

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

MSDS No: M00048

SAFETY DATA SHEET

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

Product Name: ZincoVer ® 5 Zinc Reagent
Catalog Number: 2106669

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: M00048
Chemical Name: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Use of the substance/preparation: Determination of zinc
CAS No.: Not applicable
Hazard: Toxic.
Date of MSDS Preparation:
Day: 23
Month: 10
Year: 2006

Additional Emergency Response Numbers: Austria: +49 (0)6131 19240, Belgium: +32 (0)70 -245245, France: +33 (0)1 -40370404, Italy: +39 -026101029, Netherlands: +31 (0)30 -2748888, Switzerland : +41 -(0)1 -2515151

2. COMPOSITION / INFORMATION ON INGREDIENTS

Potassium Borate

EEC Number: 2155755
CAS No.: 133270
Percent Range: 50,0 - 60,0
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

Other component

EEC Number: Not applicable
CAS No.: Not applicable
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: Not established

Boron Oxide

EEC Number: 2151258
CAS No.: 130382
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: 10 mg/m³
PEL: 15 mg/m³
EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

Sodium Ascorbate

EEC Number: 2051261
CAS No.: 134-03-2
Percent Range: 20,0 - 30,0
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 Cyanide

EEC Number: 2057923
CAS No.: 151-50-8
Percent Range: 1,0 - 10,0
Percent Range Units: weight / weight
Ingredient EEC Symbol: Xn - HARMFUL N - Dangerous for the Environment
Ingredient R phrase(s) (R phrase details given in Heading 16): R 20/21/22 R 32 R 51/53
TLV: 5 mg/m³ (skin)
PEL: 5 mg/m³ (skin)
EU Occupational Exposure Limits: None found. Cyanides are on the Priority List for OELs.

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: Purple
Odor: Not determined
EU Symbols: Xn - HARMFUL N - DANGEROUS FOR THE ENVIRONMENT
R PHRASES: R 20/21/22: Harmful by inhalation, in contact with skin and if swallowed. R 32: Contact with acids liberates very toxic gas. R 51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Emergency response to cyanide exposure should be planned and practiced prior to work with cyanides. First responders should start treatment and get medical attention immediately. Antidote: break an amyl nitrite pearl in cloth and hold lightly under nose for 15 seconds. Repeat 5 times at 15 second intervals. Transport to hospital immediately. Note to Physician: Have a cyanide first aid kit available. If patient has not responded to amyl nitrite, inject intravenously 10 ml of a 3% solution of sodium nitrite at a rate not greater than 2,5 - 5 ml/min. Follow directly with 50 ml of a 25 % solution of sodium thiosulfate at the same rate by the same route. Keep patient under observation. If signs of poisoning persist or reappear, repeat nitrite and thiosulfate injections 1 hour later in one-half the original doses.

Protective Equipment:

Potential Health Effects:

Eye Contact (EC): May cause irritation
Skin Contact (EC): May cause irritation
Skin Absorption (EC): Harmful if absorbed through the skin
Target Organs (SA E): Brain
Ingestion (EC): Harmful May cause: confusion gastrointestinal tract irritation irregular heartbeat
Target Organs (Ing E): Brain
Inhalation: Harmful May cause: irritation of nose and throat confusion irregular heartbeat
Target Organs (Inh E): Brain
Medical Conditions Aggravated: Pre-existing: Respiratory conditions Skin conditions
Chronic Effects: Chronic overexposure may cause brain damage
Cancer / Reproductive Toxicity Information:

This product does NOT contain any IARC listed chemicals.

Additional Cancer / Reproductive Toxicity Information: Contains: an experimental mutagen. an experimental teratogen.

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 for 15 minutes. Remove contaminated clothing. Call physician immediately.

Ingestion (First Aid): Break an amyl nitrite pearl in cloth and hold lightly under nose for 15 seconds. Repeat every five minutes. Administer artificial respiration with 100% oxygen. Transport to hospital immediately.

Inhalation: Break an amyl nitrite pearl in cloth and hold lightly under nose for 15 seconds. Repeat 5 times at 15 second intervals. Transport to hospital immediately.

5. FIRE FIGHTING MEASURES

Flammable Properties: Combustion generates toxic fumes. Dusts at sufficient concentrations can form explosive mixtures with air.

Hazardous Combustion Products: Toxic fumes of: cyanide compounds nitrogen oxides. potassium oxides boron compounds

Fire / Explosion Hazards: High concentrations of dust may form an explosive mixture with air.

Static Discharge: None reported.

Mechanical Impact: None reported

Extinguishing Media: Alkali dry chemical. Do NOT use carbon dioxide.

Extinguishing Media NOT To Be Used: Not applicable Do NOT use carbon dioxide.

Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear. Evacuate area and fight fire from a safe distance. Water runoff can cause environmental damage. Dike and collect water used to fight fire.

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: Releases of this material may contaminate the environment. Stop spilled material from being released to the environment.

Clean-up Technique: Carefully mist spill with bleach until saturated. Scoop up slurry into a large beaker. Oxidize spilled material with a 50% excess of bleach containing at least 5% sodium hypochlorite. Allow to react for 24 hours in a fume hood. Flush reacted material to the drain with a large excess of water. Decontaminate area with bleach 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: Protect from: moisture Keep away from: acids

Special Packaging Instructions: Not applicable

Use of the substance/preparation: Determination of zinc

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: 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: disposable latex gloves lab coat

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: moisture

TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: Not established

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Purple
Physical State: Solid
Odor: Not determined
pH: of 5% solution = 8,7
Vapor Pressure: Not applicable
Vapor Density (air = 1): Not applicable
Boiling Point: Not applicable
Melting Point: 155°C 311°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): 1,83
Evaporation Rate (water = 1): Not applicable
Volatile Organic Compounds Content: Not determined
Partition Coefficient (n -octanol / water): Not determined
Solubility:
Water: Soluble
Acid: Generates HCN
Other: Not determined
Metal Corrosivity:
Steel: Not determined
Aluminum: Not determined

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Conditions to Avoid: Excess moisture Heating to decomposition.
Reactivity / Incompatibility: Incompatible with: acids
Hazardous Decomposition: Toxic fumes of: cyanide boron compounds nitrogen oxides potassium oxide Contact with acids/acid fumes releases toxic cyanide gas.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:

LD50: Oral rat LD₅₀ = 383 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: Boron Oxide: Oral mouse LD₅₀ = 3163 mg/kg, Potassium Cyanide: Oral human LDLo = 2,857 mg/kg, Oral rat LD₅₀ = 5mg/kg, Potassium Borate: Oral rat LD₅₀ = 3690 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

--

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: Environmentally Hazardous Substance, Solid, nos
(Potassium cyanide mixture)

A.D.R. Hazard Class: 9

A.D.R. Subsidiary Risk: NA

A.D.R. UN -Number: 30

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 ALSO NOTE: If the National Competent Authority declares this product an environmental hazard by Special Provision 909 (IMDG) and Special Provision A97 (IATA) the classification may be UN3077 or UN3082.

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 N - DANGEROUS FOR THE ENVIRONMENT

R PHRASES: R 20/21/22: Harmful by inhalation, in contact with skin and if swallowed. R 32: Contact with acids liberates very toxic gas. R 51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S PHRASES: S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S 28a: After contact with skin, wash immediately with plenty of water. S 35: This material and its container must be disposed of in a safe way. 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).

Ingredients: Potassium Cyanide;

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. 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. In-house information. Technical Judgment. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992.

R PHRASES: R 20/21/22: Harmful by inhalation, in contact with skin and if swallowed. R 32: Contact with acids liberates very toxic gas. R 51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Use of the substance/preparation: Determination of zinc

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 AS ACCURATE AS REASONABLY OBTAINABLE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

HACH COMPANY ©2006