

Product information ci 14 (corrosion inhibitor)

Use

ci 14 corrosion inhibitor, hardness stabilizer and dispersant is a multifunctional product designed to provide corrosion and deposit control in a wide variety of open recirculating cooling water systems at neutral pH-values (7.0-7.5). **ci 14** contains a blend of organic and inorganic compounds, which provide multi-metal corrosion inhibition as well as control of scales and foulants. **ci 14** is particularly suited to systems with aggressive, low hardness containing make-up water that cannot tolerate heavy metal corrosion inhibitors. In combination with inhibitors of ci-series **ci 14** will protect zinc coated surfaces if soft water or demineralized water is used.

Features

Incorporates inorganic phosphates for strong corrosion inhibition at both anodic and cathodic sites on mild steel.

Contains a copolymer for the prevention of calcium phosphate sludges.

Incorporates a specific sequestrant for control of iron and calcium scales.

Compatible with oxidising microbiocides.

Provides effective deposit control in high calcium, high magnesium and high temperature systems. The pH-value must be observed.

Physical state:	liquid
Colour:	colourless to yellow
Density (kg/m ³):	1150 (25°C)
pH (neat):	4-5
Solubility:	unlimited

These data should be seen as typical values and should not be considered as specifications.

Dosing

Recommended feeding method is continuously as received to a cooling water line, cooling tower basin or spray pond. The feed equipment should be of stainless steel or plastic construction; Viton should not be used. Product dosage depends upon the type of system, operating conditions as flow velocity, temperature and the quality of makeup water. Official requirements of the content of phosphat in the waste water must be observed.

In combination use with an corrosion inhibitor (e.g. ci 15, ci 23) add 0,69L **ci 14** to each 25 kg canister and add 0,83L **ci 14** to each 30 kg canister (e.g. ci 1300 cl).

Handling precautions

Wear suitable protective gloves and safety goggles. In case of contact immediately flush with plenty of water. After eye contact seek medical advice. In case of spillage, absorb with sand or other absorbent materials and sweep up. Then flush the area with water.

Before use review the Material Safety Data Sheet for additional information.

Important Information

Typical Properties: Refer to MSDS.

Regulatory Information: Please refer to the MSDS or contact your sales representative for any additional regulatory and environmental information.

Safety: gwk maintains Material Safety Data Sheets on all of its products. Material Safety Data Sheets contain health and safety information for your development of appropriate product handling procedures to protect your employees and customers.

Our Material Safety Data Sheets should be read and understood by all of your supervisory personnel and employees before using gwk products in your facilities.

Shelf life

At least 0,5 years in originally sealed canister.

3 months in opened canister.

Storage conditions: dry, cool, frost-free and dark.

Packaging

ci 14 is packed in 10 kg canister.

All statements, information and data presented herein are believed to be accurate and reliable but are not to be taken as a guarantee, express warranty or implied warranty of merchantability of fitness for a particular purpose, or representation, express or implied, for which seller assumes legal responsibility, and they are offered solely for your consideration, investigation and verification. Statements or suggestions concerning possible use of this product are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ci 14

Revision date: 19.06.2019

Product code: gwkci14

Page 1 of 7

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

ci 14

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

Water treatment chemicals

Uses advised against

No information available.

1.3. Details of the supplier of the safety data sheet

Company name:	gwk	
	Gesellschaft Wärme und Kältetechnik mbH	
Street:	Scherl 10	
Place:	D-58540 Meinerzhagen	
Telephone:	+49 2354 7060 - 0	Telefax: +49 2354 7060 - 156
e-mail (Contact person):	info@gwk.com	
Internet:	www.gwk.com	
Responsible Department:	Wassertechnik	
1.4. Emergency telephone number:	Giftnotruf Berlin +49 (0) 30 30686700	

Further Information

No information available.

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

This mixture is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

2.2. Label elements**Regulation (EC) No. 1272/2008****Special labelling of certain mixtures**

EUH210 Safety data sheet available on request.

Additional advice on labelling

The product is classified and labelled according to EC directives or corresponding national laws.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Chemical characterization**

Formulation of preparations (mixtures)

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ci 14

Revision date: 19.06.2019

Product code: gwkc14

Page 2 of 7

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
	Wasserlösliches Polycarboxylat			< 10 %
	Aquatic Chronic 3; H412			

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

Further Information

No information available.

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

Remove contaminated, saturated clothing immediately.

After inhalation

Move victim to fresh air. Instruct person to keep calm and warm.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap.

After contact with eyes

If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person or a person with cramps.

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

No information available.

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**Water. Foam. ABC powder. Carbon dioxide (CO₂).**Unsuitable extinguishing media**

High power water jet.

5.2. Special hazards arising from the substance or mixtureIn case of fire may be liberated: Nitrogen oxides (NO_x). Hydrogen chloride (HCl). Carbon monoxide**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Wear personal protection equipment.

ci 14

Revision date: 19.06.2019

Product code: gwkc14

Page 3 of 7

6.2. Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

No information available.

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

No special measures are necessary.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Further information on handling

No special handling instructions are necessary.

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

Keep/Store only in original container.

Hints on joint storage

Keep away from food, drink and animal feedingstuffs.

Further information on storage conditions

Conditions to avoid: frost.

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Additional advice on limit values**

No information available.

8.2. Exposure controls**Appropriate engineering controls**

No information available.

Protective and hygiene measures

Do not eat, drink, smoke or sneeze at the workplace.

Eye/face protection

Tightly sealed safety glasses.

Hand protection

Chemical-resistant protective gloves (EN 374), Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time to EN 374), eg. B. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinyl chloride (0.7 mm), etc. ... Because of the large variety of types, the instructions for use of the manufacturer must be observed.

Skin protection

No information available.

Respiratory protection

No information available.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ci 14

Revision date: 19.06.2019

Product code: gwkc14

Page 4 of 7

Environmental exposure controls

No information available.

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

Physical state:	liquid
Colour:	light yellow
Odour:	characteristic

Test method

pH-Value (at 20 °C): ca. 4 - 5 DIN 19268

Changes in the physical state

Melting point: - 1 °C DIN 51556

Initial boiling point and boiling range: > 100 °C DIN 53171

Density (at 25 °C): ca. 1,15 g/cm³ DIN 12809**9.2. Other information**

No information available.

SECTION 10: Stability and reactivity**10.1. Reactivity**

No information available.

10.2. Chemical stability

No information available.

10.3. Possibility of hazardous reactions

Oxidizing agents. Acid. Reducing agent. Alkalis (alkalis).

10.4. Conditions to avoid

No information available.

10.5. Incompatible materials

Materials to avoid: Oxidizing agents. Acid. Reducing agent. Alkalis (alkalis).

10.6. Hazardous decomposition products

No information available.

Further information

No information available.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Toxicokinetics, metabolism and distribution**

The product has not been tested.

Acute toxicity

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ci 14

Revision date: 19.06.2019

Product code: gwkci14

Page 5 of 7

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
	Wasserlösliches Polycarboxylat				
	oral	LD50 > 5000 mg/kg	Ratte		
	dermal	LD50 > 5000 mg/kg	Kaninchen		

Irritation and corrosivity

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

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Specific effects in experiment on an animal

No information available.

Additional information on tests

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

SECTION 12: Ecological information

12.1. Toxicity

The product has not been tested.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
	Wasserlösliches Polycarboxylat					
	Acute fish toxicity	LC50 > 1000 mg/l	96 h	Salmo gairdneri		
	Acute algae toxicity	ErC50 58 mg/l	96 h	Selenastrum capricornutum		
	Acute crustacea toxicity	EC50 > 1000 mg/l	48 h	Daphnia magna		

12.2. Persistence and degradability

Technically correct releases of minimal concentrations to adapted biological sewage treatment facility, will not disturb the biodegradability of activated sludge.

12.3. Bioaccumulative potential

Does not accumulate in organisms.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

No information available.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ci 14

Revision date: 19.06.2019

Product code: gwkc14

Page 6 of 7

Further information

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste key product: Dispose of waste according to "Kreislaufwirtschafts- und Abfallgesetz (KrW-/AbfG)".

Contaminated packaging

Contaminated packages must be completely emptied and can be re-used following proper cleaning. Packing which cannot be properly cleaned must be disposed of.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

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

Other applicable information

SECTION 15: Regulatory information

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

EU regulatory information

Additional information

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ci 14

Revision date: 19.06.2019

Product code: gwkc14

Page 7 of 7

No information available.

National regulatory information

Water contaminating class (D): 1 - slightly water contaminating

SECTION 16: Other information**Relevant H and EUH statements (number and full text)**

H412 Harmful to aquatic life with long lasting effects.
EUH210 Safety data sheet available on request.

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.)