

## Product information ci 14 (corrosion inhibitor)

### Use

**ci 14** corrosion inhibitor is a multifunctional product designed to provide corrosion and deposit control in a wide variety of open recirculating cooling water systems. **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.

### 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 and high temperature systems.

Appearance:	clear yellow liquid
Density (kg/m <sup>3</sup> ):	1440 (25°C)
pH (neat):	11.4
Flash point:	none
Freezing point:	-26°C

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 and the quality of makeup water.

In combination with ci 13 al add 0,83L ci 14 to each 30 kg container of ci 13 al.

### 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

2 years in originally sealed containers.

3 months in opened containers.

Storage conditions: cool (5°C – 20°C), frost-free, dark and dry.

### Packaging

**ci 14** is packed in 1 kg, 10 kg und 25 kg jerrycans.

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.

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Version: 1.0

Conforms to EU Regulation 1907/2006/EC as amended. - SDSGHS\_GB

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

 Trade name : CI 14  
 COOLING WATER TREATMENT

**1.2 Recommended use of the chemical and restrictions on use**


<b>1.3 Details of the supplier of the safety data sheet</b> gwk Gesellschaft Wärme Kältetechnik Scherl 10 58540 Meinerzhagen Deutschland  <a href="mailto:info@gwk.com">info@gwk.com</a>	<b>1.4 Emergency telephone number</b> Berlin +49 (0)30 / 306 867 90  <b>Product Information</b> +49 2354 7060 0 (aux Allemagne)
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**SECTION 2: Hazards identification**
**2.1 Classification of the substance or mixture**
**Classification (REGULATION (EC) No 1272/2008)**

Skin irritation, Category 2 H315: Causes skin irritation.

Serious eye damage, Category 1 H318: Causes serious eye damage.

**2.2 Label elements**
**Labelling (REGULATION (EC) No 1272/2008)**

 Hazard pictograms : 

Signal word : Danger

 Hazard statements : H315 Causes skin irritation.  
 H318 Causes serious eye damage.

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Precautionary statements : **Prevention:**  
 P264 Wash skin thoroughly after handling.  
 P280 Wear eye protection/ face protection  
 P280 Wear protective gloves.  
**Response:**  
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.  
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
 P362 + P364 Take off contaminated clothing and wash it before reuse.

Hazardous components which must be listed on the label:  
 Tripotassium orthophosphate  
 Sodium 4(or 5)-methyl-1H-benzotriazolide

**2.3 Other hazards**
**Additional advice**

No information available.

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**SECTION 3: Composition/information on ingredients**
**3.2 Mixtures**
**Hazardous components**

Chemical Name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
Tetrapotassium pyrophosphate	7320-34-5 230-785-7	Eye Irrit.2; H319	>= 15 - < 20
Tripotassium orthophosphate	7778-53-2 231-907-1	Eye Dam.1; H318 STOT SE3; H335	>= 10 - < 15
(1-Hydroxyethylidene)bisphosphonic acid, potassium salt	67953-76-8 267-956-0	Acute Tox.4; H302 Eye Irrit.2; H319	>= 3 - < 5
Sodium 4(or 5)-methyl-1H-benzotriazolide	64665-57-2 265-004-9 01-2119980062-42-XXXX	Acute Tox.4; H302 Skin Corr.1B; H314 Aquatic Chronic2; H411	>= 1 - < 2,5
Potassium hydroxide	1310-58-3 215-181-3	Acute Tox.4; H302 Skin Corr.1A; H314	>= 0,5 - < 1

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Met. Corr.1; H290

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.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- If inhaled : If breathed in, move person into fresh air.  
If unconscious place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention.  
If on skin, rinse well with water.  
Wash contaminated clothing before re-use.
- In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Protect unharmed eye.
- If swallowed : Obtain medical attention.  
Do NOT induce vomiting.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.

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

- Symptoms : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:  
stomach or intestinal upset (nausea, vomiting, diarrhea)  
irritation (nose, throat, airways)
- Risks : Causes skin irritation.  
Causes serious eye damage.

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

- Treatment : No hazards which require special first aid measures.

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**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Water spray  
Foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : High volume water jet

**5.2 Special hazards arising from the substance or mixture**

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Oxides of phosphorus  
potassium oxide  
hydrogen cyanide in reducing atmospheres  
nitrogen oxides (NO<sub>x</sub>)  
carbon dioxide and carbon monoxide

**5.3 Advice for firefighters**

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

Specific extinguishing methods : Product is compatible with standard fire-fighting agents.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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

Personal precautions : Use personal protective equipment.  
Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.  
Comply with all applicable federal, state, and local regulations.

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**6.2 Environmental precautions**

Environmental precautions : Prevent product from entering drains.  
 Prevent further leakage or spillage if safe to do so.  
 If the product contaminates rivers and lakes or drains inform  
 respective authorities.

**6.3 Methods and material for containment and cleaning up**

Methods for cleaning up : Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For further information see Section 8 and Section 13 of the safety data sheet.

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

Advice on safe handling : Do not breathe vapours/dust.  
 Container hazardous when empty.  
 Avoid contact with skin and eyes.  
 Smoking, eating and drinking should be prohibited in the  
 application area.  
 For personal protection see section 8.  
 Dispose of rinse water in accordance with local and national  
 regulations.

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

Hygiene measures : Wash hands before breaks and at the end of workday. When  
 using do not eat or drink. When using do not smoke.

**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. Electrical installations / working materials must comply  
 with the technological safety standards.

Other data : No decomposition if stored and applied as directed.

**7.3 Specific end use(s)**

Specific use(s) : No data available

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**SECTION 8: Exposure controls/personal protection**
**8.1 Control parameters**
**Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Potassium hydroxide	1310-58-3	STEL	2 mg/m <sup>3</sup>	EH40 WEL

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

(1-Hydroxyethylidene)bisphosphonic acid, potassium salt	: End Use: GEN POP - General population Exposure routes: Oral Potential health effects: SYS LT - Systemic, long-term Value: 6,5 mg/kgRD TOX - Repeated dose toxicity
Potassium hydroxide	: End Use: GEN POP - General population Exposure routes: Oral Potential health effects: systemic, short-term Value: 6,5 mg/kgRD TOX - Repeated dose toxicity
	: End Use: WRKS - Workers Exposure routes: Inhalation Potential health effects: LOCAL LT - Local, long-term Value: 1 mg/m <sup>3</sup> respiratory tract irritation
	: End Use: GEN POP - General population Exposure routes: Inhalation Potential health effects: LOCAL LT - Local, long-term Value: 1 mg/m <sup>3</sup> respiratory tract irritation

**8.2 Exposure controls**
**Engineering measures**

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

**Personal protective equipment**

Eye protection : Wear chemical splash goggles and face shield when there is potential for exposure of the eyes or face to liquid, vapor or mist.  
Maintain eye wash station in immediate work area.

Hand protection

Remarks : butyl-rubber Nitrile rubber

The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Wear as appropriate:

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impervious clothing  
Safety shoes  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.  
Discard gloves that show tears, pinholes, or signs of wear.

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

Appearance	: liquid
Colour	: yellow
Odour	: odourless
Odour Threshold	: No data available
pH	: > 10,5, (25 °C)
Melting point/freezing point	: < -10 °C
	No data available
Boiling point/boiling range	: > 100 °C
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	: 23,3 hPa (20 °C)
Relative vapour density	: No data available
Relative density	: 1,435
Density	: 1,435 g/cm <sup>3</sup>
Solubility(ies)	
Water solubility	: completely soluble



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Solubility in other solvents : No data available

Partition coefficient: n-  
octanol/water : No data available

Thermal decomposition : No data available

## Viscosity

Viscosity, dynamic : Not applicable

Viscosity, kinematic : No data available

Oxidizing properties : No data available

**9.2 Other information**

No data available

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**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 : Product will not undergo hazardous polymerization.

**10.4 Conditions to avoid****10.5 Incompatible materials**

Materials to avoid : Strong acids  
Strong oxidizing agents  
This product should not be used in conjunction with trimethylol propane or trimethylol propane-derived products. There is a possibility that bicyclic phosphates or phosphites can be produced as a result of the thermal decomposition of this product in combination with trimethylol propane, trimethylol propane-derived products or their corresponding trimethylol propane alkane homologs. Bicyclic phosphates and phosphites are a class of materials with acute neurotoxic properties which produce characteristic convulsive seizures in test animals.

**10.6 Hazardous decomposition products**

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Hazardous decomposition products : carbon dioxide and carbon monoxide  
hydrogen cyanide in reducing atmospheres  
Nitrogen oxides (NOx)  
Oxides of phosphorus  
potassium oxide

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**SECTION 11: Toxicological information****11.1 Information on toxicological effects**

Information on likely routes of exposure : Inhalation  
Skin contact  
Eye Contact  
Ingestion

**Acute toxicity**

Not classified based on available information.

**Components:****TETRAPOTASSIUM PYROPHOSPHATE:**

Acute oral toxicity : LD L0 (Rat): 4.640 mg/kg

Acute dermal toxicity : LD 50 (Rabbit): > 4.640 mg/kg

**Components:****TRIPOTASSIUM PHOSPHATE:**

Acute oral toxicity : LD50 (Rat): 4.260 mg/kg

Acute inhalation toxicity : LC 50 (Rat): > 0,83 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: Not classified as acutely toxic by inhalation under GHS.  
Remarks: Information given is based on data obtained from similar substances.

Acute dermal toxicity : LD 50 (Rabbit): > 7.970 mg/kg  
Test substance: (as aqueous solution)

**Components:****TOLYLTRIAZOLE, SODIUM SALT:**

Acute oral toxicity : LD 50 (Rat, Female): 735 mg/kg

Acute dermal toxicity : LD 50 (Rabbit): > 2.000 mg/kg  
Assessment: Not classified as acutely toxic by dermal absorption under GHS.

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**Components:****POTASSIUM HYDROXIDE:**

Acute oral toxicity : LD 50 (Rat): 333 mg/kg

Acute dermal toxicity : LD 50 (Rabbit): 1.260 mg/kg

**Skin corrosion/irritation**

Causes skin irritation.

**Product:**

Result: Repeated exposure may cause skin dryness or cracking.

Remarks: May cause skin irritation and/or dermatitis.

**Components:****TETRAPOTASSIUM PYROPHOSPHATE:**

Result: Mildly irritating to skin

**TRIPOTASSIUM PHOSPHATE:**

Species: reconstructed human epidermis (RhE)

Method: OECD Test Guideline 439

Result: Not irritating to skin

**POTASSIUM (1-OH-ETHYLIDENE)BISPHOSPHONATE:**

Result: Not irritating to skin

**TOLYLTRIAZOLE, SODIUM SALT:**

Result: Corrosive to skin

**POTASSIUM HYDROXIDE:**

Result: Corrosive to skin

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Product:**

Remarks: May cause irreversible eye damage.

**Components:****TETRAPOTASSIUM PYROPHOSPHATE:**

Result: Irritating to eyes

**TRIPOTASSIUM PHOSPHATE:**

Result: Corrosive to eyes

**POTASSIUM (1-OH-ETHYLIDENE)BISPHOSPHONATE:**

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Result: Irritating to eyes

**TOLYLTRIAZOLE, SODIUM SALT:**

Result: Corrosive to eyes

**POTASSIUM HYDROXIDE:**

Result: Corrosive to eyes

**Respiratory or skin sensitisation**

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

**Components:****TRIPOTASSIUM PHOSPHATE:**

Test Type: Local lymph node assay

Species: Mouse

Assessment: Did not cause sensitisation on laboratory animals.

Method: OECD Test Guideline 429

Remarks: Information given is based on data obtained from similar substances.

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

**Reproductive toxicity**

Not classified based on available information.

**STOT - single exposure**

Not classified based on available information.

**Components:****TRIPOTASSIUM PHOSPHATE:**

Exposure routes: Inhalation

Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

**STOT - repeated exposure**

Not classified based on available information.

**Aspiration toxicity**

Not classified based on available information.

**Further information****Product:**

Remarks: No data available

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## SECTION 12: Ecological information

## 12.1 Toxicity

**Components:**

Tripotassium orthophosphate

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
 Exposure time: 96 h  
 Test Type: semi-static test  
 Method: OECD Test Guideline 203  
 GLP: yes  
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Water flea (Daphnia magna)): > 100 mg/l  
 Exposure time: 48 h  
 Test Type: static test  
 Method: OECD Test Guideline 202  
 GLP: yes  
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l  
 End point: Growth inhibition  
 Exposure time: 72 h  
 Test Type: static test  
 Method: OECD Test Guideline 201  
 GLP: yes  
 Remarks: Information given is based on data obtained from similar substances.

NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l  
 End point: Growth inhibition  
 Exposure time: 72 h  
 Test Type: static test  
 Method: OECD Test Guideline 201  
 GLP: yes  
 Remarks: Information given is based on data obtained from similar substances.

Sodium 4(or 5)-methyl-1H-benzotriazolide

Toxicity to fish : LC 50 (Lepomis macrochirus (Bluegill sunfish)): > 173 mg/l  
 Exposure time: 96 h

LC 50 (Oncorhynchus mykiss (rainbow trout)): ca. 25 mg/l  
 Exposure time: 96 h

Toxicity to daphnia and other : EC 50 (Water flea (Daphnia magna)): 280 mg/l

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aquatic invertebrates	Exposure time: 48 h
Toxicity to algae	: ErC50 (Pseudokirchneriella subcapitata (green algae)): 26,2 mg/l Exposure time: 72 h Test Type: Growth inhibition
	EbC50 (Pseudokirchneriella subcapitata (green algae)): 32 mg/l Exposure time: 96 h Test Type: Growth inhibition
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: EC10: 0,4 mg/l Exposure time: 21 d Species: Water flea (Daphnia magna) Test Type: semi-static test Method: OECD Test Guideline 211 Remarks: Information given is based on data obtained from similar substances.
Potassium hydroxide Toxicity to fish	: LC 50 (Western mosquitofish (Gambusia affinis)): 80 mg/l Exposure time: 96 h Method: Static Remarks: Mortality

**12.2 Persistence and degradability****Components:**

Tripotassium orthophosphate  
Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

(1-Hydroxyethylidene)bisphosphonic acid, potassium salt  
Biodegradability : Remarks: Not readily biodegradable.

Sodium 4(or 5)-methyl-1H-benzotriazolide  
Biodegradability : Result: Not readily biodegradable.  
Method: OECD Test Guideline 301F

**12.3 Bioaccumulative potential****Product:**

Bioaccumulation : Remarks: The bioaccumulation potential cannot be determined.

**Components:**

Sodium 4(or 5)-methyl-1H-benzotriazolide  
Partition coefficient: n- : log Pow: 0,658

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octanol/water

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

Not relevant

**12.6 Other adverse effects****Product:**

Additional ecological information : No data available

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

- Product : Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.
- Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.

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**SECTION 14: Transport information****SECTION 14: Transport information****14.1 UN number****ADR:** Not dangerous goods**ADNR:** Not dangerous goods**RID:** Not dangerous goods**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods**14.2 UN proper shipping name****ADR:** Not dangerous goods**ADNR:** Not dangerous goods**RID:** Not dangerous goods

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**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods  
**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods  
**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods

**14.3 Transport hazard class(es)**

**ADR:** Not dangerous goods  
**ADNR:** Not dangerous goods  
**RID:** Not dangerous goods  
**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods  
**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods  
**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods

**14.4 Packing group**

**ADR:** Not dangerous goods  
**ADNR:** Not dangerous goods  
**RID:** Not dangerous goods  
**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods  
**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods  
**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods

**14.5 Environmental hazards**

**ADR:** Not applicable  
**ADNR:** Not applicable  
**RID:** Not applicable  
**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not applicable  
**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not applicable  
**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not applicable

**14.6 Special precautions for user**

Not applicable

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Ship Type: Not applicable Hazard  
code(s): Not applicable Pollutant  
Category: Not applicable

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.



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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 57) : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.  
Not applicable

**The components of this product are reported in the following inventories:**

TSCA : On TSCA Inventory

DSL This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL.

AUSTR Not in compliance with the inventory

ENCS Not in compliance with the inventory

KECL Not in compliance with the inventory

PHIL Not in compliance with the inventory

IECSC Not in compliance with the inventory

**Inventories**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECL (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

**15.2 Chemical Safety Assessment**

No data available

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**SECTION 16: Other information****Further information**

Revision Date: 25.05.2015

**Full text of H-Statements referred to under sections 2 and 3.**

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.

**Further information**

Other information : The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Sources of key data used to compile the Safety Data Sheet

Key literature references and sources of data

The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists

BEI : Biological Exposure Index

CAS : Chemical Abstracts Service (Division of the American Chemical Society).

CMR : Carcinogenic, Mutagenic or Toxic for Reproduction

FG : Food grade

GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement

IATA : International Air Transport Association.

IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization

ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"

IMDG : International Maritime Code for Dangerous Goods

ISO : International Organization for Standardization

logPow : octanol-water partition coefficient

**SAFETY DATA SHEET**

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LCxx : Lethal Concentration, for xx percent of test population  
LDxx : Lethal Dose, for xx percent of test population.  
ICxx : Inhibitory Concentration for xx of a substance  
Ecxx : Effective Concentration of xx  
N.O.S.: Not Otherwise Specified  
OECD : Organization for Economic Co-operation and Development  
OEL : Occupational Exposure Limit  
P-Statement : Precautionary Statement  
PBT : Persistent , Bioaccumulative and Toxic  
PPE : Personal Protective Equipment  
STEL : Short-term exposure limit  
STOT : Specific Target Organ Toxicity  
TLV : Threshold Limit Value  
TWA : Time-weighted average  
vPvB : Very Persistent and Very Bioaccumulative  
WEL : Workplace Exposure Level

ABM : Water Hazard Class for the Netherlands  
ADR : Agreement concerning the International Carriage of Dangerous Goods by Road.  
ADNR: Regulation for the Carriage of Dangerous Substances on the Rhine  
CLP : Classification, Labelling and Packaging  
CSA : Chemical Safety Assessment  
CSR : Chemical Safety Report  
DNEL : Derived No Effect Level.  
EINECS : European Inventory of Existing Commercial Chemical Substances.  
ELINCS : European List of Notified Chemical Substances  
PEC : Predicted Effect Concentration  
PEL : Permissible Exposure Limits  
PNEC : Predicted No Effect Concentration  
R-phrase : Risk phrase  
REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals  
RID : Regulation Concerning the International Transport of Dangerous Goods by Rail  
S-phrase: Safety phrase  
WGK : German Water Hazard Class