

## Safety data sheet

according to 1907/2006/EC, Article 31 (REACH)

Printing date 16.06.2011

Version number 1

Revision: 16.06.2011

### 1 Identification of the substance/mixture and of the company/ undertaking

- . Product identifier
- . Trade name Cetamine V 210  
Artikelnummer: 48273
- . Article number: 48273
- . Relevant identified uses of the substance or mixture and uses advised against
- . Application of the substance / the preparation  
Formulation additive  
Water treatment  
Water conditioner  
Corrosion inhibitors
- . Details of the supplier of the safety data sheet
- . Manufacturer/Supplier:  
BK Giulini GmbH www.bk-giulini.com  
Works Ludwigshafen, Giulinistraße 2 Tel: 0621 5709-01  
D-67065 Ludwigshafen Fax: 0621 5709452
- . Information:  
Business Unit BKG Water Solutions  
Works Ladenburg Tel.: +49 (0) 6203 / 77-172  
Works Ludwigshafen Tel.: +49 (0) 621 / 5709-523  
MSDS@BK-Giulini.com
- . Emergency telephone number:  
Works Ladenburg Tel.: +49 (0) 6203 / 77-112  
Works Ludwigshafen Tel.: +49 (0) 621 / 5709-112

### \* 2 Hazards identification

- . Classification of the substance or mixture
- . Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Repr. 2                    H361f Suspected of damaging fertility.



GHS05 corrosion

Skin Corr. 1A    H314 Causes severe skin burns and eye damage.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.



GHS07

STOT SE 3                    H335 May cause respiratory irritation.

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**. Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



C; Corrosive

R34: Causes burns.



Xn; Harmful

R62: Possible risk of impaired fertility.



N; Dangerous for the environment

R50: Very toxic to aquatic organisms.

**. Classification system:**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

**. Label elements**

**. Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

**. Hazard pictograms**



GHS05



GHS07



GHS08



GHS09

**. Signal word** Danger

**. Hazard-determining components of labelling:**

2-aminoethanol  
 cyclohexylamine  
 (Z)-N-9-octadecenylpropane-1,3-diamine

**. Hazard statements**

H314 Causes severe skin burns and eye damage.  
 H361f Suspected of damaging fertility.  
 H335 May cause respiratory irritation.  
 H400 Very toxic to aquatic life.

**. Precautionary statements**

P260 Do not breathe mist/vapours/spray.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P303+P361+P353 IF ON SKIN (or hair): Remove/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.  
 P310 Immediately call a POISON CENTER or doctor/physician.  
 P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

**. Other hazards**

**. Results of PBT and vPvB assessment**

**. PBT:** Not applicable.

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. vPvB: Not applicable.

### 3 Composition/information on ingredients

. **Chemical characterization: Substances**. **CAS No. Designation:**

Void

. **Identification number(s):**. **EC number:** Void. **Chemical characterization: Mixtures**. **Description:** Alkanolamines in water.. **Dangerous components:**

CAS: 141-43-5	2-aminoethanol	2.5-10%
EINECS: 205-483-3	C R34; Xn R20/21/22	
Index number: 603-030-00-8	Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	
CAS: 108-91-8	cyclohexylamine	2.5-10%
EINECS: 203-629-0	C R34; Xn R21/22-62	
Index number: 612-050-00-6	R10 Flam. Liq. 3, H226; Acute Tox. 3, H301; Acute Tox. 3, H311; Repr. 2, H361f; Skin Corr. 1B, H314	
CAS: 7173-62-8	(Z)-N-9-octadecenylpropane-1,3-diamine	< 2.5%
EINECS: 230-528-9	C R35; Xn R22; N R50 Skin Corr. 1A, H314; Aquatic Acute 1, H400; Acute Tox. 4, H302	
CAS: 61791-26-2	Amine, tallow alkyl, 11-EO	< 1%
	Xn R22; Xi R38-41; N R50 Eye Dam. 1, H318; Aquatic Acute 1, H400; Acute Tox. 4, H302; Skin Irrit. 2, H315	

. **Additional information**

For the wording of the listed risk phrases refer to section 16.

### 4 First aid measures

. **Description of first aid measures**. **General information** Instantly remove any clothing soiled by the product.. **After inhalation :**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness bring patient into stable side position for transport.

. **After skin contact :**

Immediately wash with soap and water and rinse thoroughly.

Seek medical treatment.

. **After eye contact :**

Rinse opened eye for several minutes under running water.

Call a doctor immediately.

. **After swallowing :**

Rinse out mouth and then drink plenty of water (approx. 500 ml).

Do not induce vomiting; instantly call for medical help.

. **Information for doctor**. **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

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- . **Indication of any immediate medical attention and special treatment needed**  
If swallowed, gastric irrigation

**5 Firefighting measures**

- . **Extinguishing media**
- . **Suitable extinguishing agents**  
Use fire fighting measures that suit the environment.  
CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with foam.
- . **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- . **Special hazards arising from the substance or mixture**  
Fire can cause release of :  
Carbon monoxide (CO)  
Nitrogen oxides (NO<sub>x</sub>)
- . **Advice for firefighters**
- . **Protective equipment:**  
Wear full protective suit.  
Wear alkaline resistant protective clothing.  
Put on breathing apparatus.
- . **Additional information**  
Cool endangered containers with water spray jet.  
Collect contaminated fire fighting water separately. It must not enter drains.

**6 Accidental release measures**

- . **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation
- . **Environmental precautions:**  
Do not allow product to reach sewage system or water bodies.
- . **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).  
Use neutralizing agent.  
Dispose of contaminated material as waste according to item 13.
- . **Reference to other sections**  
See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.

**\* 7 Handling and storage**

- . **Handling**
- . **Precautions for safe handling**  
Keep containers tightly sealed.  
Ensure good ventilation/exhaustion at the workplace.
- . **Information about protection against explosions and fires:**  
No special measures required.
- . **Conditions for safe storage, including any incompatibilities**
- . **Storage**
- . **Requirements to be met by storerooms and containers:**  
Store only in the original container.  
Provide alkali-resistant floor.  
Use polyolefine containers.

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Unsuitable materials: steel, light- and brass alloys  
Provide floor trough without outlet.

**. Information about storage in one common storage facility:**

Do not store together with acids.  
Store away from oxidizing agents.  
Store away from reducing agents.

**. Further information about storage conditions:**

Keep container tightly sealed.  
Store container in a well ventilated position.  
Protect from frost.  
Product quality requires storage between 0 °C and 40 °C.

**. VCI-Storage class 8B**

**. Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

**. Additional information about design of technical systems:**

No further data; see item 7.

**. Control parameters**

**. Components with critical values that require monitoring at the workplace:**

**141-43-5 2-aminoethanol**

WEL (Great Britain)      Short-term value: 7.6 mg/m<sup>3</sup>, 3 ppm  
    Long-term value: 2.5 mg/m<sup>3</sup>, 1 ppm  
    Sk

IOELV (European Union) Short-term value: 7.6 mg/m<sup>3</sup>, 3 ppm  
    Long-term value: 2.5 mg/m<sup>3</sup>, 1 ppm  
    Skin

**108-91-8 cyclohexylamine**

WEL (Great Britain)      Long-term value: 41 mg/m<sup>3</sup>, 10 ppm

**. Additional information:**

The lists that were valid during compilation were used as a basis.

**. Exposure controls**

**. Personal protective equipment**

**. General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.  
Keep away from foodstuffs, beverages and food.  
Instantly remove any soiled and impregnated garments.  
Wash hands during breaks and at the end of the work.  
Avoid contact with the eyes and skin.

**. Breathing equipment:**

Use breathing protection only when aerosol or mist is formed.  
In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.  
Short term filter device: ABEK-filter  
Filter type K, green, for organic, basic amines.

**. Protection of hands:**

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Protective gloves:

In case of spray contact at least protection index 2 recommended, according to more than 30 min. penetration time (EN 374).

Layer thickness of gloves at least: 0.4 mm

In case of prolonged and intensive contact protection index 6 recommended, according to more than 480 min. penetration time (EN 374).

Layer thickness of gloves at least: 0.7 mm

. **Material of gloves**

Butyl rubber, BR

Fluorocarbon rubber (Viton)

Nitrile rubber, NBR

Natural rubber, NR

Chloroprene rubber, CR

Neoprene gloves

. **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

. **Not suitable are gloves made of the following materials:** Leather gloves

. **Eye protection:** Tightly sealed safety glasses (DIN 58211, EN 166)

. **Body protection:** Alkaline resistant protective clothing

### \* 9 Physical and chemical properties

. **Information on basic physical and chemical properties**

. **General Information**

. **Appearance:**

Form: Fluid

Colour: Yellowish

. **Smell:** Amine-like

. **Odour threshold:** Not determined

. **pH-value at 20°C:** ca. 12.2 (100 %)

. **Change in condition**

Melting point/Melting range: Not determined

Boiling point/Boiling range: Not determined

. **Flash point:** > 100°C

. **Inflammability (solid, gaseous)** Not applicable

. **Ignition temperature:** Not determined

. **Decomposition temperature:** Not determined

. **Self-inflammability:** Product is not selfigniting.

. **Danger of explosion:** Product is not explosive.

. **Critical values for explosion:**

Lower: Not applicable

. **Oxidizing properties** None

. **Steam pressure at 20°C:** ca. 23 hPa

. **Density at 20°C** ca. 1.0 g/cm<sup>3</sup>

. **Evaporation rate** Not determined

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- . Solubility in / Miscibility with  
   Water: Fully miscible
- . Segregation coefficient (n-octanol/  
   water): Not determined
- . Viscosity:  
   dynamic: Not determined
- . Other information No further relevant information available.

### 10 Stability and reactivity

- . Reactivity
- . Chemical stability
- . Thermal decomposition / conditions to be avoided:  
   No decomposition if used according to specifications.
- . Possibility of hazardous reactions Corrosive action on metals
- . Conditions to avoid No further relevant information available.
- . Incompatible materials: May react vigorously with strong acids.
- . Hazardous decomposition products:  
   No dangerous decomposition products known  
   Danger of toxic pyrolysis products

### \* 11 Toxicological information

- . Information on toxicological effects
- . Acute toxicity:
- . LD/LC50 values that are relevant for classification:  
   Oral LD50 > 2000 mg/kg (rat, calculated)
- . Primary irritant effect:  
   on the skin: Caustic effect on skin and mucous membranes.  
   on the eye: Strong caustic effect.
- . Additional toxicological information:  
   Corrosive  
   May cause respiratory irritation.  
   Hazardous to the environment  
   Swallowing will lead to a strong caustic effect on mouth and throat and to the  
   danger of perforation of esophagus and stomach.
- . Sensitisation Non-sensitizing.
- . Repeated dose toxicity No further relevant information available.
- . CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)  
   Suspected of damaging fertility.

### \* 12 Ecological information

- . Toxicity
- . Aquatic toxicity:  
   7173-62-8 (Z)-N-9-octadecenylpropane-1,3-diamine  
   EC50 0.01 - 0.1 mg/L (dap)
- . Persistence and degradability
- . Other information:  
   Easy elimination possible by flocculation or adsorption by sludge.
- . Behaviour in environmental systems:
- . Bioaccumulative potential No further relevant information available.

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- . **Mobility in soil** No further relevant information available.
- . **Ecotoxicological effects:**
- . **Other information:** No AOX
- . **Additional ecological information:**
- . **General notes:**  
 The product may not be released into the aquatic environment without preliminary treatments (biological purification plant).
- . **Results of PBT and vPvB assessment**
- . **PBT:** Not applicable.
- . **vPvB:** Not applicable.
- . **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- . **Waste treatment methods**
- . **Recommendation**  
 Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
 Must be specially treated in adherence to official regulations.
- . **European waste catalogue**  
 07 06 08 other still bottoms and reaction residues
- . **Uncleaned packaging:**
- . **Recommendation:**  
 Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.  
 Packagings that cannot be cleaned are to be disposed of in the same manner as the product.  
 Dispose of packaging according to regulations on the disposal of packagings.
- . **Recommended cleaning agent:** Water, if necessary with cleaning agent.

### \* 14 Transport information

- . **Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**



- . **ADR/RID-GGVS/E Class:** 8 (C7) Corrosive substances.
- . **Kemler Number:** 80
- . **UN-Number:** 2735
- . **Packaging group:** III
- . **Label** 8
- . **Special marking:** Symbol (fish and tree)
- . **UN proper shipping name:** 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (ETHANOLAMINE, CYCLOHEXYLAMINE)
- . **Limited quantities (LQ)** 5L
- . **Transport category** 3

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- . Tunnel restriction code E
- . Maritime transport IMDG/GGVSea:



- . IMDG/GGVSea Class: 8
- . UN Number: 2735
- . Label: 8
- . Packaging group: III
- . EMS Number: F-A,S-B
- . Marine pollutant: Yes  
Symbol (fish and tree)
- . Segregation groups: Alkalis
- . Correct technical name: AMINES, LIQUID, CORROSIVE, N.O.S. (ETHANOLAMINE, CYCLOHEXYLAMINE)
- . Air transport ICAO-TI and IATA-DGR:



- . ICAO/IATA Class: 8
- . UN/ID Number: 2735
- . Label: 8
- . Packaging group: III
- . Correct technical name: AMINES, LIQUID, CORROSIVE, N.O.S. (ETHANOLAMINE, CYCLOHEXYLAMINE)
- . UN "Model Regulation": UN2735, AMINES, LIQUID, CORROSIVE, N.O.S., 8, III
- . Special precautions for user Warning: Corrosive substances.
- . Transport/Additional information: Frost protected transport has to be guaranteed.

### \* 15 Regulatory information

- . Safety, health and environmental regulations/legislation specific for the substance or mixture
- . Labelling according to Regulation (EC) No 1272/2008  
The product is classified and labelled according to the CLP regulation.
- . Hazard pictograms



GHS05    GHS07    GHS08    GHS09

- . Signal word Danger
- . Hazard-determining components of labelling:  
2-aminoethanol  
cyclohexylamine

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(Z)-N-9-octadecenylpropane-1,3-diamine

**. Hazard statements**

H314 Causes severe skin burns and eye damage.  
 H361f Suspected of damaging fertility.  
 H335 May cause respiratory irritation.  
 H400 Very toxic to aquatic life.

**. Precautionary statements**

P260 Do not breathe mist/vapours/spray.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P303+P361+P353 IF ON SKIN (or hair): Remove/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.  
 P310 Immediately call a POISON CENTER or doctor/physician.  
 P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

**. National regulations**

**. Information about limitation of use:**

Employment restrictions concerning young persons must be observed.  
 Employment restrictions concerning pregnant and lactating women must be observed.

**. Decree to be applied in case of technical fault:**

Critical quantity values according to the regulations on accidents should be adhered to.

**. Water hazard class: WGK 2 : water hazard risk (German regulation)**

**. Other regulations, limitations and prohibitive regulations**

BG-information M004 "Irritant/corrosive substances" (German regulation)

**. Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

**\* 16 Other information**

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**. Relevant phrases**

H226 Flammable liquid and vapour.  
 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.  
 H318 Causes serious eye damage.  
 H332 Harmful if inhaled.  
 H361f Suspected of damaging fertility.  
 H400 Very toxic to aquatic life.  
 R10 Flammable.  
 R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

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R21/22 Harmful in contact with skin and if swallowed.  
R22 Harmful if swallowed.  
R34 Causes burns.  
R35 Causes severe burns.  
R38 Irritating to skin.  
R41 Risk of serious damage to eyes.  
R50 Very toxic to aquatic organisms.  
R62 Possible risk of impaired fertility.

**. Department issuing data specification sheet:**

Product Safety and Regulatory Affairs

**. Contact:** MSDS@BK-Giulini.com**. Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO: International Civil Aviation Organization  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent

**. \* Data compared to the previous version altered.**