SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : I001-K21 hebro®cid 79-106

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Biocidal product, Preservatives for liquid-cooling and processing systems, Metalworking-fluid preservatives

Recommended restrictions on use : For industrial use only.

1.3 Details of the supplier of the safety data sheet

Company : hebro chemie- ZN der Rockwood Specialties Group GmbH
Rostocker Str. 40
41199 Mönchengladbach
Contact person : Zentrale hebro chemie
Telephone : +49 (0) 2166 6009-0
Telefax : +49 (0) 2166 6009-99

Contact person product safety Abteilung Produktsicherheit
Telephone : +49(0)2166 6009-311
E-mail address : msds.de@hebro-chemie.de

1.4 Emergency telephone number

: Giftinformationszentrum Erfurt:
+49 (0) 361 730 730

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin corrosion, Category 1C	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : P273 Avoid release to the environment.

Prevention:

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P391 Collect spillage.

Hazardous components which must be listed on the label:
a mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

Additional Labelling

Use biocides safely. Always read the label and product information before use.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
The information required is contained in this Material Safety Data Sheet.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Biocides

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (% w/w)
Sodium nitrate	7631-99-4 231-554-3 01-2119488221-41	Ox. Sol. 2; H272 Eye Irrit. 2; H319	>= 2.5 - < 3
a mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-	55965-84-9 611-341-5	Acute Tox. 3; H301 Acute Tox. 2; H330	< 1.5

2H-isothiazol-3-one (3:1)	01-2120764691-48	Acute Tox. 2; H310 Skin Corr. 1C; H314 Eye Dam. 1; H318 Skin Sens. 1A; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor Acute aquatic toxicity:100 M-Factor Chronic aquatic toxicity:100	

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Do not leave the victim unattended.
First Aid responders should pay attention to self-protection and use the recommended protective clothing

If inhaled : If breathed in, move person into fresh air.
If symptoms persist, call a physician.

In case of skin contact : Remove/ Take off immediately all contaminated clothing.
Wash off with soap and water.
If symptoms persist, call a physician.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

In case of eye contact : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Call a physician immediately.

If swallowed : Rinse mouth with water.
Do NOT induce vomiting.
Call a physician immediately.
If a person vomits when lying on his back, place him in the recovery position.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Allergic appearance
Itching
Redness
Blistering

Risks : Symptoms may be delayed.
If swallowed, severe burns in the oral cavity and throat as well

as danger of perforation of the digestive tract and stomach.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	If ingested, irrigate the stomach using activated charcoal in addition. Treat skin and mucous membranes with antihistamine and corticoids. For specialist advice physicians should contact the Poisons Information Service.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Water spray jet Dry powder Carbon dioxide (CO2) Foam
Unsuitable extinguishing media	:	none

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting	:	May form toxic gases on heating or in case of fire. Nitrogen oxides (NOx) Carbon monoxide Hydrogen chloride gas Sulphur oxides

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions	:	Do not empty into drains. Inform the relevant authorities if it enters sewers, aquatic environment or soil.

6.3 Methods and material for containment and cleaning up

Methods for 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).
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See chapter
8
and
13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Do not breathe vapours or spray mist. Avoid contact with skin and eyes. Wash hands before breaks and at the end of workday. Ensure adequate ventilation. Ventilate the area. Avoid formation of aerosol. Avoid splashes.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Hygiene measures	:	Take off contaminated clothing and shoes immediately. Avoid contact with skin and eyes. Keep away from food, drink and animal feedingstuffs. Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Keep container tightly closed in a dry and well-ventilated place. Store in original container. To prevent leaks or spillages from spreading, provide a suitable liquid retention system.
Further information on storage conditions	:	Protect from heat and sunlight.
Advice on common storage	:	No materials to be especially mentioned.

7.3 Specific end use(s)

Specific use(s)	:	Biocide Preservatives for liquid-cooling and processing systems Metalworking-fluid preservatives

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Sodium nitrate	Workers	Inhalation	Long-term systemic effects	36.7 mg/m3
	Workers	Skin contact	Long-term systemic effects	20.8 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Sodium nitrate	Fresh water	0.45 mg/l
	Marine water	0.045 mg/l
	Sewage treatment plant	18 mg/l

8.2 Exposure controls

Engineering measures

Handle in accordance with good industrial hygiene and safety practice.

Personal protective equipment

Eye protection : Safety glasses with side-shields conforming to EN166
Face-shield

Hand protection
Material : Nitrile rubber

Remarks : Protective gloves complying with EN 374. The exact break through time can be obtained from the protective glove producer and this has to be observed. Protective gloves have to be replaced at the first sign of deterioration. The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove.

Skin and body protection : Chemical resistant protective clothing according to DIN EN 13034 (Type 6)
Chemical resistant apron

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Respirator with a full face mask
Recommended Filter type:
A-P2
ABEK-P2-filter

Protective measures : Follow the skin protection plan.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour : colourless to yellowish

Odour : mild

Odour Threshold	:	No data available
pH	:	3.0 - 4.0 (20 °C)
Melting point/range	:	not determined
Boiling point/boiling range	:	ca. 100 °C Water
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	23 hPa (20 °C) Water
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	1.015 - 1.035 g/cm³ (20 °C) Method: DIN 51757
Solubility(ies)		
Water solubility	:	completely miscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	1.32 mPa*s (20 °C) Method: OECD Test Guideline 114
Viscosity, kinematic	:	1.26 mm²/s (40 °C) Method: OECD Test Guideline 114
Flow time	:	No data available
Explosive properties	:	no explosion risk
Oxidizing properties	:	No data available

9.2 Other information

Other physico-chemical properties: This information is not available/not determined.

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : Product is stable under appropriate usage.

10.5 Incompatible materials

Materials to avoid : Alkaline.
Reducing agents
Strong oxidizing agents

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Acute toxicity

Components:

Sodium nitrate:

Acute oral toxicity : LD50 (Rat): 3,430 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

Method: OECD Test Guideline 402

a mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity	:	LD50 (Rat): 64 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 0.33 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rabbit): 78 mg/kg

Skin corrosion/irritation

Product:

Remarks: Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Product:

Remarks: Causes serious eye damage.

Respiratory or skin sensitisation

Product:

Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Sensitisation
Remarks: May cause an allergic skin reaction.

Germ cell mutagenicity

Product:

Based on available data, the classification criteria are not met.

Carcinogenicity

Product:

Carcinogenicity - Assessment	:	Not classifiable as a human carcinogen.

Reproductive toxicity

Product:

Based on available data, the classification criteria are not met.

STOT - single exposure

Product:

Based on available data, the classification criteria are not met.

STOT - repeated exposure

Product:

Based on available data, the classification criteria are not met.

Aspiration toxicity

Product:

Based on available data, the classification criteria are not met.

Further information

Product:

Remarks: Health injuries are not known or expected under normal use.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia (water flea)): 6.7 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae	:	EC50 (Skeletonema costatum (marine diatom)): 3.2 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Short-term (acute) aquatic hazard)	:	100
M-Factor (Long-term (chronic) aquatic hazard)	:	10
Toxicity to microorganisms	:	EC50 (activated sludge): 7.92 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
	:	EC20 (activated sludge): 0.97 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

Components:

Sodium nitrate:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 7,950 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia (water flea)): 8,609 mg/l Exposure time: 24 h Test Type: static test

a mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.19 mg/l Exposure time: 96 h
		NOEC (Oncorhynchus mykiss (rainbow trout)): 0.05 mg/l Exposure time: 14 d

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.16 mg/l Exposure time: 48 h NOEC (Daphnia magna (Water flea)): 0.1 mg/l Exposure time: 21 d
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 0.027 mg/l Exposure time: 72 h NOEC (Skeletonema costatum (marine diatom)): 0.0014 mg/l Exposure time: 72 h
M-Factor (Short-term (acute) aquatic hazard)	:	100
Toxicity to fish (Chronic toxicity)	:	NOEC: 0.098 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.004 mg/l Exposure time: 21 d Species: Daphnia (water flea) Method: OECD Test Guideline 211
M-Factor (Long-term (chronic) aquatic hazard)	:	100

12.2 Persistence and degradability

Product:

Biodegradability	:	Remarks: Readily biodegradable Expert judgement

Components:

a mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Biodegradability	:	Remarks: Biodegradable

12.3 Bioaccumulative potential

Product:

Bioaccumulation	:	Bioconcentration factor (BCF): 3.16 Remarks: Does not accumulate in organisms.

Components:

a mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Partition coefficient: n-octanol/water	:	log Pow: -0.486

12.4 Mobility in soil

Product:

Mobility	:	Remarks: No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment	:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

12.6 Other adverse effects

Product:

Additional ecological information	:	Do not flush into surface water or sanitary sewer system. Harmful to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Do not let product enter drains. Do not dispose of with domestic refuse. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.
Contaminated packaging	:	Dispose of in accordance with local regulations.
Waste Code	:	16 03 05 : organic wastes containing hazardous substances

SECTION 14: Transport information

14.1 UN number

ADR	:	UN 3265
RID	:	UN 3265
IMDG	:	UN 3265
IATA	:	UN 3265

14.2 UN proper shipping name

ADR	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (a mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1))
RID	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (a mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1))
IMDG	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

(a mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1))

IATA : Corrosive liquid, acidic, organic, n.o.s.
(a mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1))

14.3 Transport hazard class(es)

ADR : 8

RID : 8

IMDG : 8

IATA : 8

14.4 Packing group

ADR

Packing group	:	II
Classification Code	:	C3
Hazard Identification Number	:	80
Labels	:	8
Tunnel restriction code	:	(E)

RID

Packing group	:	II
Classification Code	:	C3
Hazard Identification Number	:	80
Labels	:	8

IMDG

Packing group	:	II
Labels	:	8
EmS Code	:	F-A, S-B
Remarks	:	Acids, Clear of living quarters.

IATA (Cargo)

Packing instruction (cargo aircraft)	:	855
Packing instruction (LQ)	:	Y840
Packing group	:	II
Labels	:	Corrosive

IATA (Passenger)

Packing instruction (passenger aircraft)	:	851
Packing instruction (LQ)	:	Y840
Packing group	:	II
Labels	:	Corrosive

14.5 Environmental hazards

ADR
Environmentally hazardous : yes

RID
Environmentally hazardous : yes

IMDG
Marine pollutant : yes

14.6 Special precautions for user

Refer to protective measures listed in sections 7 and 8.

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Other regulations : The product is classified and labelled in accordance with EC directives or respective national laws.
Regional or national implementations of GHS may not implement all hazard classes and categories.

Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products

15.2 Chemical safety assessment

For a mixture it is not mandatory to include an exposure scenario in the material safety data sheet.
The necessary safety - related information is stated in the first 16 sections.

SECTION 16: Other information

Full text of H-Statements

H272	:	May intensify fire; oxidizer.
H301	:	Toxic if swallowed.
H310	:	Fatal in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H330	:	Fatal if inhaled.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Ox. Sol.	:	Oxidizing solids
Skin Corr.	:	Skin corrosion
Skin Sens.	:	Skin sensitisation

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx -

Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Other information	:	The information provided is based on our current knowledge and experience and apply to the product as delivered. Regarding the product properties, these are not guaranteed. The delivery of this safety datasheet does not free the recipient of the product from his own responsibility to follow the relevant rules and regulations concerning this product. This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

GB / EN