Not applicable
Partition Coefficient (n-octanol / water): Not applicable
Solubility:
Water: 50% soluble
Acid: Not determined
Other: Not determined
Metal Corrosivity:
Steel: 0,410 in/yr
Aluminum: 0,118 in/yr

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Conditions to Avoid: Excess moisture Heat
Reactivity / Incompatibility: May react violently in contact with: oxidizers
Hazardous Decomposition: Heating to decomposition releases toxic and/or corrosive fumes of: sulfur oxides nitrogen oxides carbon monoxide carbon dioxide
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: Sodium Sulfate - Oral mouse TDLo = 14 g/kg (Unspecified neonatal effects); TDLo = 60 mg/kg Reproductive effects - Embryo or Fetus - fetoxicity
--
Ingredient Toxicological Data: Sulfosalicylic Acid Oral rat LD50 = 2450 mg/kg; Sodium Sulfate Oral mouse LD50 = 5989 mg/kg

This product does NOT contain any IARC listed chemicals.

12. ECOLOGICAL INFORMATION

Product Ecological Information: --
No ecological data available for this product.
Ingredient Ecological Information: Sodium Sulfate Aquatic toxicity TLm 13500 mg/l bluefill sunfish/96 hr, TLm 16500 mg/l mosquito fish/96 hr

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.

14. TRANSPORT INFORMATION

I.C.A.O.:
I.C.A.O. Proper Shipping Name: Corrosive Solid, Acidic, Organic, N.O.S. (Sulfosalicylic Acid Mixture)
ICAO Hazard Class: 8
ICAO Subsidiary Risk: NA
ICAO UN/ID Number: UN3261
ICAO Packing Group: III
I.M.O.:
I.M.O. Proper Shipping Name: Corrosive Solid, Acidic, Organic, N.O.S. (Sulfosalicylic Acid Mixture)
I.M.O. Hazard Class: 8
I.M.O. Subsidiary Risk: NA
I.M.O. UN Number: UN3261
I.M.O. Packing Group: III
A.D.R.:
A.D.R. Proper Shipping Name: Corrosive Solid, Acidic, Organic, N.O.S. (Sulfosalicylic Acid Mixture)
A.D.R Hazard Class: 8

A.D.R. Subsidiary Risk: NA
A.D.R. UN-Number:: 3261
A.D.R. Packing Group: III
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

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 22: Harmful if swallowed. R 36/37/38: Irritating to eyes, respiratory system and skin.
S PHRASES: 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.

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. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. Gosselin, R. E. et al. Clinical Toxicology of Commercial Products, 5th Ed. Baltimore: The Williams and Wilkins Co., 1984. In-house information. Technical Judgment.
R PHRASES: R 22: Harmful if swallowed. R 36/37/38: Irritating to eyes, respiratory system and skin.
Use of the substance/preparation: Debrominating reagent in Total Chromium 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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Hach Company
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Loveland, CO USA 80539
(970) 669-3050

MSDS No: M00036

SAFETY DATA SHEET

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

Product Name: Acid Reagent
Catalog Number: 212699

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: M00036
Chemical Name: Disulfuric Acid, Dipotassium Salt
Chemical Formula: $K_2S_2O_7$
Chemical Family: Inorganic Salt
Use of the substance/preparation: Laboratory Reagent
CAS No.: 7790-62-7
Hazard: Causes eye burns.
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

Potassium Pyrosulfate
EEC Number: 2322168
CAS No.: 7790627
Percent Range: 100,0
Percent Range Units: weight / weight
Ingredient EEC Symbol: Xi - IRRITATING
Ingredient R phrase(s) (R phrase details given in Heading 16): R 41
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: 3 mg/m^3, Inhalable dust

3. HAZARDS IDENTIFICATION

Emergency Overview:
Appearance: White powder
Odor: Not determined
EU Symbols: Xi - IRRITATING
R PHRASES: R 41: Risk of serious damage to eyes.

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): Causes: irritation of the mouth and esophagus
Target Organs (Ing E): None Reported
Inhalation: May cause: irritation of nose and throat
Target Organs (Inh E): None Reported
Medical Conditions Aggravated: None reported
Chronic Effects: None reported
Cancer / Reproductive Toxicity Information:
IARC Listed: No

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

4. FIRST AID MEASURES

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.
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.

5. FIRE FIGHTING MEASURES

Flammable Properties: Can burn in fire, releasing toxic vapors.
Hazardous Combustion Products: Toxic fumes of: sulfur oxides.
Fire / Explosion Hazards: May react violently with: strong bases strong reducers
Static Discharge: None reported.
Mechanical Impact: None reported
Extinguishing Media: Use media appropriate to surrounding fire conditions
Extinguishing Media NOT To Be Used: Not applicable
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

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. Cover spilled solid material with sand or other inert material.
Clean-up Technique: Scoop up spilled material into a large beaker and dissolve with water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Flush reacted material to the drain with a large excess of water. Decontaminate the area of the spill with a soap solution.
Evacuation Procedure: Evacuate 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.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes skin Do not breathe dust. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.
Storage: Keep away from: reducers Protect from: moisture
Special Packaging Instructions: Not applicable
Use of the substance/preparation: Laboratory Reagent

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Use general ventilation to minimize exposure to mist, vapor or dust. 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

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
EU Occupational Exposure Limits: 3 mg/m^3, Inhalable dust

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: White powder
Physical State: Solid
Odor: Not determined
pH: of 5% solution = 1,0
Vapor Pressure: Not applicable
Vapor Density (air = 1): Not applicable
Boiling Point: Not applicable
Melting Point: 325°C 617°F
Flash Point: Not applicable
Method: Not applicable
Autoignition Temperature: Not determined
Flammability Limits:
Lower Explosion Limits: Not applicable
Upper Explosion Limits: Not applicable
Specific Gravity (water = 1): 2,25
Evaporation Rate (water = 1): Not applicable
Volatile Organic Compounds Content: Not applicable
Partition Coefficient (n-octanol / water): Not available
Solubility:
Water: Soluble
Acid: Not determined
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: Excess moisture
Reactivity / Incompatibility: Incompatible with: strong bases reducers
Hazardous Decomposition: Heating to decomposition releases toxic and/or corrosive fumes of: sulfur oxides
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:
LD50: Oral rat LD50 = 2340 mg/kg
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: --
Not applicable
IARC Listed: No

12. ECOLOGICAL INFORMATION

Product Ecological Information: --

No ecological data available for this product.
Ingredient Ecological Information: --
Not applicable

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.

14. TRANSPORT INFORMATION

I.C.A.O.:
I.C.A.O. Proper Shipping Name: Not Currently Regulated
--
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
--
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
--
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

15. REGULATORY INFORMATION

National Inventories:
EEC Inventory Status: EINECS Listed: Yes
EEC Number: 2322168
EEC LABEL COPY:
EU Symbols: Xi - IRRITATING
R PHRASES: R 41: Risk of serious damage to eyes.
S PHRASES: 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.

16. OTHER INFORMATION

References: TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. Technical Judgment. In-house information. CCINFO MSDS/FTSS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor).
R PHRASES: R 41: Risk of serious damage to eyes.
Use of the substance/preparation: Laboratory Reagent
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

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