

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

1.1 Product identifier

Trade name : I211-K60 hebro@cid LK

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

Use of the Sub-
stance/Mixture : Biocidal product, Preservatives for liquid-cooling and processing systems

Recommended restrictions
on use : Restricted to professional users.

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 : Wolfgang Schaffers
Telephone : +49 (0) 2166 6009-0
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Contact person product safety : Abteilung Produktsicherheit
Telephone : +49(0)2166 6009-176
E-mail address : wolfgang.schaffers@chemetall.com

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)

Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin irritation, Category 2	H315: Causes skin irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Acute aquatic toxicity, Category 1	H400: Very toxic to aquatic life.
Chronic aquatic toxicity, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

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Hazard pictograms :



Signal word : Danger

Hazard statements : H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : P273 Avoid release to the environment.

Prevention:

P280 Wear protective gloves/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302 + P352 IF ON SKIN: Wash with plenty of water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

Hazardous components which must be listed on the label:

Bronopol (INN); 2-bromo-2-nitropropane-1,3-diol

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

No data available

The information required is contained in this Material Safety Data Sheet.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Preparation based on isothiazolinones

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (% w/w)
Bronopol (INN); 2-bromo-2-nitropropane-1,3-diol	52-51-7 200-143-0 01-2119980938-15	Acute Tox. 4; H312 Acute Tox. 4; H302 STOT SE 3; H335 Skin Irrit. 2; H315 Eye Dam. 1; H318	>= 10 - < 15

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		Aquatic Acute 1; H400 Aquatic Chronic 2; H411	
a mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	55965-84-9 611-341-5	Acute Tox. 3; H331 Acute Tox. 3; H311 Acute Tox. 3; H301 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 Skin Sens. 1A; H317 Aquatic Chronic 1; H410 M-Factor Acute aquatic toxicity:10 M-Factor Chronic aquatic toxicity:1	>= 0.25 - < 0.6

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.
If symptoms persist, call a physician.
- If inhaled : Move to fresh air.
If symptoms persist, call a physician.
- In case of skin contact : After contact with skin, wash immediately with plenty of soap and water.
Remove contaminated clothing and shoes.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Call a physician immediately.
- If swallowed : Call a physician immediately.
Keep at rest.
Clean mouth with water and drink afterwards plenty of water.
Prevent vomiting if possible.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Erythema
Gastrointestinal discomfort
Irritation
- Risks : Health injuries may be delayed.
May cause an allergic skin reaction.

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4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.
For specialist advice physicians should contact the Poisons Information Service.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Hazardous decomposition products formed under fire conditions.
Carbon dioxide (CO₂)
Carbon monoxide
Nitrogen oxides (NO_x)

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Use water spray to cool unopened containers.
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

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 : Contaminated surfaces will be extremely slippery.
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.

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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.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Do not use containers made of light metals. Do not use copper or copper alloy containers. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Further information on storage conditions : Protect from frost.

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

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

Substance name	Environmental Compartment	Value
Bronopol (INN); 2-bromo-2-nitropropane-1,3-diol	Fresh water	0.01 mg/l
	Marine water	0.0008 mg/l
	Sewage treatment plant	0.43 mg/l
	Fresh water sediment	0.41 mg/kg dry weight (d.w.)
	Marine sediment	0.00328 mg/kg dry weight (d.w.)
	Soil	0.5 mg/kg dry weight (d.w.)

8.2 Exposure controls

Engineering measures

Handle in accordance with good industrial hygiene and safety practice.

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Personal protective equipment

- Eye protection : Safety glasses with side-shields conforming to EN166
- Hand protection
Material : Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.
- Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The exact break through time can be obtained from the protective glove producer and this has to be observed.
- Skin and body protection : protective suit
- Respiratory protection : Use respirator when performing operations involving potential exposure to vapour of the product.
- 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
- Odour : mild
- Odour Threshold : No data available
- pH : 6.0 (20 °C)
Concentration: 10.0 g/l
- Melting point/freezing point : No data available
- Boiling point/boiling range : 100 °C
Method: DIN 51751
- Flash point : No data available
- 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 : 2 hPa
Information taken from reference works and the literature.
- Relative vapour density : No data available
- Relative density : No data available

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Density	:	1.08 g/cm ³ (20 °C) Method: DIN 51757
Solubility(ies) Water solubility	:	completely soluble
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, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Flow time	:	No data available
Explosive properties	:	No data available
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 : Protect from frost, heat and sunlight.
Product is stable under appropriate usage.

10.5 Incompatible materials

Materials to avoid : reaction with reduction materials.
reaction with oxidizers.

10.6 Hazardous decomposition products

Carbon dioxide (CO₂)
Carbon monoxide
Nitrogen oxides (NO_x)
sulphur dioxide (toxic).

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:

Bronopol (INN); 2-bromo-2-nitropropane-1,3-diol:

- Acute oral toxicity : LD₅₀ (Rat): 305 mg/kg
Method: OECD Test Guideline 401
- Acute dermal toxicity : LD₅₀ (Rat): > 2,000 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): 457 mg/kg
- Acute inhalation toxicity : LC₅₀ (Rat): 2.36 mg/l
Exposure time: 4 h
- Acute dermal toxicity : LD₅₀ (Rabbit): 660 mg/kg

Skin corrosion/irritation

Product:

Remarks: Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in desiccation of the skin.

Serious eye damage/eye irritation

Product:

Remarks: The liquid splashed in the eyes may cause irritation and reversible damage.

Respiratory or skin sensitisation

Product:

Remarks: No data available

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:

Ecotoxicology studies for the product are not available.

Components:

Bronopol (INN); 2-bromo-2-nitropropane-1,3-diol:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 41.2 mg/l
Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): 39.1 mg/l
Exposure time: 49 d
Method: OECD Test Guideline 210

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Toxicity to daphnia and other aquatic invertebrates : EC50 : 1.4 mg/l
Exposure time: 48 h

NOEC (Daphnia magna (Water flea)): 0.27 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Toxicity to algae : EC50 : 0.4 - 2.8 mg/l
Exposure time: 72 h

Toxicity to microorganisms : EC20 (activated sludge): 2 mg/l
Exposure time: 150 min
Method: OECD Test Guideline 209

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

LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.28 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.16 mg/l
Exposure time: 48 h
Test Type: Immobilization

NOEC (Daphnia magna (Water flea)): 0.035 mg/l
Exposure time: 21 d

Toxicity to algae : EC50 (Scenedesmus capricornutum (fresh water algae)): 0.027 mg/l
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 10

Toxicity to microorganisms : EC50 (Pseudomonas putida): 0.79 mg/l
Exposure time: 16 h

M-Factor (Chronic aquatic toxicity) : 1

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data available

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

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

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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 : No data available.

12.6 Other adverse effects

Product:

Additional ecological infor-
mation : Do not flush into surface water or sanitary sewer system.

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 : 070499 / 070699 : wastes not otherwise specified

SECTION 14: Transport information

14.1 UN number

ADR : UN 3082

RID : UN 3082

IMDG : UN 3082

IATA : UN 3082

14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(Chloro-methyl isothiazolinone)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(Chloro-methyl isothiazolinone)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.

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(Chloro-methyl isothiazolinone)

IATA : Environmentally hazardous substance, liquid, n.o.s.
(Chloro-methyl isothiazolinone)

14.3 Transport hazard class(es)

ADR : 9
RID : 9
IMDG : 9
IATA : 9

14.4 Packing group

ADR
Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (E)

RID
Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

IMDG
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Remarks : "IMDG-Code segregation group not applicable".

IATA (Cargo)

Packing instruction (cargo aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous Dangerous Goods

IATA (Passenger)

Packing instruction (passenger aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous Dangerous Goods

14.5 Environmental hazards

ADR
Environmentally hazardous : no

RID
Environmentally hazardous : no

IMDG
Marine pollutant : yes

IATA (Passenger)
Marine pollutant : yes

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IATA (Cargo)

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

International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors : Neither banned nor restricted

Restrictions on the marketing and use of certain dangerous substances and preparations : Neither banned nor restricted

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Neither banned nor restricted

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

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.

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: Other information

Full text of H-Statements

H301 : Toxic if swallowed.
H302 : Harmful if swallowed.
H311 : Toxic in contact with skin.
H312 : Harmful in contact with skin.
H314 : Causes severe skin burns and eye damage.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H331 : Toxic if inhaled.
H335 : May cause respiratory irritation.
H400 : Very toxic to aquatic life.
H410 : Very toxic to aquatic life with long lasting effects.
H411 : Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox. : Acute toxicity
Aquatic Acute : Acute aquatic toxicity

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according to Regulation (EC) No. 1907/2006

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Aquatic Chronic	: Chronic aquatic toxicity
Eye Dam.	: Serious eye damage
Skin Corr.	: Skin corrosion
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT SE	: Specific target organ toxicity - single exposure

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; 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