

SAFETY DATA SHEET

accordance with Annex II of Regulation (EC) No 1907/2006 and its amendment(s)

Product: **Ekaland ZDEC C**

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SDS No.: 100046-100 (Version 1.0)

Date 22.07.2015

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Identification of the product

Identification of the mixture: Ekaland ZDEC C

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

Use of the Substance/Mixture : Curing chemical

1.3. Details of the supplier of the safety data sheet

Supplier MLPC International
209, avenue Charles Despiau
F-40370 RION-LES-LANDES
Tel. + 33 (0) 5 58 57 02 00
<http://www.mlpc-intl.com>
fds@mlpc-intl.com

E-mail address

1.4. Emergency telephone number

+44 (0) 1235 239 670 (Carechem24 – MLPC 29003) **Europe**
001866 928 0789 (Carechem24 – MLPC 29003) **Americas**
+65 3158 1074 (Carechem24 – MLPC 29003) **Asia-pacific region** (excluding China)
+86 400 6267911 **China mainland**

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008):

Oral: Acute toxicity, 4, H302
Skin irritation, 2, H315
Eye irritation, 2, H319
Skin sensitisation, 1, H317
Specific target organ toxicity - single exposure, 3, Respiratory system, H335
Acute aquatic toxicity, 1, H400
Chronic aquatic toxicity, 1, H410

Additional information:

For the full text of the H, EUH-phrases mentioned in this Section, see Section 16.

2.2. Label elements

Label elements (REGULATION (EC) No 1272/2008):

Hazardous components which must be listed on the label:

zinc bis(diethyldithiocarbamate)

Hazard pictograms:



Signal word:

Warning

Hazard statements:

H302 : Harmful if swallowed.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H319 : Causes serious eye irritation.
H335 : May cause respiratory irritation.
H410 : Very toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention:

P280 : Wear protective gloves/ protective clothing/ eye protection/ face protection.
P273 : Avoid release to the environment.

Response:

P333 + P313 : If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 : If eye irritation persists: Get medical advice/ attention.
P302 + P352 : IF ON SKIN: Wash with plenty of water.
P312 : Call a POISON CENTER or doctor/ physician if you feel unwell.

Storage:

P403 + P233 : Store in a well-ventilated place. Keep container tightly closed.

Disposal:

P501 : Dispose of contents/ container to an approved waste disposal plant.

2.3. Other hazards : None.

Other:

Results of PBT and vPvB assessment : According to REACH regulation, annex XIII, this mixture contains no substance meeting PBT and vPvB criteria.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Chemical nature of the mixture¹:

Hazardous components (accordance with Annex II of Regulation (EC) No 1907/2006 and its amendment(s)) :

Chemical Name ¹ & REACH Registration Number ²	EC-No.	CAS-No.	Concentration	Classification REGULATION (EC) No 1272/2008
Zinc, bis(diethylcarbamodithioato-S-S') (N° ANNEX: 006-082-00-4)	238-270-9	14324-55-1	98 %	Acute Tox. 4 (Oral); H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 STOT SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 1; H410

¹: See chapter 14 for Proper Shipping Name

²: See the text of the regulation for applicable exceptions or provisions : The transition time according to REACH Regulation, Article 23, is still not expired.

For the full text of the H, EUH-phrases mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1. Description of necessary first-aid measures:

General advice:

Take off immediately all contaminated clothing.

Inhalation:

Move to fresh air. Oxygen or artificial respiration if needed. Consult a physician.

Skin contact:

Wash off immediately with soap and plenty of water.

Eye contact:

Wash well-open eyes immediately, abundantly and thoroughly with water. Consult an ophthalmologist immediately.

Ingestion:

If swallowed, do not induce vomiting - seek medical advice.

Protection of first-aiders:

In case of insufficient ventilation, wear suitable respiratory equipment.

4.2. Most important symptoms/effects, acute and delayed: No data available.

4.3. Indication of immediate medical attention and special treatment needed, if necessary: No data available.

5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Water spray, Foam, Dry powder

Unsuitable extinguishing media: All other extinguishants

5.2. Special hazards arising from the substance or mixture:

Thermal decomposition gives :

5.3. Advice for firefighters:

Specific methods:

Remove all sources of ignition. Suppress gases, fumes and/or dust with water spray jet.

Special protective actions for fire-fighters:

Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

Avoid contact with skin and eyes and inhalation of dust.

6.2. Environmental precautions:

Do not let product enter drains. Do not contaminate surface water.

6.3. Methods and materials for containment and cleaning up:

Recovery:

Shovel or sweep up. Recover the product and place in a dry labelled container.

Elimination:

Destroy the product by incineration (in accordance with local and national regulations).

6.4. Reference to other sections: None.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling:

Technical measures/Precautions:

Storage and handling precautions applicable to products: Dust forming. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated. Provide water supplies, ocular fountains and showers near the point of use.

Hygiene measures:

General industrial hygiene practice. Avoid contact with skin, eyes and clothing. Avoid breathing dust. Wash hands after handling. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities:

Keep in a well-ventilated place. Keep in a dry place. Store protected from moisture.

Incompatible products:

Strong acids, Oxidizing agents

Packaging material:

Recommended: Paper bags, Big bags.

7.3. Specific end use(s): None.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

Exposure Limit Values Not relevant

Derived No Effect Level (DNEL): No data available.

Predicted No Effect Concentration: No data available.

8.2. Exposure controls:

General protective measures: Ensure sufficient air exchange and/or exhaust in work areas

Personal protective equipment:

Respiratory protection: Effective dust mask
Hand protection: Impervious gloves
Eye/face protection: Tightly fitting safety goggles
Skin and body protection: At the workplace : Protective suit.

Environmental exposure controls: See chapter 6

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance:

Physical state (20°C): solid

Odour: No data available.

Olfactory threshold: No data available.

pH: No data available.

Melting point/freezing point : Active ingredient 171 °C (OECD Test Guideline 102)

Boiling point/boiling range : Active ingredient 309 °C (OECD Test Guideline 103)

Flash point: Not relevant

Evaporation rate: No data available.

Flammability (solid, gas):
Flammability: Non flammable product (Method A10: Flammability (solids))

Vapour pressure: No data available.

Vapour density: No data available.

Relative density: No data available.

Water solubility: 1,06 mg/l Active ingredient at 20 °C

Partition coefficient: n-octanol/water: ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') : log Kow : 3,11 (QSAR)

Auto-ignition temperature: No data available.

Decomposition temperature: Active ingredient, None.

Viscosity: No data available.

Explosive properties: No data available.

Oxidizing properties: No data available.

9.2. Other data:

Solubility in other solvents: Chloroform , Aromatic solvents

10. STABILITY AND REACTIVITY

10.1. Reactivity: No data available.

10.2. Chemical stability:

Product stable in the absence of moisture

10.3. Possibility of hazardous reactions: No data available.

10.4. Conditions to avoid:

Store protected from moisture and heat. Protect from light. Keep away from direct sunlight.

10.5. Incompatible materials to avoid: No data available.

10.6. Hazardous decomposition products:

Thermal decomposition:

Active ingredient, None.

Thermal decomposition gives :, Carbon oxides, Sulphur oxides, Nitrogen oxides (NOx)

Thermal decomposition gives : Carbon oxides, Sulphur oxides, Nitrogen oxides (NOx)

11. TOXICOLOGICAL INFORMATION

All available data on this product and/or the components quoted in section 3 and/or the analogue substances/metabolites have been taken into account for the hazard assessment.

11.1. Information on toxicological effects:

Acute toxicity:

Inhalation: Based on the available information, it is not possible to conclude on the hazard potential of this mixture.

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

- In animals : No mortality/4 h/Rat: 5,53 mg/l (Method: OECD Test Guideline 403) (Aerosol)

Ingestion: According to its composition, can be considered as : Harmful if swallowed.

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :

- In animals : LD50/Rat: 1.960 - 2.280 mg/kg

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

- In animals : No mortality/Rat: 5.000 mg/kg (Method: OECD Test Guideline 401)

Dermal: According to its composition, can be considered as : Slightly or not harmful in contact with skin

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :

- In animals : No mortality/24 h/Rabbit: 2.000 mg/kg

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

- In animals : No mortality/Rabbit: 5.000 mg/kg (Method: OECD Test Guideline 402)

Local effects (Corrosion / Irritation / Serious eye damage):

Skin contact: According to its composition, can be considered as : Causes skin irritation.

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :

Irritating to skin.

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

- In animals : Slightly irritating to skin. (Rabbit, Exposure time: 24 h)

Eye contact: According to its composition, can be considered as : Causes serious eye irritation.

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :

Irritating to eyes.

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

- In animals : No eye irritation (OECD Test Guideline 405, Rabbit)

Respiratory or skin sensitisation:

Inhalation: No data available.

Skin contact: According to its composition, can be considered as : Skin sensitizer

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :

Skin sensitizer

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

- In animals : Not a skin sensitizer (Method : OECD Test Guideline 406 Guinea pig maximization test)

CMR effects :

Mutagenicity: Based on the available information, it is not possible to conclude on the hazard potential of this mixture.

In vitro

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :

Ames test in vitro: Active (Method: OECD Test Guideline 471)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

Ames test in vitro: Inactive (Method: OECD Test Guideline 471)

In vitro test for chromosomal abnormalities on CHO cells: Inactive (Method: OECD Test Guideline 473)

In vitro gene mutations test on mammalian cells: Inactive (Method: OECD Test Guideline 476)

In vivo

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :

Chromosome aberration test in vivo: Inactive

DNA repair test on rats hepatocytes: Inconclusive results

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

Micronucleus test in vivo mouse: Inactive (Method: OECD Test Guideline 474)

Carcinogenicity:**Based on the available data, the substance is not suspected of having carcinogenic potential**

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :

• In animals : Absence of carcinogenic effects (Rat, 2 years, By diet)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

• In animals : Absence of carcinogenic effects (Method: OECD Test Guideline 451, mice, Chronic, dermal route)

Reproductive toxicity:**Fertility:****Based on the available data, the substance is not suspected of having reprotoxic potential.**

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :

(Results obtained on a similar product).

• In animals : Two generations study.: Absence of toxic effects on fertility

NOAEL (Parental toxicity) : 10 mg/kg bw/day

NOAEL (Fertility) : 25 mg/kg bw/day

NOAEL (Developmental Toxicity) : 10 mg/kg bw/day

(Method: OECD Test Guideline 416, Rat, By oral route)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

• In animals : Reproduction Test: No toxicity to reproduction

NOAEL (Parental toxicity) : 1.000 mg/kg bw/day

NOAEL (Fertility) : 1.000 mg/kg bw/day

(Method: OECD Test Guideline 421, Rat, By oral route)

Foetal development:**Based on the available data, the substance is not suspected of having developmental toxicity potential.**

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :

• In animals : Exposure during pregnancy

(Method: OECD Test Guideline 414, By oral route)

Absence of congenital malformations and embryotoxic effects at non-toxic doses for the mothers

NOAEL (Developmental Toxicity) : 250 mg/kg bw/day

NOAEL (Maternal Toxicity) : 125 mg/kg bw/day

(Rat)

(Results obtained on a similar product).

Absence of congenital malformations and embryotoxic effects at non-toxic doses for the mothers

NOAEL (Developmental Toxicity) : 7,5 mg/kg bw/day

NOAEL (Maternal Toxicity) : 3 mg/kg bw/day

(Rabbit)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

• In animals : Absence of toxic effects for foetal development.

NOAEL (Developmental Toxicity) : 2.000 mg/kg bw/day

NOAEL (Maternal Toxicity) : < 125 mg/kg bw/day

(Method: OECD Test Guideline 414, Rat, dermal route)

Specific target organ toxicity :

Single exposure :

The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Exposure routes : Inhalation
Target Organs : Respiratory Tract

Inhalation:

According to its composition : , Irritating to respiratory system.

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :

Irritating to respiratory system.

Repeated exposure:

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :

- In animals : By diet: Target organs: Thyroid gland, NOAEL= < 36 mg/kg (Rat, 2 years)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

- In animals :
 - By inhalation: No effect is reported.
 - NOAEL= > 1 mg/l (Rat, 4 Weeks) (Aerosol)
 - dermal route: No effect is reported.
 - NOAEL= > 2.000 mg/kg (Method: OECD Test Guideline 411, Rat, 3 months)
 - By oral route: (Results obtained on a similar product).
 - Target organs: Reproductive organs, Stomach, Liver, Thymus, NOAEL= < 125 mg/kg (Method: OECD Test Guideline 408, Rat, 3 months)

Aspiration hazard:

Not applicable

12. ECOLOGICAL INFORMATION

Ecotoxicology Assessment:

All available data on this product and/or the components quoted in section 3 and/or the analogue substances/metabolites have been taken into account for the hazard assessment.

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

12.1. Toxicity :

Fish:

Very toxic to fish.

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :

LC50, 96 h (Oncorhynchus mykiss (rainbow trout)) : 0,23 mg/l (Method: OECD Test Guideline 203)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

LL50, 96 h (Pimephales promelas (fathead minnow)) : > 100 mg/l (Method: OECD Test Guideline 203)

Aquatic invertebrates:

Very toxic to daphnia.

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :

EC50 (Daphnia (water flea)) : 0,24 mg/l (Method: OECD Test Guideline 202)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

LL50, 48 h (Daphnia magna (Water flea)) : > 10.000 mg/l (Method: OECD Test Guideline 202, pH: 7,7, Immobilization)

Aquatic plants:

Toxic to algae.

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :

EC50, 96 h (Chlorella vulgaris (Fresh water algae)) : 1,1 mg/l (growth rate inhibition)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

LL50, 72 h (Pseudokirchneriella subcapitata (microalgae)) : > 100 mg/l (Method: OECD Test Guideline 201, growth rate inhibition)

Microorganisms:

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

NOEC, 4 d (Photobacterium phosphoreum) : > 1,93 mg/l (Method: DIN 38412)

Aquatic toxicity / Long term toxicity:

Aquatic invertebrates:

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

NOEC, 21 d (Daphnia magna (Water flea)) : 10 mg/l (Method: OECD Test Guideline 211, Growth inhibition/Reproduction inhibition)

Aquatic plants:

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :
NOEC r, 72 h (Pseudokirchneriella subcapitata) : 100 mg/l (Method: OECD Test Guideline 201, growth rate inhibition)

12.2. Persistence and degradability :

Stability in water:

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :
Through analogy with a comparable product :
Half-life: 10 min (at 25 °C and pH 5)

Half-life: 17,67 h at 25 °C and pH 7
Half-life: 6,31 d at 25 °C and pH 9

Biodegradation (In water): **All the products and/or components quoted in section 3 and/or analogue substances/metabolites are not readily biodegradable.**

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :
Not readily biodegradable.
Through analogy with a comparable product :

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :
Not readily biodegradable.
Not readily biodegradable.: 4 % after 28 d (Method: OECD Test Guideline 301 B)

12.3. Bioaccumulative potential :

Bioaccumulation: **Based on the available information, it is not possible to conclude on the hazard potential of this mixture.**

ZINC, BIS(DIETHYLCARBAMODITHIOATO-S-S') :
Partition coefficient: n-octanol/water: log Kow : 3,11 (Method: QSAR)

12.4. Mobility in soil - Distribution among environmental compartments: No data available.

12.5. Results of PBT and vPvB assessment :

According to REACH regulation, annex XIII, this mixture contains no substance meeting PBT and vPvB criteria.

12.6. Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment:

Disposal of product: Destroy the product by incineration (in accordance with local and national regulations).

Disposal of packaging: Destroy packaging by incineration at an approved waste disposal site (in accordance with local and national regulations).

14. TRANSPORT INFORMATION

Regulation	14.1. UN number	14.2. UN proper shipping name	14.3. Class*	Label	14.4. PG*	14.5. Environmental hazards	14.6. Special precautions for user
ADR	3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC,BIS(DIETHYLCARBAMODITHIOATO-S,S'))	9	9	III	yes	
ADN	3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	9	9	III	yes	
RID	3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC,BIS(DIETHYLCARBAMODITHIOATO-S,S'))	9	9	III	yes	
IATA Cargo	3077	Environmentally hazardous substance, solid, n.o.s. (Zinc, bis(diethylcarbamidithioato-S-S'))	9	9MI	III	yes	
IATA Passenger	3077	Environmentally hazardous substance, solid, n.o.s. (Zinc, bis(diethylcarbamidithioato-S-S'))	9	9MI	III	yes	
IMDG	3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC,BIS(DIETHYLCARBAMODITHIOATO-S,S'))	9	9	III	Marine pollutant	EmS Number: F-A, S-F Mark: MP

*Description: 14.3. Transport hazard class(es)

14.4. Packing group

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

15. REGULATORY INFORMATION

Safety data sheets: accordance with Annex II of Regulation (EC) No 1907/2006 and its amendment(s)

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

Listed in:

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC): Distillates (petroleum), hydrotreated light paraffinic; Baseoil -- unspecified
EU. REACH, Annex XVII, Appendix 2, Entry 28 - Carcinogens: Category 1B (Table 3.1)/Category 2 (Table 3.2). (Regulation 1907/2006/EC): Distillates (petroleum), hydrotreated light paraffinic; Baseoil -- unspecified

15.2. Chemical Safety Assessment: None.

INVENTORIES:

EINECS:	Conforms to
TSCA:	Conforms to
DSL:	All components of this product are on the Canadian DSL
IECSC (CN):	Conforms to
ENCS (JP):	Does not conform
ISHL (JP):	Does not conform
KECI (KR):	Conforms to
PICCS (PH):	Conforms to
AICS:	Conforms to
NZIOC:	Conforms to
TSCA 12B:	

16. OTHER INFORMATION

Full text of H, EUH-phrases referred to under sections 2 and 3

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Thesaurus:

NOAEL : No Observed Adverse Effect Level (NOAEL)
LOAEL : Lowest Observed Adverse Effect Level (LOAEL)
bw : Body weight
food : oral feed
dw : Dry weight
vPvB : very Persistent and very Bioaccumulative
PBT : Persistent, Bioaccumulative and Toxic

This information applies to the PRODUCT AS SUCH and conforming to specifications of ARKEMA. In case of formulations or mixtures, it is necessary to ascertain that a new danger will not appear. The information contained is based on our knowledge of the product, at the date of publishing and it is given quite sincerely. Users are advised of possible additional hazards when the product is used in applications for which it was not intended. This sheet shall only be used and reproduced for prevention and security purposes. The references to legislative, regulatory and codes of practice documents cannot be considered as exhaustive. It is the responsibility of the person receiving the product to refer to the totality of the official documents concerning the use, the possession and the handling of the product. It is also the responsibility of the handlers of the product to pass on to any subsequent persons who will come into contact with the product (usage, storage, cleaning of containers, other processes) the totality of the information contained within this safety data sheet and necessary for safety at work, the protection of health and the protection of environment.

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).