

Safety Data Sheet

according to Regulation (EC) No 1907/2006

21066-69 ZincoVer 5 Zinc Reagent

Revision date: 12.07.2021

Product code: 2106669

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

21066-69 ZincoVer 5 Zinc Reagent

UFI: RSV9-NCAK-D002-DSEH

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Water analysis

1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH
Street: Willstätterstr. 11
Place: D-40549 Düsseldorf
Telephone: +49 (0)211 5288-383
e-mail: SDS@hach.com
Internet: www.de.hach.com
Responsible Department: HACH LANGE Ltd.
5, Pacific Way
Salford Manchester M50 1DL - United Kingdom
Tel. +44 (0) 161 872 1487 * Fax +44 (0) 161 848 7324
e-Mail: info-uk@hach.com

HACH LANGE Ltd.
Unit 1, Chestnut Road Western Industrial Estate
IRL-Dublin 12
Tel. +353 (0)1 4602522
e-Mail: info-ie@hach.com

1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Acute toxicity: Acute Tox. 3

Acute toxicity: Acute Tox. 4

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Reproductive toxicity: Repr. 1B

Specific target organ toxicity - single exposure: STOT SE 3

Hazardous to the aquatic environment: Aquatic Chronic 1

Hazard Statements:

Toxic in contact with skin.

Harmful if swallowed.

Harmful if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May damage fertility. May damage the unborn child.

May cause respiratory irritation.

Very toxic to aquatic life with long lasting effects.

2.2. Label elements

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Regulation (EC) No. 1272/2008

Hazard components for labelling

Potassium borate
diboron trioxide; boric oxide
Potassium cyanide

Signal word: Danger

Pictograms:



Hazard statements

H311 Toxic in contact with skin.
H302 Harmful if swallowed.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H319 Causes serious eye irritation.
H315 Causes skin irritation.
H360FD May damage fertility. May damage the unborn child.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P264 Wash hands thoroughly after handling.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P302+P352 IF ON SKIN: Wash with plenty of water.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P308+P313 IF exposed or concerned: Get medical advice/attention.

Special labelling of certain mixtures

EUH032 Contact with acids liberates very toxic gas.

Additional advice on labelling

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

2.3. Other hazards

Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
1332-77-0	Potassium borate			50-60 %
	215-575-5			
	Repr. 1B, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H360FD H315 H319 H335			
134-03-2	(+)-Sodium L-ascorbate			20-30 %
	205-126-1			
1303-86-2	diboron trioxide; boric oxide			15-25 %
	215-125-8	005-008-00-8		
	Repr. 1B; H360FD			
151-50-8	Potassium cyanide			3-7 %
	205-792-3	006-007-00-5		
	Acute Tox. 1, Acute Tox. 2, Acute Tox. 2, STOT SE 1, STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1; H310 H330 H300 H370 H372 H400 H410 EUH032			

Full text of H and EUH statements: see section 16.

Specific concentration limits and M-factors

CAS No	EC No	Chemical name	Quantity
	Specific concentration limits and M-factors		
1303-86-2	215-125-8	diboron trioxide; boric oxide	15-25 %
	Repr. 1B; H360FD: >= 3,1 - 100		
151-50-8	205-792-3	Potassium cyanide	3-7 %
	M akut; H400: M=10 M chron.; H410: M=10		

Further Information

This product contains substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).
diboron trioxide; boric oxide

SECTION 4: First aid measures
4.1. Description of first aid measures
General information

Take off contaminated clothing and shoes immediately.
Show this safety data sheet to the doctor in attendance.

After inhalation

Move to fresh air. Call a physician immediately.

After contact with skin

Wash off immediately with soap and plenty of water. Take off all contaminated clothing immediately. Call a physician immediately.

After contact with eyes

Rinse immediately with plenty of water for at least 15 minutes.
Consult a physician. Show this safety data sheet to the doctor in attendance.

After ingestion

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person.
Call a physician immediately. Show this safety data sheet to the doctor in attendance.

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4.2. Most important symptoms and effects, both acute and delayed

May cause skin irritation. May cause eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Dry powder

Unsuitable extinguishing media

Carbon dioxide (CO₂)

5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours.

In the event of fire the following can be released: Cyanides, Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

Dust may form explosive mixture in air.

5.3. Advice for firefighters

In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

In the event of fire, wear self-contained breathing apparatus.

In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

Suppress (knock down) gases/vapours/mists with a water spray jet.

Additional information

Prevent fire extinguishing water from contaminating surface water or the ground water system. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Only qualified personnel equipped with suitable protective equipment may intervene. Immediately evacuate personnel to safe areas.

Do not breathe vapours, mist or gas.

Ensure adequate ventilation. Remove all sources of ignition.

Evacuate personnel to safe areas.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations (see section 13).

6.4. Reference to other sections

13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Use only in well-ventilated areas.

Avoid contact with skin and eyes.

Do not breathe vapours/dust.

Wash thoroughly after handling.

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Advice on protection against fire and explosion

See also section 5

Further information on handling

Observe label precautions.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep containers dry and tightly closed to avoid moisture absorption and contamination.

Hints on joint storage

Do not store near acids.

Further information on storage conditions

Keep locked up or in an area accessible only to qualified or authorised persons.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
1303-86-2	Diboron trioxide	-	10		TWA (8 h)	WEL
		-	20		STEL (15 min)	WEL
151-50-8	Potassium cyanide (as cyanide)	-	1		TWA (8 h)	WEL
		-	5		STEL (15 min)	WEL

Additional advice on limit values

None known.

8.2. Exposure controls**Appropriate engineering controls**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Protective and hygiene measures

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Eye/face protection

Safety glasses with side-shields

Hand protection

Use barrier skin cream.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact:

Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

Skin protection

Avoid contact with skin, eyes and clothing.

Respiratory protection

Avoid breathing dust or vapour.

Use with local exhaust ventilation.

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Environmental exposure controls

Do not flush into surface water or sanitary sewer system.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	solid
Colour:	pink
Odour:	odourless
pH-Value (at 20 °C):	8,7 (5 % solution)

Changes in the physical state

Melting point:	155 °C
Initial boiling point and boiling range:	not applicable
Sublimation point:	no data available
Softening point:	no data available
Pour point:	not applicable
:	no data available
Flash point:	not applicable
Sustaining combustion:	No data available

Flammability

Solid:	not applicable
Gas:	not applicable

Explosive properties

no data available

Lower explosion limits:	no data available
Upper explosion limits:	no data available
Ignition temperature:	no data available

Auto-ignition temperature

Solid:	no data available
Gas:	no data available

Decomposition temperature:	no data available
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Oxidizing properties

no data available

Vapour pressure:	no data available
Vapour pressure:	no data available
Density (at 20 °C):	1,83 g/cm ³
Bulk density:	no data available
Water solubility:	soluble

Solubility in other solvents

Incompatible with acids.

Partition coefficient:	not applicable
Viscosity / dynamic:	not applicable
Viscosity / kinematic:	not applicable
Flow time:	not applicable
Vapour density:	not applicable
Evaporation rate:	not applicable

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Solvent separation test:

not applicable

Solvent content:

not applicable

9.2. Other information

Solid content:

no data available

no data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Hazard: Acids

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Reacts with the following substances: Acids

10.4. Conditions to avoid

Product is sensitive to light and moisture.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Thiocyanates can develop poisonous gas in contact with strong acids.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

LD50/oral/rat = 383 mg/kg (Information given is based on tests on the mixture itself.)

Toxic in contact with skin.

Harmful if swallowed.

Harmful by inhalation.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
1332-77-0	Potassium borate				
	oral	LD50 3690 mg/kg	ratte		
1303-86-2	diboron trioxide; boric oxide				
	oral	LD50 3163 mg/kg	Mice	GESTIS	
151-50-8	Potassium cyanide				
	oral	LD50 5 mg/kg	rat		
	dermal	LD50 14,29 mg/kg	rabbits	ECHA	
	inhalation (4 h) vapour	LC50 0,051 mg/l	rat		
	inhalation (4 h) aerosol	LC50 0,051 mg/l	rat		

Irritation and corrosivity

The product causes irritation of eyes, skin and mucous membranes.

Carcinogenic/mutagenic/toxic effects for reproduction

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H360 - May damage fertility or the unborn child.

STOT-single exposure

The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT-repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Specific effects in experiment on an animal

LD50/oral/rat = 383 mg/kg

Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1. Toxicity

No data is available on the product itself. Information given is based on data on the components and the ecotoxicology of similar products.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
1303-86-2	diboron trioxide; boric oxide					
	Acute crustacea toxicity	EC50 490 mg/l	370 -	48 h	Daphnia Magna	IUCLID
151-50-8	Potassium cyanide					
	Acute fish toxicity	LC50 mg/l	0,068	96 h		
	Acute crustacea toxicity	EC50 mg/l	0,25	48 h		

12.2. Persistence and degradability

No data is available on the product itself.

12.3. Bioaccumulative potential

No data is available on the product itself.

12.4. Mobility in soil

No data is available on the product itself.

12.5. Results of PBT and vPvB assessment

No data is available on the product itself.

12.6. Other adverse effects

Environmental Effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

In accordance with local and national regulations.

List of Wastes Code - residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - used product

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160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - contaminated packaging

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste


Contaminated packaging

Dispose of as unused product.

The hazard and precautionary statements displayed on the label also apply to any residues left in the container.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number: UN 1588
14.2. UN proper shipping name: Cyanides, inorganic, solid, n.o.s. (Potassium cyanide mixture)
14.3. Transport hazard class(es): 6.1
14.4. Packing group: III
Hazard label: 6.1




Classification code: T5
Special Provisions: 47 274
Limited quantity: 5 kg
Excepted quantity: E1
Transport category: 2
Hazard No: 60
Tunnel restriction code: E

Inland waterways transport (ADN)**Other applicable information (inland waterways transport)**

Not tested

Marine transport (IMDG)

14.1. UN number: UN 1588
14.2. UN proper shipping name: Cyanides, inorganic, solid, n.o.s. (Potassium Cyanide mixture)
14.3. Transport hazard class(es): 6.1
14.4. Packing group: III
Hazard label: 6.1



Marine pollutant: P
Special Provisions: 47, 223, 274
Limited quantity: 5 kg
Excepted quantity: E1
EmS: F-A, S-A

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 1588
14.2. UN proper shipping name: Cyanides, inorganic, solid, n.o.s. (Potassium Cyanide mixture)

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14.3. Transport hazard class(es): 6.1**14.4. Packing group:** III

Hazard label: 6.1



Special Provisions: A3 A13

Limited quantity Passenger: 10 kg

Passenger LQ: Y645

Excepted quantity: E1

IATA-packing instructions - Passenger: 670

IATA-max. quantity - Passenger: 100 kg

IATA-packing instructions - Cargo: 677

IATA-max. quantity - Cargo: 200 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: Potassium cyanide

14.6. Special precautions for user

no data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not relevant

Other applicable information

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, Package group II, EMS Code: F-A, S-P

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):
diboron trioxide; boric oxide

Restrictions on use (REACH, annex XVII):

Entry 30

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water hazard class (D):

3 - strongly hazardous to water

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

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Changes

- Revision: 12.07.2021
 Safety datasheet sections which have been updated: 2, 7
- Revision: 16.07.2019
 Safety datasheet sections which have been updated: 2, 11, 15, 16
- Revision: 13.02.2017
 Safety datasheet sections which have been updated: 8, 10, 11
- Revision: 1.02.2017
 Safety datasheet sections which have been updated: 11
- Revision: 11.04.2016
 Safety datasheet sections which have been updated: 3
- Revision: 15.04.2015
 Safety datasheet sections which have been updated: 2, 11
- Revision: 03.01.2014
 Safety datasheet sections which have been updated: 2-16
- Revision: 08.11.2012
 Safety datasheet sections which have been updated: 1, 2, 3, 15

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Acute Tox. 3; H311	Calculation method
Acute Tox. 4; H302	Calculation method
Acute Tox. 4; H332	Calculation method
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Repr. 1B; H360FD	Calculation method
STOT SE 3; H335	Calculation method
Aquatic Chronic 1; H410	Calculation method

Relevant H and EUH statements (number and full text)

- H300 Fatal if swallowed.
- H302 Harmful if swallowed.
- H310 Fatal in contact with skin.
- H311 Toxic in contact with skin.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H330 Fatal if inhaled.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H360FD May damage fertility. May damage the unborn child.
- H370 Causes damage to organs.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- EUH032 Contact with acids liberates very toxic gas.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)