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

1.1. Product identifier

Product name

ProteoClean - Reagent B

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

Relevant identified uses

Prevention of enzymatic reactions.

Uses advised against

No information.

1.3. Details of the supplier of the safety data sheet

Manufacturer

CLADE GmbH
Address: Schelztorstraße 54-56, 73728 Esslingen, Germany
Phone: +49 711-400 52 400
Fax: +49 711-400 52 800
E-mail: info@clade.io

1.4. Emergency telephone number

112

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Acute Tox. 4; H302 Harmful if swallowed.
Skin Irrit. 2; H315 Causes skin irritation.
Eye Irrit. 2; H319 Causes serious eye irritation.
Acute Tox. 4; H332 Harmful if inhaled.

Product name: **ProteoClean - Reagent B**
Creation date: **18.10.2017** · Revision: **22.3.2018** · Version: **1**

2.2 Label elements

2.2.1. Labelling according to Regulation (EC) No 1272/2008 [CLP]



Signal word: **Warning**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P330 IF SWALLOWED: Rinse mouth.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a POISON CENTER/doctor if you feel unwell.

P501 Dispose of contents/container in accordance with national regulation.

2.2.2. Contains:

guanidinium chloride (CAS: 50-01-1, EC: 200-002-3, Index: 607-148-00-0)

2.2.3. Special provisions

Special hazards are not known or expected.

2.3. Other hazards

No information.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

For mixtures see 3.2.

3.2. Mixtures

Name	CAS EC Index	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Conc. Limits	REACH Registration No.
guanidinium chloride	50-01-1 200-002-3 607-148-00-0	40-<50	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Acute Tox. 4; H332		01-2119977063-35

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

General notes

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Never give anything by mouth to an unconscious person. Place patient in recovery position and ensure airway patency. Person giving first aid should properly protect himself.

Product name: **ProteoClean - Reagent B**

Creation date: **18.10.2017** · Revision: **22.3.2018** · Version: **1**

Following inhalation

Remove patient to fresh air - move out of dangerous area. If symptoms develop and persist, seek medical attention. If victim is not breathing give artificial respiration. Seek medical help immediately.

Following skin contact

Take off all contaminated clothing. Wash affected skin areas thoroughly with plenty of water and soap. If symptoms develop and persist, seek medical attention.

Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. If irritation persists, seek professional medical attention.

Following ingestion

Do not induce vomiting! Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Immediately consult a doctor. Show the physician the safety data sheet or label.

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

Inhalation

Harmful.
Excessive exposure to spray mist, fog, or vapours may cause respiratory irritation.
Coughing, sneezing, nasal discharge, labored breathing.

Skin contact

Itching, redness, pain.

Eye contact

Redness, tearing, pain.

Ingestion

Harmful to health.
May cause nausea/vomiting and diarrhea.
May cause abdominal discomfort.

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

-

SECTION 5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

Full water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

In case of a fire toxic gases can be generated; do not inhale gases/smoke. In the event of fire the following can be generated:
carbon monoxide (CO), carbon dioxide (CO₂).
Nitrogen oxides (NO_x).
Hydrogen chloride (HCl).
Hydrogen fluoride (HF).
Sulphuric oxides (SO_x).

5.3. Advice for firefighters

Protective actions

In case of fire or heating do not breathe fumes/vapours. Cool containers at risk with water spray. If possible remove containers from endangered area.

Special protective equipment for firefighters

Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots and gloves) (EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (EN 137).

Additional information

Contaminated firefighting water and fire residues must be disposed of in accordance with the local regulations.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment

Use personal protective equipment (Section 8). Use breathing protection against effects of steam/dust/aerosol.

Emergency procedures

Ensure adequate ventilation. No action shall be taken involving any personal risk or without suitable training. Evacuate personnel. Prevent access to unprotected personnel. Do not breathe vapour or mist. Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

Use personal protective equipment.

6.2. Environmental precautions

Do not allow product to reach water/drains/sewage systems or permeable soil. If accidental large entry into water or ground occurs, inform responsible authorities.

6.3. Methods and material for containment and cleaning up

6.3.1. For containment

Stem the spill if this does not pose risks.

6.3.2. For cleaning up

Absorb product (with inert material), collect it in special container and dispose it to a licensed hazardous-waste disposal contractor. Make sure the leakage site is well aired.

6.3.3. Other information

-

6.4. Reference to other sections

See also Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. Protective measures

Measures to prevent fire

Ensure adequate ventilation.

Measures to prevent aerosol and dust generation

-

Measures to protect the environment

-

7.1.2. Advice on general occupational hygiene

Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes. Do not breathe vapours/mist. Refer to instructions on label and regulations for safety and health at work. Wear suitable protective equipment; see Section 8.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1. Technical measures and storage conditions

Keep in tightly closed container. Keep in cool and well ventilated area. Keep in a dry place. Keep away from food, drink and animal feeding stuffs. Keep out of the reach of children.

7.2.2. Packaging materials

-

7.2.3. Requirements for storage rooms and vessels

Close opened containers after use. Put the containers upright to prevent from leaking.

7.2.4. Storage class

-

7.2.5. Further information on storage conditions

-

7.3. Specific end use(s)

Recommendations

-

Industrial sector specific solutions

-

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. Occupational exposure limit values

No information.

8.1.2. Information on monitoring procedures

BS EN 14042:2003 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. BS EN 482:2012+A1:2015 Workplace exposure. General requirements for the performance of procedures for the measurement of chemical agents. BS EN 689:2018 Workplace exposure. Measurement of exposure by inhalation to chemical agents. Strategy for testing compliance with occupational exposure limit values.

8.1.3. DNEL/DMEL values

No information.

8.1.4. PNEC values

No information.

8.2. Exposure controls

8.2.1. Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Handle in accordance with good industrial hygiene and safety practice. Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes. Do not breathe vapours/aerosols.

Organisational measures to prevent exposure

Remove all contaminated clothes immediately and wash them before reuse. Keep eyewash bottles or personal eyewash units available at the workplace.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in areas with increased concentration. If the vapour/dust concentration exceeds the limit values despite the technical measures, wear personal protective equipment.

8.2.2. Personal protective equipment

Eye and face protection

Tight fitting protective goggles (EN 166).

Hand protection

Protective gloves (EN 374). The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. The penetration time is determined by the protective glove manufacturer and must be observed. Observe the manufacturer's instructions regarding the use, storage, maintenance and replacement of gloves. In case of damage or at the first signs of wear and tear, change the gloves immediately.

Skin protection

Cotton protective clothing and shoes that cover the entire foot (EN ISO 20345).

Respiratory protection

In case of insufficient ventilation wear suitable respiratory protection. At elevated concentrations of vapours/aerosols in the air wear a mask (EN 140) with filter A2-P2 (EN 14387). For dust/gas/ vapor concentrations above the applicable filter limit, in case of oxygen concentrations below 17% or in vague conditions, autonomous self-contained breathing apparatus should be used, according to standard EN 137, EN 138.

Thermal hazards

-

8.2.3. Environmental exposure controls

Technical measures to prevent exposure

Do not allow product to reach drains, sewage systems or ground water.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

- Physical state:	liquid
- Colour:	blue
- Odour:	

Important health, safety and environmental information

- pH	No information.
- Melting point/freezing point	No information.
- Initial boiling point/boiling range	No information.
- Flash point	No information.
- Evaporation rate	No information.
- Flammability (solid, gas)	No information.
- Explosion limits (vol%)	No information.
- Vapour pressure	No information.
- Vapour density	No information.
- Density	Density: 1,122 g/cm ³ at 20 °C
- Solubility	No information.
- Partition coefficient	No information.
- Auto-ignition temperature	No information.
- Decomposition temperature	No information.
- Viscosity	No information.
- Explosive properties	No information.
- Oxidising properties	No information.

Product name: **ProteoClean - Reagent B**
Creation date: **18.10.2017** · Revision: **22.3.2018** · Version: **1**

9.2. Other information

-	Remarks:	
---	----------	--

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

Product is stable under normal conditions of use, recommended handling and storage conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Not known.

10.5. Incompatible materials

No data available.

10.6. Hazardous decomposition products

Under normal use conditions no hazardous decomposition products are expected. In case of fire/explosion vapours/gases that pose a health hazard are released. Carbon dioxide; Carbon monoxide.

Nitrogen oxides.

Sulphuric oxides. Hydrogen chloride (HCl). Hydrogen fluoride.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

(a) Acute toxicity

Name	Exposure route	Type	Species	Time	Value	Method	Remark
guanidinium chloride (50-01-1)	oral	LD ₅₀	rat		475 – 1120 mg/kg		
guanidinium chloride (50-01-1)	oral	LD ₅₀	mouse		571 mg/kg		
guanidinium chloride (50-01-1)	inhalation	LC ₅₀	rat	4 h	3,181 mg/l	OECD 403	

Additional information: Harmful if inhaled. Harmful if swallowed.

(b) Skin corrosion/irritation

Name	Species	Time	Result	Method	Remark
guanidinium chloride (50-01-1)	rabbit		Irritating.		

Additional information: Causes skin irritation.

(c) Serious eye damage/irritation

Name	Species	Time	Result	Method	Remark
guanidinium chloride (50-01-1)	rabbit		Irritating.		

Additional information: Causes serious eye irritation.

(d) Respiratory or skin sensitisation

Name	Exposure route	Species	Time	Result	Method	Remark
guanidinium chloride (50-01-1)	dermal	guinea pig		Non sensitising.	Buehler test	

Product name: **ProteoClean - Reagent B**
 Creation date: **18.10.2017** · Revision: **22.3.2018** · Version: **1**

(e) (Germ cell) mutagenicity

Name	Type	Species	Time	Result	Method	Remark
guanidinium chloride (50-01-1)				Negative.	Ames test	

(f) Carcinogenicity

No information.

(g) Reproductive toxicity

No information.

Summary of evaluation of the CMR properties

No information.

(h) STOT-single exposure

No information.

(i) STOT-repeated exposure

Name	Exposure route	Type	Species	Time	Organ	Value	Result	Method	Remark
guanidinium chloride (50-01-1)	-	-	human				Liver - irregularities		

(j) Aspiration hazard

No information.

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1. Acute (short-term) toxicity

For components

Substance (CAS Nr.)	Type	Value	Exposure time	Species	Organism	Method	Remark
guanidinium chloride (50-01-1)	LC ₅₀	1759 mg/L		fish	<i>Leuciscus idus</i>		

12.1.2. Chronic (long-term) toxicity

No information.

12.2. Persistence and degradability

12.2.1. Abiotic degradation, physical- and photo-chemical elimination

No information.

12.2.2. Biodegradation

For components

Substance (CAS Nr.)	Type	Rate	Time	Evaluation	Method	Remark
guanidinium chloride (50-01-1)	-			not readily biodegradable		

12.3. Bioaccumulative potential

12.3.1. Partition coefficient

No information.

12.3.2. Bioconcentration factor (BCF)

No information.

12.4. Mobility in soil

12.4.1. Known or predicted distribution to environmental compartments

No information.

Product name: **ProteoClean - Reagent B**
Creation date: **18.10.2017** · Revision: **22.3.2018** · Version: **1**

12.4.2. Surface tension

No information.

12.4.3. Adsorption/Desorption

No information.

12.5. Results of PBT and vPvB assessment

No evaluation.

12.6. Other adverse effects

No information.

12.7. Additional information

For product

Do not allow to reach ground water, water courses or sewage system.
Water hazard class (WGK): 3 (Self-assessment), very hazardous for water.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

13.1.1. Product / Packaging disposal

Waste chemical

Waste should be handled in accordance with local or national regulations. Disposal must be made according to official regulations: deliver it to authorised collector/remover/transformer of hazardous waste.

Packaging

The packaging must be disposed in accordance with local or national regulations. Deliver completely emptied containers to approved waste disposal authorities.

13.1.2. Waste treatment-relevant information

-

13.1.3. Sewage disposal-relevant information

-

13.1.4. Other disposal recommendations

-

SECTION 14. TRANSPORT INFORMATION

14.1. UN number

Not applicable.

14.2. UN proper shipping name

ADR, RID, IMDG, ADN, IATA: Not dangerous according to transport regulations.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

NO.

Product name: **ProteoClean - Reagent B**
Creation date: **18.10.2017** · Revision: **22.3.2018** · Version: **1**

14.6. Special precautions for user

Not applicable.

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

Not applicable.

SECTION 15. REGULATORY INFORMATION

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

- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (including last amendment Commission Regulation (EU) 2015/830)
- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

15.1.1. Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)

Not applicable.

15.2. Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16. OTHER INFORMATION

Indication of changes

-

Abbreviations and acronyms

ATE - Acute Toxicity Estimate
ADR - Agreement concerning the International Carriage of Dangerous Goods by Road
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CEN - European Committee for Standardisation
C&L - Classification and Labelling
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
CAS# - Chemical Abstracts Service number
CMR - Carcinogen, Mutagen, or Reproductive Toxicant
CSA - Chemical Safety Assessment
CSR - Chemical Safety Report
DMEL - Derived Minimal Effect Level
DNEL - Derived No Effect Level
DPD - Dangerous Preparations Directive 1999/45/EC
DSD - Dangerous Substances Directive 67/548/EEC
DU - Downstream User
EC - European Community
ECHA - European Chemicals Agency
EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)
EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)
EEC - European Economic Community
EINECS - European Inventory of Existing Commercial Substances
ELINCS - European List of notified Chemical Substances
EN - European Standard
EQS - Environmental Quality Standard
EU - European Union
Euphrac - European Phrase Catalogue
EWC - European Waste Catalogue (replaced by LoW – see below)
GES - Generic Exposure Scenario
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG - International Maritime Dangerous Goods

Product name: **ProteoClean - Reagent B**

Creation date: **18.10.2017** · Revision: **22.3.2018** · Version: **1**

IMSBC - International Maritime Solid Bulk Cargoes
IT - Information Technology
IUCLID - International Uniform Chemical Information Database
IUPAC - International Union for Pure Applied Chemistry
JRC - Joint Research Centre
Kow - octanol-water partition coefficient
LC₅₀ - Lethal Concentration to 50 % of a test population
LD₅₀ - Lethal Dose to 50% of a test population (Median Lethal Dose)
LE - Legal Entity
LoW - List of Wastes (see <http://ec.europa.eu/environment/waste/framework/list.htm>)
LR - Lead Registrant
M/I - Manufacturer / Importer
MS - Member States
MSDS - Material Safety Data Sheet
OC - Operational Conditions
OECD - Organization for Economic Co-operation and Development
OEL - Occupational Exposure Limit
OJ - Official Journal
OR - Only Representative
OSHA - European Agency for Safety and Health at work
PBT - Persistent, Bioaccumulative and Toxic substance
PEC - Predicted Effect Concentration
PNEC(s) - Predicted No Effect Concentration(s)
PPE - Personal Protection Equipment
(Q)SAR - Qualitative Structure Activity Relationship
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
RIP - REACH Implementation Project
RMM - Risk Management Measure
SCBA - Self-Contained Breathing Apparatus
SDS - Safety data sheet
SIEF - Substance Information Exchange Forum
SME - Small and Medium sized Enterprises
STOT - Specific Target Organ Toxicity
(STOT) RE - Repeated Exposure
(STOT) SE - Single Exposure
SVHC - Substances of Very High Concern
UN - United Nations
vPvB - Very Persistent and Very Bioaccumulative

Key literature references and sources for data

-

List of relevant H phrases

H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.

The information of this SDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under Section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. The information given in this SDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.