

World Headquarters
Hach Company
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MSDS No: M00063

SAFETY DATA SHEET

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

Product Name: MolyVer® 1 Molybdenum Reagent
Catalog Number: 2604299

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: M00063

Chemical Name: Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

Use of the substance/preparation: Indicator for molybdenum

CAS No.: Not applicable

Hazard: Causes severe eye irritation.

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

1,2-Cyclohexanediaminetetraacetic Acid Trisodium Salt

EEC Number: None

CAS No.: 36679-96-6

Percent Range: 10,0 - 20,0

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/m³, Inhalable dust

Disodium Succinate

EEC Number: 2057787

CAS No.: 610624

Percent Range: 30,0 - 40,0

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/m³, Inhalable dust

Succinic Acid

EEC Number: 2037404

CAS No.: 110-15-6

Percent Range: 50,0 - 60,0

Percent Range Units: weight / weight

Ingredient EEC Symbol: Xi - IRRITATING
Ingredient R phrase(s) (R phrase details given in Heading 16): R 36
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: White powder
Odor: None
EU Symbols: Xi - IRRITATING
R PHRASES: R 36: Irritating 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): May cause: weakness 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 Respiratory conditions
Chronic Effects: None reported
Cancer / Reproductive Toxicity Information:
This product does NOT contain any IARC listed chemicals.

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): Give large quantities of water. Call physician immediately.
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: May emit acrid smoke and fumes.
Fire / Explosion Hazards: May react violently with: strong oxidizers
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: 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. Filter to remove solids. 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: Protect from: moisture Keep away from: oxidizers

Special Packaging Instructions: Not applicable

Use of the substance/preparation: Indicator for molybdenum

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

TLV: Not established

PEL: Not established

EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: White powder

Physical State: Solid

Odor: None

pH: of 5% solution = 4,28

Vapor Pressure: Not applicable

Vapor Density (air = 1): Not applicable

Boiling Point: Not applicable

Melting Point: decomposes at 85°-95°C

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): 1,52

Evaporation Rate (water = 1): Not applicable

Volatile Organic Compounds Content: Not determined

Partition Coefficient (n-octanol / water): Not determined

Solubility:

Water: Soluble

Acid: Soluble

Other: Not determined

Metal Corrosivity:

Steel: 0,005 in/yr

Aluminum: 0,168 in/yr

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.

Conditions to Avoid: Excess moisture Extreme temperatures

Reactivity / Incompatibility: May react violently in contact with: oxidizers
Hazardous Decomposition: Heating to decomposition releases toxic fumes of carbon monoxide and 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: None reported

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Ingredient Toxicological Data: Succinic Acid: Oral rat LD50 = 2260 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 or are placed on the market in quantities less than 10 kg per year.

EEC Number: Not applicable

EEC LABEL COPY:

EU Symbols: Xi - IRRITATING

R PHRASES: R 36: Irritating to eyes.

S PHRASES: S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

16. OTHER INFORMATION

References: CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. Technical Judgment. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. 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. 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 36: Irritating to eyes.

Use of the substance/preparation: Indicator for molybdenum

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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MSDS No: M00064

SAFETY DATA SHEET

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

Product Name: MolyVe[®] 2 Molybdenum Reagent
Catalog Number: 2604399

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: M00064

Chemical Name: Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

Use of the substance/preparation: Determination of molybdenum

CAS No.: Not applicable

Hazard: Allergen Causes severe eye irritation.

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 Sulfate

EEC Number: 2318209

CAS No.: 7757826

Percent Range: 60,0 - 70,0

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/m³, Inhalable dust

Potassium Persulfate

EEC Number: 2317818

CAS No.: 7727211

Percent Range: 30,0 - 40,0

Percent Range Units: weight / weight

Ingredient EEC Symbol: Xn - HARMFUL

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

TLV: 5 mg/m³

PEL: Not established

EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: White powder

Odor: None

EU Symbols: Xn - HARMFUL

R PHRASES: R 22: Harmful if swallowed. R 36/37/38: Irritating to eyes, respiratory system and skin. R 42/43: May cause sensitization by inhalation and skin contact.

Protective Equipment:

Potential Health Effects:

Eye Contact (EC): Causes severe irritation

Skin Contact (EC): May cause irritation

Skin Absorption (EC): No effects anticipated

Target Organs (SA E): Nasal Cavity

Ingestion (EC): May cause: gastrointestinal tract irritation

Target Organs (Ing E): None Reported

Inhalation: May cause: irritation of nose and throat allergic respiratory reaction

Target Organs (Inh E): None Reported

Medical Conditions Aggravated: Pre-existing: Eye conditions Skin conditions Respiratory conditions Allergies or sensitivity to potassium persulfate.

Chronic Effects: Chronic overexposure may cause allergic respiratory reactions allergic skin reactions

Cancer / Reproductive Toxicity Information:

This product does NOT contain any IARC listed chemicals.

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 soap and plenty of water. 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.

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: sodium oxides 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. Cover spilled solid material with sand or other inert material.

Clean-up Technique: Remove all combustible materials from the spill area. Cover with an inert material, such as sand. Sweep up material. Work in an approved fume hood. Working in small batches, dilute with excess water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Filter to remove solids. 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. Use with adequate ventilation. Maintain general industrial hygiene practices when using this product.

Storage: Store away from: combustible materials Protect from: heat moisture

Special Packaging Instructions: Not applicable

Use of the substance/preparation: Determination of molybdenum

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 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

TLV: Not established

PEL: Not established

EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: White powder

Physical State: Solid

Odor: None

pH: of a 5% solution = 4,9

Vapor Pressure: Not applicable

Vapor Density (air = 1): Not applicable

Boiling Point: Not applicable

Melting Point: The product decomposes at 100 °C (212 °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): 2,51

Evaporation Rate (water = 1): Not applicable

Volatile Organic Compounds Content: Not applicable

Partition Coefficient (n-octanol / water): Not applicable

Solubility:

Water: Soluble

Acid: Soluble

Other: Not determined

Metal Corrosivity:

Steel: Not Applicable

Aluminum: Not Applicable

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.

Conditions to Avoid: Heating to decomposition. Excess moisture

Reactivity / Incompatibility: Incompatible with: aluminum reducers

Hazardous Decomposition: Heating to decomposition releases toxic and/or corrosive fumes of: sulfur oxides sodium monoxide

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:

LD50: None reported

LC50: None reported

Dermal Toxicity Data: None reported

Skin and Eye Irritation Data: None reported

Mutation Data: None reported

Reproductive Effects Data: None reported

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Ingredient Toxicological Data: Sodium Sulfate: Oral mouse LD50 = 5989 mg/kg; Potassium Persulfate: Oral rat LD50 = 802 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: Xn - HARMFUL

R PHRASES: R 22: Harmful if swallowed. R 36/37/38: Irritating to eyes, respiratory system and skin. R 42/43: May cause sensitization by inhalation and skin contact.

S PHRASES: S 22: Do not breathe dust. S 24: Avoid contact with skin. S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S 37: Wear suitable gloves.

16. OTHER INFORMATION

References: NIOSH Registry of Toxic Effects of Chemical Substances, 1985-86. Cincinnati: U.S. Department of Health and Human Services, April, 1987. Vendor Information. Sax, N. Irving and Richard J. Lewis, Sr., revised by. Hawley's Condensed Chemical Dictionary, Eleventh Ed. New York: Van Nostrand Reinhold Co., 1987. Gosselin, R. E. et al. Clinical Toxicology of Commercial Products, 5th Ed. Baltimore: The Williams and Wilkins Co., 1984. In-house information. Technical Judgment. 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.

R PHRASES: R 22: Harmful if swallowed. R 36/37/38: Irritating to eyes, respiratory system and skin. R 42/43: May cause sensitization by inhalation and skin contact.

Use of the substance/preparation: Determination of molybdenum

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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MSDS No: M00065

SAFETY DATA SHEET

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

Product Name: MolyVer® 3 Molybdenum Reagent
Catalog Number: 2604499

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: M00065

Chemical Name: Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

Use of the substance/preparation: Indicator for molybdenum

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: +39-0266101029, Netherlands: +31 -(0)30-2748888, Switzerland: +41-(0)1-2515151

2. COMPOSITION / INFORMATION ON INGREDIENTS

Calcium Thioglycolate

EEC Number: 2498815

CAS No.: 65208-41-5

Percent Range: 30,0 - 40,0

Percent Range Units: weight / weight

Ingredient EEC Symbol: Xn - HARMFUL

Ingredient R phrase(s) (R phrase details given in Heading 16): R 22 R 37 R 43

TLV: Not established

PEL: Not established

EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

Maltodextrin

EEC Number: 2329404

CAS No.: 9050866

Percent Range: < 1,0

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/m³, Inhalable dust

Sodium Chloride

EEC Number: 2315983

CAS No.: 7647145

Percent Range: 60,0 - 70,0

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/m³, Inhalable dust

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: White powder

Odor: Sulfidic

EU Symbols: Xn - HARMFUL

R PHRASES: R 22: Harmful if swallowed. R 37: Irritating to respiratory system. R 43: May cause sensitization by skin contact.

Protective Equipment:

Potential Health Effects:

Eye Contact (EC): Causes irritation

Skin Contact (EC): May cause allergic reaction

Skin Absorption (EC): No effects anticipated

Target Organs (SA E): Not applicable

Ingestion (EC): May cause: changes in blood sugar blood pressure problems dehydration vomiting diarrhea muscular twitching rigidity collapse death

Target Organs (Ing E): Blood

Inhalation: May cause: respiratory tract irritation

Target Organs (Inh E): None Reported

Medical Conditions Aggravated: Pre-existing: Eye conditions Respiratory conditions

Chronic Effects: Chronic overexposure may cause thyroid disorders

Cancer / Reproductive Toxicity Information:

This product does NOT contain any IARC listed chemicals.

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 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.

5. FIRE FIGHTING MEASURES

Flammable Properties: Can burn in fire, releasing toxic vapors.

Hazardous Combustion Products: Toxic fumes of: carbon monoxide, carbon dioxide, chlorides, sodium monoxide, 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. 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 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: 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: acids oxidizers

Special Packaging Instructions: Not applicable

Use of the substance/preparation: Indicator for molybdenum

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: 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: acids/acid fumes oxidizers

TLV: Not established

PEL: Not established

EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: White powder

Physical State: Solid

Odor: Sulfidic

pH: 5% solution = 11,45

Vapor Pressure: Not applicable

Vapor Density (air = 1): Not applicable

Boiling Point: Not applicable

Melting Point: decomposes at 220 C

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): 1,57

Evaporation Rate (water = 1): Not applicable

Volatile Organic Compounds Content: Not available

Partition Coefficient (n-octanol / water): Not applicable

Solubility:

Water: Soluble

Acid: Not determined

Other: Not determined

Metal Corrosivity:

Steel: 0,005 in/year

Aluminum: 0,000 in/year

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.

Conditions to Avoid: Heating to decomposition. Excess moisture

Reactivity / Incompatibility: Incompatible with: strong acids oxidizers lithium bromine trifluoride

Hazardous Decomposition: Heating to decomposition releases toxic and/or corrosive fumes of: chlorides 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: Single subcutaneous injection of sodium chloride into pregnant mice at the level of 2500 mg/kg caused fetal deaths and malformations.

Mice given a 2% sodium chloride solution in place of drinking water during pregnancy produced hypertensive adult offspring.

Ingredient Toxicological Data: Sodium Chloride Oral rat LD50 = 3000 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: Xn - HARMFUL

R PHRASES: R 22: Harmful if swallowed. R 37: Irritating to respiratory system. R 43: May cause sensitization by skin contact.

S PHRASES: S 24: Avoid contact with skin. S 37: Wear suitable gloves.

16. OTHER INFORMATION

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

R PHRASES: R 22: Harmful if swallowed. R 37: Irritating to respiratory system. R 43: May cause sensitization by skin contact.

Use of the substance/preparation: Indicator for molybdenum

Revision Summary: European MSDS Only Updates in Heading(s) 2,

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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