

**Protectogen C aqua**

Page 1(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

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

**1.1. Product identifier**

Trade name

Protectogen C aqua

Material number: 187211

Chemical nature: aqueous solution of organic and inorganic salts

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

**Relevant identified uses of the substance or mixture**

Industry sector : Functional Fluids  
Type of use : Techno-chemical industry.  
Corrosion inhibitors

**1.3. Details of the supplier of the safety data sheet**

**Identification of the company**

Clariant Produkte (Deutschland) GmbH  
65926 Frankfurt am Main  
Telephone no. : +49 69 305 18000

**Information about the substance/mixture**

BU Industrial & Consumer Specialties  
Product Stewardship  
e-mail: SDS.Europe@clariant.com

**1.4. Emergency telephone number**

00800-5121 5121

---

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

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

Not a hazardous substance or mixture.

**2.2 Label elements**

**Labelling (REGULATION (EC) No 1272/2008)**

Not a hazardous substance or mixture.

**2.3 Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

No additional hazards are known except those derived from the labelling.

**Protectogen C aqua**

Page 2(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

**SECTION 3: Composition/information on ingredients**

**3.2 Mixtures**

**Components**

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Sodium nitrate	7631-99-4 231-554-3 01-2119488221-41 01-2119488221-41- 0013 01-2119488221-41- 0026 01-2119488221-41- 0044	Ox. Sol. 3; H272 Eye Irrit. 2; H319	>= 1 - < 10
Methyl-1H-benzotriazole	29385-43-1 249-596-6 01-2119979081-35 01-2119979081-35- 0000	Acute Tox. 4; H302 Aquatic Chronic 2; H411	>= 1 - < 2,5

For explanation of abbreviations see section 16.

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

General advice : Remove/Take off immediately all contaminated clothing.

If inhaled : Move the victim to fresh air.

In case of skin contact : In case of contact, immediately flush skin with plenty of water.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed : Get medical attention immediately.

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

Symptoms : No symptoms known currently.

Risks : No hazards known at this time.

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

Treatment : Treat symptomatically.

**Protectogen C aqua**

Page 3(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

---

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

Suitable extinguishing media : Water spray jet  
Dry powder  
Carbon dioxide (CO<sub>2</sub>)  
Alcohol-resistant foam

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

Specific hazards during firefighting : In case of fires, hazardous combustion gases are formed:  
Carbon monoxide (CO)  
  
Nitrogen oxides (NO<sub>x</sub>)

**5.3 Advice for firefighters**

Special protective equipment for firefighters : Self-contained breathing apparatus  
  
Further information : Wear suitable protective equipment.

---

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Ensure adequate ventilation.  
Wear suitable protective equipment.

**6.2 Environmental precautions**

Environmental precautions : Do not allow to enter drains or waterways

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

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Can be landfilled or incinerated, when in compliance with local regulations.

**6.4 Reference to other sections**

Information regarding Safe handling, see chapter 7., For personal protection see section 8., For disposal considerations see section 13.

---

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

Advice on safe handling : Handle and open container with care.

Advice on protection against : Observe the general rules of industrial fire protection

**Protectogen C aqua**

Page 4(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

fire and explosion

Hygiene measures : Keep away from food and drink.

**7.2 Conditions for safe storage, including any incompatibilities**

Further information on storage conditions : Keep containers tightly closed in a cool, well-ventilated place.  
Handle and open container with care.

Advice on common storage : Keep away from oxidizing agents.

**7.3 Specific end use(s)**

Specific use(s) : No further recommendations.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Sodium nitrate CAS-No.: 7631-99-4	Workers	Skin contact	Long-term systemic effects	20,8 mg/kg bw/day
Remarks:	DNEL			
	Workers	Inhalation	Long-term systemic effects	36,7 mg/m <sup>3</sup>
Remarks:	DNEL			
	General population	Inhalation	Long-term systemic effects	10,9 mg/m <sup>3</sup>
Remarks:	DNEL			
	General population	Skin contact	Long-term systemic effects	12,5 mg/kg bw/day
Remarks:	DNEL			
	General population	Ingestion	Long-term systemic effects	12,5 mg/kg bw/day
Remarks:	DNEL			
Methyl-1H-benzotriazole CAS-No.: 29385-43-1	Consumers	Ingestion	Long-term systemic effects	0,25 mg/kg bw/day
Remarks:	DNEL			
	Consumers	Skin contact	Long-term systemic effects	0,25 mg/kg bw/day
Remarks:	DNEL			
	Workers	Skin contact	Long-term systemic effects	0,5 mg/kg bw/day
Remarks:	DNEL			
	Consumers	Inhalation	Long-term systemic effects	4,4 mg/m <sup>3</sup>
Remarks:	DNEL			
	Workers	Inhalation	Long-term systemic effects	8,8 mg/m <sup>3</sup>

**Protectogen C aqua**

Page 5(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

Remarks:	DNEL	effects
----------	------	---------

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

Substance name	Environmental Compartment	Value
Sodium nitrate CAS-No.: 7631-99-4	Fresh water	0,45 mg/l
	Marine water	0,045 mg/l
	intermittent releases	4,5 mg/l
Remarks:	water	
	Effects on waste water treatment plants	18 mg/l
Methyl-1H-benzotriazole CAS-No.: 29385-43-1	Fresh water	0,008 mg/l
	Marine water	0,008 mg/l
	Water (intermittent release)	0,086 mg/l
	Sewage treatment plant	39,4 mg/l
	Fresh water sediment	0,0025 mg/kg
	Marine sediment	0,0025 mg/kg
	Soil	0,0024 mg/kg

**8.2 Exposure controls**

**Personal protective equipment**

Eye protection : Safety glasses

Hand protection

Break through time : 480 min

Glove thickness : 0,7 mm

Remarks : Long-term exposure Impervious butyl rubber gloves

Break through time : 30 min

Glove thickness : 0,4 mm

Remarks : For short-term exposure (splash protection): Nitrile rubber gloves.

Remarks : These types of protective gloves are offered by various manufacturers. Please note the manufacturers' detailed statements, especially about the minimum thickness and the minimum breakthrough time. Consider also the particular working conditions under which the gloves are being used.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure  
Full mask to standard DIN EN 136  
Filter A (organic gases and vapours) to standard DIN EN 141  
The use of filter apparatus presupposes that the environment atmosphere contains at least 17% oxygen by volume, and does not exceed the maximum gas concentration, usually 0.5% by volume. Relevant guidelines to be considered include EN 136/141/143/371/372 as well as other national regulations.

**Protectogen C aqua**

Page 6(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

Protective measures : Avoid contact with skin and eyes.

---

**SECTION 9: Physical and chemical properties**

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

Appearance : Liquid

Colour : colourless to slightly yellow

Odour : characteristic

Odour Threshold : not tested.

pH : 8,3 (20 °C)  
Concentration: 100 g/l  
Method: DIN 51369

Solidification point : approx. -10 °C  
Method: ASTM D 97

Boiling point : 102 °C  
(1.013 hPa)  
Method: ASTM D 1120

Flash point : > 100 °C  
Method: ISO 2592

Evaporation rate : Not applicable

Burning number : Not applicable

Upper explosion limit / upper flammability limit : Not applicable

Lower explosion limit / Lower flammability limit : Not applicable

Vapour pressure : < 0,001 Pa (20 °C)  
Method: Calculated by Syracuse.

Relative vapour density : Not applicable

Density : 1,0703 g/cm<sup>3</sup> (20 °C)  
Method: DIN 51757

Bulk density : Not applicable

Solubility(ies)

Water solubility : completely miscible (20 °C)

Solubility in other solvents : not tested.  
Solvent: fat

**Protectogen C aqua**

Page 7(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	495 °C Method: DIN 51794
Decomposition temperature	:	> 300 °C Method: DSC No decomposition up to 300 °C.
Viscosity		
Viscosity, dynamic	:	10,47 mPa.s (20 °C)
Viscosity, kinematic	:	9,78 mm <sup>2</sup> /s (20 °C) Method: DIN 51562
Explosive properties	:	no data available
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

**9.2 Other information**

Surface tension	:	27,5 mN/m
Minimum ignition energy	:	not tested.
Particle size	:	Not applicable
Self-ignition	:	The substance or mixture is not classified as self heating.

---

**SECTION 10: Stability and reactivity**

**10.1 Reactivity**

See section 10.3. "Possibility of hazardous reactions"

**10.2 Chemical stability**

Stable under normal conditions.

**10.3 Possibility of hazardous reactions**

Hazardous reactions : Reactions with oxidising agents.

**10.4 Conditions to avoid**

Conditions to avoid : None known.

**10.5 Incompatible materials**

Materials to avoid : not known

**10.6 Hazardous decomposition products**

When handled and stored appropriately, no dangerous decomposition products are known

**Protectogen C aqua**

Page 8(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

**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

**Components:**

**Sodium nitrate:**

Acute oral toxicity : LD50 (Rat, male and female): ca. 3.430 mg/kg  
Method: OECD Test Guideline 401  
GLP: no  
Remarks: No significant adverse effects were reported

Acute inhalation toxicity : Remarks: Not applicable

Acute dermal toxicity : LD50 (Rat, male and female): > 5.000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes  
Remarks: By analogy with a product of similar composition

**Methyl-1H-benzotriazole:**

Acute oral toxicity : LD50 (Rat, male and female): ca. 720 mg/kg  
Method: OECD Test Guideline 401  
GLP: no

Acute inhalation toxicity : Remarks: not required

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2.000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes  
Remarks: By analogy with a product of similar composition

**Skin corrosion/irritation**

**Product:**

Remarks : no data available

**Components:**

**Sodium nitrate:**

Species : Rabbit  
Exposure time : 4 h  
Method : OECD Test Guideline 404  
Result : No skin irritation  
GLP : no  
Remarks : By analogy with a product of similar composition



**Protectogen C aqua**

Page 9(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

**Methyl-1H-benzotriazole:**

Species : Rabbit  
Exposure time : 4 h  
Method : OECD Test Guideline 404  
Result : No skin irritation  
GLP : no

**Serious eye damage/eye irritation**

**Product:**

Remarks : no data available

**Components:**

**Sodium nitrate:**

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : Irritating to eyes.  
GLP : yes

**Methyl-1H-benzotriazole:**

Species : rabbit eye  
Exposure time : 24 h  
Method : OECD Test Guideline 405  
Result : slight irritation  
GLP : no

**Respiratory or skin sensitisation**

**Product:**

Remarks : no data available

**Components:**

**Sodium nitrate:**

Test Type : Local lymph node assay (LLNA)  
Exposure routes : Dermal  
Species : Mouse  
Method : OECD Test Guideline 429  
Result : Not a skin sensitizer.  
GLP : yes

Assessment : Causes serious eye irritation.

**Methyl-1H-benzotriazole:**

Test Type : Guinea pig maximization test  
Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Does not cause skin sensitisation.

**Protectogen C aqua**

Page 10(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

GLP : yes

**Germ cell mutagenicity**

**Product:**

Germ cell mutagenicity-  
Assessment : No information available.

**Components:**

**Sodium nitrate:**

Genotoxicity in vitro : Test Type: Ames test  
Test system: Salmonella typhimurium  
Concentration: <=5000 µg/plate  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: No information available.

Test Type: Chromosome aberration test in vitro  
Test system: Human lymphocytes  
Concentration: 10 - 850 µg/ml  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative  
GLP: yes

Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster lung cells  
Concentration: <=5000 µg/ml  
Metabolic activation: without  
Method: Other  
Result: positive  
GLP: No information available.

Genotoxicity in vivo : Test Type: Unscheduled DNA synthesis test (UDS) in  
testicular cells  
Species: Mouse (male)  
Strain: C3H x 101  
Application Route: oral (gavage)  
Exposure time: 3 times, 17 d  
Dose: 600 - 1200 mg/kg  
Method: Other  
Result: negative  
GLP: No information available.

Test Type: Micronucleus test  
Species: Mouse (male)  
Strain: Swiss Webster  
Application Route: oral (gavage)  
Exposure time: 2 times, 24 h  
Dose: 108-323-969-2906 mg/kg

**Protectogen C aqua**

Page 11(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

Method: Other  
Result: positive  
GLP: No information available.

Germ cell mutagenicity-  
Assessment : Weight of evidence does not support classification as a germ cell mutagen.

**Methyl-1H-benzotriazole:**

Genotoxicity in vitro : Test Type: Ames test  
Test system: Salmonella typhimurium  
Concentration: 20 - 12500 µg/plate  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: no

Test Type: HGPRT assay  
Test system: Chinese hamster ovary cells  
Concentration: 50 - 1000 µg/ml  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative  
GLP: yes  
Remarks: By analogy with a product of similar composition

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse (male and female)  
Strain: NMRI  
Cell type: Bone marrow  
Application Route: oral (gavage)  
Exposure time: 1 treatment, 24-48-72 h  
Dose: 600 mg/kg  
Method: OECD Test Guideline 474  
Result: negative  
GLP: yes

Germ cell mutagenicity-  
Assessment : It is concluded that the product is not mutagenic based on evaluation of several mutagenicity tests.

**Carcinogenicity**

**Product:**

Carcinogenicity -  
Assessment : No information available.

**Components:**

**Sodium nitrate:**

Carcinogenicity -  
Assessment : Animal testing did not show any carcinogenic effects.

**Protectogen C aqua**

Page 12(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

**Methyl-1H-benzotriazole:**

Carcinogenicity - Assessment : No information available.

**Reproductive toxicity**

**Product:**

Reproductive toxicity - Assessment : No information available.  
No information available.

**Components:**

**Sodium nitrate:**

Effects on fertility : Test Type: reproductive and developmental toxicity study  
Species: Rat, male and female  
Strain: wistar  
Application Route: oral (gavage)  
Dose: 0, 250, 750, and 1,500 mg/kg/  
General Toxicity - Parent: NOAEL:  $\geq$  1.500 mg/kg body weight  
Method: OECD Test Guideline 422  
GLP: yes  
Remarks: By analogy with a product of similar composition

Effects on foetal development : Test Type: reproductive and developmental toxicity study  
Species: Rat, male and female  
Strain: Sprague-Dawley  
Application Route: oral (gavage)  
Dose: 0, 250, 750, and 1,500 mg/kg/  
Duration of Single Treatment: 53 d  
General Toxicity Maternal: NOAEL:  $\geq$  1.500 mg/kg body weight  
Teratogenicity: NOAEL:  $\geq$  1.500 mg/kg body weight  
Developmental Toxicity: NOAEL:  $\geq$  1.500 mg/kg body weight  
Method: OECD Test Guideline 422  
GLP: yes  
Remarks: By analogy with a product of similar composition

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.  
No teratogenic effects to be expected.

**Methyl-1H-benzotriazole:**

Effects on fertility : Test Type: Fertility/early embryonic development  
Species: Rat, male and female  
Strain: wistar  
Application Route: oral (gavage)  
Dose: 12,5 - 50 - 200 mg/kg  
General Toxicity - Parent: NOAEL:  $>$  200 mg/kg body weight  
Method: OECD Test Guideline 421  
GLP: yes  
Remarks: By analogy with a product of similar composition

**Protectogen C aqua**

Page 13(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

Effects on foetal development : Species: Rat  
Strain: wistar  
Application Route: oral (gavage)  
Dose: 12,5 - 50 - 200 mg/kg  
General Toxicity Maternal: NOAEL: > 200 mg/kg body weight  
Teratogenicity: NOAEL: > 200 mg/kg body weight  
Method: Other  
GLP: yes  
Remarks: By analogy with a product of similar composition

Reproductive toxicity - Assessment : No reproductive toxicity to be expected.  
No teratogenic effects to be expected.

**STOT - single exposure**

**Product:**

Remarks : no data available

**Components:**

**Sodium nitrate:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

**Methyl-1H-benzotriazole:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

**STOT - repeated exposure**

**Product:**

Remarks : no data available

**Components:**

**Sodium nitrate:**

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

**Methyl-1H-benzotriazole:**

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

**Repeated dose toxicity**

**Product:**

Remarks : no data available

**Protectogen C aqua**

Page 14(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

**Components:**

**Sodium nitrate:**

Species : Rat, male and female  
NOAEL :  $\geq 1.500$  mg/kg  
Application Route : oral (gavage)  
Exposure time : 28 d  
Number of exposures : daily  
Dose : 250 - 750 - 1500 mg/kg  
Group : yes  
Method : OECD Test Guideline 422  
GLP : yes  
Remarks : By analogy with a product of similar composition

**Methyl-1H-benzotriazole:**

Species : Rat, male and female  
NOAEL : ca. 150 mg/kg  
Application Route : oral (gavage)  
Exposure time : 28 d  
Number of exposures : daily  
Dose : 50 - 150 - 450 mg/kg  
Group : yes  
Method : OECD Test Guideline 407  
GLP : yes

Application Route : Skin contact  
Remarks : This information is not available.

Application Route : Inhalation  
Remarks : This information is not available.

**Aspiration toxicity**

**Product:**

no data available

**Components:**

**Sodium nitrate:**

No aspiration toxicity classification

**Methyl-1H-benzotriazole:**

No aspiration toxicity classification

**Further information**

**Product:**

Remarks : The classification was made by the conventional (calculation) method of the CLP Regulation (EC) No 1272/2008.

**Protectogen C aqua**

Page 15(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

**SECTION 12: Ecological information**

**12.1 Toxicity**

**Product:**

Toxicity to fish : Remarks: no data available

Toxicity to daphnia and other aquatic invertebrates : Remarks: no data available

Toxicity to algae/aquatic plants : Remarks: no data available

Toxicity to microorganisms : EC50 : 233 mg/l  
Exposure time: 30 min  
Method: ISO 11348

**Components:**

**Sodium nitrate:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
End point: mortality  
Exposure time: 96 h  
Test Type: static test  
Analytical monitoring: yes  
Method: OECD Test Guideline 203  
GLP: yes  
Remarks: By analogy with a product of similar composition

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 8.609 mg/l  
End point: Immobilization  
Exposure time: 24 h  
Test Type: static test  
Analytical monitoring: no  
Method: OECD Test Guideline 202  
GLP: no

Toxicity to algae/aquatic plants : ErC50 (Marine Diatom): > 1.700 mg/l  
End point: Growth rate  
Exposure time: 10 d  
Test Type: static test  
Analytical monitoring: yes  
Method: Other  
GLP: no  
Remarks: By analogy with a product of similar composition

Toxicity to microorganisms : EC50 (activated sludge): > 1.000 mg/l  
End point: Bacteria toxicity (respiration inhibition)  
Exposure time: 3 h  
Test Type: static test  
Analytical monitoring: no  
Method: OECD Test Guideline 209  
GLP: yes

**Protectogen C aqua**

Page 16(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

- Toxicity to fish (Chronic toxicity) : NOEC: 58 mg/l  
End point: Other  
Exposure time: 30 d  
Species: Pimephales promelas (fathead minnow)  
Test Type: flow-through test  
Analytical monitoring: yes  
Method: Other
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: not required
- Methyl-1H-benzotriazole:**
- Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): 55 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Analytical monitoring: no  
Method: OECD Test Guideline 203  
GLP: yes  
Remarks: The details of the toxic effect relate to the nominal concentration.
- Toxicity to daphnia and other aquatic invertebrates : LC50 (Acartia tonsa): 55 mg/l  
Exposure time: 48 h  
Test Type: static test  
Analytical monitoring: no  
Method: ISO 14669 and PARCOM method  
GLP: yes  
Remarks: The details of the toxic effect relate to the nominal concentration.
- Toxicity to algae/aquatic plants : EC50 (Skeletonema costatum (marine diatom)): 53 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Test Type: static test  
Analytical monitoring: no  
Method: ISO 10253  
GLP: yes  
Remarks: The details of the toxic effect relate to the nominal concentration.
- Toxicity to microorganisms : EC50 (activated sludge): 1.060 mg/l  
End point: Bacteria toxicity (respiration inhibition)  
Test Type: aquatic  
Analytical monitoring: no  
Method: ISO 8192  
GLP: yes  
Remarks: By analogy with a product of similar composition  
The details of the toxic effect relate to the nominal concentration.
- Toxicity to fish (Chronic toxicity) : Remarks: not required



**Protectogen C aqua**

Page 17(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

toxicity)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50: 18,4 - 37,6 mg/l  
End point: Reproduction rate  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: semi-static test  
Analytical monitoring: yes  
Method: OECD 202, Part II (Reproduction test)  
GLP: yes  
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC: 18,4 mg/l  
End point: Reproduction rate  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: semi-static test  
Analytical monitoring: yes  
Method: OECD 202, Part II (Reproduction test)  
GLP: yes  
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to soil dwelling organisms : Remarks: Not applicable

Plant toxicity : Remarks: Not applicable

Sediment toxicity : Remarks: no data available

Toxicity to terrestrial organisms : Remarks: Not applicable

**12.2 Persistence and degradability**

**Product:**

Biodegradability : Biodegradation: > 96 %  
Exposure time: 14 d  
Method: OECD Test Guideline 302B

Chemical Oxygen Demand (COD) : 1.479 mg/g  
Method: ISO/DIS 15705

Dissolved organic carbon (DOC) : 387 mg/g  
Method: DIN/EN 1484

**Components:**

**Sodium nitrate:**

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

**Protectogen C aqua**

Page 18(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

**Methyl-1H-benzotriazole:**

Biodegradability : Test Type: aerobic  
Inoculum: activated sludge, adapted  
Concentration: 100 mg/l  
Result: Not rapidly biodegradable  
Biodegradation: 4 %  
Related to: BOD in % of theoretical OD  
Exposure time: 28 d  
Method: Directive 67/548/EEC Annex V, C.4.D.  
GLP: yes

**12.3 Bioaccumulative potential**

**Product:**

Bioaccumulation : Remarks: Not applicable

**Components:**

**Methyl-1H-benzotriazole:**

Bioaccumulation : Remarks: Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

**12.4 Mobility in soil**

**Product:**

Distribution among environmental compartments : Remarks: no data available

**Components:**

**Methyl-1H-benzotriazole:**

Distribution among environmental compartments : Adsorption/Soil  
Medium: water - soil  
log Koc: ca. 1,9  
Method: estimated

**12.5 Results of PBT and vPvB assessment**

**Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

**Components:**

**Sodium nitrate:**

Assessment : Remarks: Not relevant for inorganic substances

**Methyl-1H-benzotriazole:**

Assessment : This substance is not considered to be persistent,

**Protectogen C aqua**

Page 19(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

bioaccumulating and toxic (PBT)..

**12.6 Other adverse effects**

**Product:**

Additional ecological information : The product has not been tested. The information is derived from the properties of the individual components.

**Components:**

**Sodium nitrate:**

Environmental fate and pathways : not available

Additional ecological information : Do not allow to enter ground water, waterways or waste water.

**Methyl-1H-benzotriazole:**

Environmental fate and pathways : not available

Additional ecological information : The product should not be allowed to enter drains, water courses or the soil.

---

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Product : In accordance with local authority regulations, take to special waste incineration plant

Contaminated packaging : Packaging that cannot be cleaned should be disposed of as product waste

---

**SECTION 14: Transport information**

**Section 14.1. to 14.5.**

ADR	not restricted
ADN	not restricted
RID	not restricted
IATA	not restricted
IMDG	not restricted

**14.6. Special precautions for user**

See sections 6 to 8 of this Safety Data Sheet.

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code (International Bulk Chemicals Code)**

**Protectogen C aqua**

Page 20(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

No transport as bulk according IBC - Code.

---

**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 59) : Not applicable

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

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

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

**Other regulations:**

Apart from the data/regulations specified in this chapter, no further information is available concerning safety, health and environmental protection.

**15.2 Chemical safety assessment**

No Chemical Safety Assessment (CSA) is yet available for the substance, or for the component substances, contained in this product.

---

**SECTION 16: Other information**

**Full text of H-Statements**

H272 : May intensify fire; oxidizer.  
H302 : Harmful if swallowed.  
H319 : Causes serious eye irritation.  
H411 : Toxic to aquatic life with long lasting effects.

**Full text of other abbreviations**

Acute Tox. : Acute toxicity  
Aquatic Chronic : Long-term (chronic) aquatic hazard  
Eye Irrit. : Eye irritation  
Ox. Sol. : Oxidizing solids

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

**Protectogen C aqua**

Page 21(21)

Substance key: 000000121445

Revision Date: 08.08.2019

Version : 5 - 3 / EU

Date of printing : 04.05.2020

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; SVHC - Substance of Very High Concern; 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 : Observe national and local legal requirements

This information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Clariant makes no warranties, express or implied, as to the information's accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of Clariant's products for its particular application. Nothing included in this information waives any of Clariant's General Terms and Conditions of Sale, which control unless it agrees otherwise in writing. Any existing intellectual/industrial property rights must be observed. Due to possible changes in our products and applicable national and international regulations and laws, the status of our products could change. Material Safety Data Sheets providing safety precautions, that should be observed when handling or storing Clariant products, are available upon request and are provided in compliance with applicable law. You should obtain and review the applicable Material Safety Data Sheet information before handling any of these products. For additional information, please contact Clariant.

REG\_EU / EN