

Atlas ClearSight Tablets with TBE

Safety Data Sheet

Bioatlas Ltd
Version 1
Revision Date 24.10.2017

info@bioatlas.com
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

| | |
|-------------------------|---|
| Product name: | Atlas ClearSight Tablets |
| Product Number: | BA50101 |
| Brand: | Bioatlas |
| EC Substance Name: | Not applicable |
| EC number: | Not applicable |
| CAS reference number: | Not applicable |
| REACH reference number: | A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline. |

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

Identified uses: For laboratory and manufacturing use only.

1.3 Details of the supplier of the safety data sheet

Company: Bioatlas
Riia 181A
Tartu, 51014
Estonia
Phone: +372 5562 4867
e-mail: info@bioatlas.com

1.4 Emergency telephone number

Emergency Phone: +372 5562 4867
* Within business hours: Monday to Friday, 8am to 5pm

SECTION 2: Substance or mixture possible hazards classification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
H315 Skin irritation (Category 2)
H319 Eye irritation (Category 2)

H360FD Reproductive toxicity (Category 1B)
 Specific target organ toxicity - single exposure (Category 3),
 H335 Respiratory system
 For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC
 T Toxic R60, R61
 Xi Irritant R36/37/38
 For the full text of the R-phrases mentioned in this Section, see Section 16.

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

Label elements, Labelling

Pictogram



Danger

Signal word

Hazard statement(s)

H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.
 H360FD May damage fertility. May damage the unborn child.

Precautionary statement(s)

P201 Obtain special instructions before use.
 P261 Avoid breathing dust.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P308 + P313 IF exposed or concerned: Get medical advice/attention.

Supplemental Hazard Statements

none

Restricted to professional users.

According to European Directive 67/548/EEC as amended.

Hazard symbol(s)

T Toxic



R-phrases(s)

R60 May impair fertility.
 R61 May cause harm to the unborn child.
 R36/37/38 Irritating to eyes, respiratory system and skin.

S-phrases(s)

S53 Avoid exposure - obtain special instructions before use.
 S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Restricted to professional users.

2.3 Other hazards:

none

This mixture does not contain any substances that are assessed to be a PBT or a vPvB

2.4 Additional hazards for humans and the environment:

| | |
|---|-------------------|
| 2.4.1 Possible hazardous physicochemical effects: | Unknown |
| 2.4.2 Possible adverse effects on humans and possible symptoms: | No data available |
| 2.4.3 Possible harmful effects: | No data available |

SECTION 3: Composition / information on ingredients:

3.1 Chemical characterization:

Powder solution with inorganic and organic components.

Product name: Atlas ClearSight Tablets

3.2 Components

| Name | CAS No. | EC No. | Proportion % | Classification according to 67/548/EEC and 1999/45 / EC | Classification according to regulation (EC)No1272/2008 |
|---|------------|-----------|------------------------|---|---|
| Atlas ClearSight DNA Stain * | - | - | <1% | - | - |
| Agarose | 9012-36-6 | 232-731-8 | 50% | - | - |
| Tris-Borate EDTA (TBE) buffer ** | - | - | 50% | | |
| <i>Tris (hydroxymethyl) aminomethane</i> | 77-86-1 | 201-064-4 | 25-35% of TBE buffer | <i>Xi, R36/37/38</i> | <i>Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335</i> |
| <i>Ethylenediaminetetraacetic acid (EDTA)</i> | 60-00-4 | 200-449-4 | 1,5-2,5% of TBE buffer | - | <u>H332-H373</u> |
| <i>Boric acid</i> | 10043-35-3 | 233-139-2 | 15-20% of TBE buffer | T, Repr.Cat.2, R60 - R61 | Repr. 1B; H360FD |

*No components need to be disclosed according to the applicable regulations.

** Hazardous ingredients according to Regulation (EC) No 1272/2008 Component Classification Concentration Boric acid Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. (REACH) 1907/2006

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1 General information:



If skin irritation or other symptoms persist, consult a physician. Show this safety data sheet to the doctor in attendance. Remove contaminated clothing and shoes, carefully clean before reuse.

4.2 After inhalation:

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

4.3 After skin contact:

In case of skin contact, immediately wash off with soap and rinse with plenty of water. Consult a physician.

4.4 After eye contact:



Eye contact: Remove contact lenses. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

4.5 After swallowing:

Never give anything to an unconscious person. Do not induce vomiting. Rinse the mouth, spit out the fluid and drink plenty of water. Call a physician immediately and show him the safety data sheet.

4.6 Notes to physician:

Decontamination, symptomatic treatment. No specific antidote known.

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

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

SECTION 5: Firefighting measures

5.1 Suitable extinguishing media:



This product is not flammable. Use extinguishing agent suitable for type of surrounding fire: water spray, dry chemical or carbon dioxide, fire extinguishing foam, extinguishing powder.

5.2 Extinguishing media which must not be used for safety reasons:

No data available

5.3 Special hazards caused by the product, combustion products or resulting gases:



In the event of fire, toxic and corrosive gases - carbon monoxide, carbon dioxide, and sulphur oxides - can be released.

5.4 Special protective equipment for fire-fighting:



Wear protective clothing. Wear self-contained breathing apparatus for firefighting if necessary.

5.5 Additional information:

No data available.

SECTION 6: Accidental release measures

6.1 Personal precautions:

Avoid contact with skin, eyes and clothing, wear appropriate protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions:

Dilute with plenty of water. Do not allow to enter sewers/ surface or ground water.

6.3 Methods for cleaning up:

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections.

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Handling:

7.1.1 Information for safe handling:

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.

Provide appropriate exhaust ventilation at places where dust might formed. For precautions see section 2.2.

7.1.2 Information on fire and explosion protection:

See section 5.

7.1.3 Handling rules:

No special handling measures required

7.2 Storage:

7.2.1 Technical measures and storage conditions:

Always keep in containers of the same material as the original.

7.2.2 Packaging materials:

Packing materials must be tested for durability before use.

7.2.3 Requirements for storage rooms and containers:

Keep container tightly closed in a dry and well-ventilated place. If possible, keep in the original container. Do not use food containers because of the risk of confusion. Containers which are opened must be carefully resealed.

7.2.4 Further information on storage conditions:

Recommended storage temperature 4-30°C. Protected from light.

7.3 Specific end use(s):

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters:

Contains no relevant quantities of substances with occupational exposure limit values that have to be monitored at the workplace according to TRGS 900.

8.2 Exposure controls

Appropriate engineering controls:

Handle in accordance with Good Laboratory Practice. Wash hands before breaks and at the end of workday.

8.2.1 Personal protective equipment



Respiratory protection:

In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards. Half masks according to EN 140 or full masks according to EN 136, with filters according to EN 143-P1.



Skin protection:

Handle with suitable protective gloves. Gloves must be inspected prior to use. Damaged and worn protective gloves should be replaced immediately. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and Good Laboratory Practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Completely unsuitable are gloves made of fabric or leather. The following gloves are suitable:

For full contact:

| Material: | Minimum layer thickness | Breakthrough time: |
|----------------|-------------------------|--------------------|
| Nitrile rubber | 0.35 mm | ≥ 480 min |
| Latex | 0.35 mm | ≥ 480 min |

For splash contact:

| Material: | Minimum layer thickness | Breakthrough time: |
|--------------------|-------------------------|--------------------|
| Natural rubber | 0.5 mm | ≥ 120 min |
| Latex | 0.5 mm | ≥ 120 min |
| Polyvinyl chloride | 0.5 mm | ≥ 120 min |
| Nitrile rubber | 0.2 mm | ≥ 30 min |



Eye protection:

Safety glasses with side-shields conforming to EN166 U



Body protection:

Suitable protective clothing. Special body protection generally not required.

General protective and hygienic measures

Do not eat, drink or smoke during working hours. Keep away from food and drink. Avoid contact with eyes and skin. Remove contaminated and soaked clothing immediately. Wash hands before breaks and after work.

8.2.2 Limitation of environmental exposure:

Prevent further leakage or spillage if safe to do so.

8.2.3 Limitation of end-user exposure:

Avoid formation of dust and aerosols. Avoid breathing vapors, mist or gas. Remove all sources of ignition.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|---|-------------------------------|
| a) Appearance Form: | White, powder in tablet form. |
| b) Odour: | No data available |
| c) Odour Threshold: | No data available |
| d) pH: | No data available |
| e) Melting point/freezing point: | No data available |
| f) Initial boiling point and boiling range: | No data available |
| g) Flash point: | No data available |
| h) Evaporation rate: | No data available |
| i) Flammability (solid, gas): | No data available |
| j) Upper/lower flammability or explosive limits: | No data available |
| k) Vapour pressure: | No data available |
| l) Vapour density: | No data available |
| m) Relative density: | No data available |
| n) Water solubility: | Soluble in water |
| o) Partition coefficient: | No data available |
| p) Auto-ignition temperature: | No data available |
| q) Decomposition temperature: | No data available |
| r) Viscosity: | No data available |
| s) Explosive properties: | No data available |
| t) Oxidizing properties: | No data available |

9.2 Other safety information:

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

High pressure and temperatures. Stable under regular laboratory conditions. See section 7.

10.5 Materials to avoid

Strong acids, oxidation and reducing agents.

10.6 Incompatible materials

Strong oxidizing agents

10.7 Hazardous decomposition products

Other decomposition products

No data available.

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

11.1.1 The acute toxicity test

| Component | Parameter | Value | Species |
|-----------------------------------|-----------------------------|------------------|--------------|
| Atlas ClearSight DNA stain | LD ₅₀ oral | 1000-10000 mg/kg | Kunming mice |
| Tris (hydroxymethyl)aminomethane: | LD ₅₀ oral | 5900 mg/kg | Rat |
| Boric acid | LD ₅₀ oral | 2000 mg/kg | Rat |
| Boric acid | LD ₅₀ dermal | 0.16 mg/L | Rabbit |
| Boric acid | LD ₅₀ inhalation | 0.16 mg/L | Rat |

11.2.2 Corrosive and irritant effects

Skin corrosion/irritation

Irritant effect

Serious eye damage/eye irritation

Irritant effect

After inhalation

Slight irritations

11.2.3 Respiratory or skin sensitization No data available

11.2.4 Aspiration hazard No data available

11.2.5 Carcinogenicity, mutagenicity and toxicity to reproduction mutagenicity:

| Component | Parameter | Value | Cell culture/ Species | Method | Remarks |
|-----------------------------------|---|-----------------|--|---|---------------|
| <i>Atlas ClearSight DNA stain</i> | <i>In vitro</i> bacterial mutation test | 0,5-5 mg/plate | Salmonella typhimurium TA97/98/100/102 | AMES-test | Non-mutagenic |
| <i>Atlas ClearSight DNA stain</i> | <i>In vivo</i> micronucleus test | 1000-5000 mg/kg | Kunming mice | The mouse bone marrow micronucleus test | Negative |
| <i>Atlas ClearSight DNA stain</i> | <i>In vitro</i> mammalian chromosomal aberration test | 31,2-5000 µg/ml | Chinese hamster ovary line. | <i>in vitro</i> mammalian cell chromosome aberration detection system | Negative |

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity:

No toxicological data are available on the components of the product

11.2.6 Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Product is suspected to cause damage to fertility. · CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction) Repr. 1A

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence (Boric acid)

11.3 Practical experience

No data available

11.4 General remarks:

When used and handled according to instructions, the product does not cause harmful effects according to our experience and current information.

SECTION 12: Ecological information

| | |
|--|---|
| 12.1 Toxicity | No data available |
| 12.2 Persistence and degradability | No data available No data on biological and abiotic degradation are available for the components of the product |
| 12.3 Bioaccumulative potential | No data available |
| 12.4 Mobility in soil | No data available |
| 12.5 Results of PBT and vPvB 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 |
| 12.6 Other adverse effects | Harmful to aquatic life |
| 12.7 General remarks: | When used and handled according to instructions, the product does not cause harmful effects according to our experience and current information. |

SECTION 13: Disposal considerations

13.1 Product:

The allocation of a waste code number according to the European waste catalog should be done in consultation with the regional waste disposal company.

13.2 Packaging:

Residues in packages should be removed, preferably by rinsing with water, and after complete emptying in accordance with the regulations for waste disposal. Packaging which is not completely emptied must be disposed of in the form as determined by the regional waste disposal company.

SECTION 14: Transport information

| | |
|--|------------------------------------|
| 14.1 UN number | Not applicable |
| 14.2 UN proper shipping name | Not applicable |
| In accordance with GGVSEB, ADR / RID, IMDG / GGVSee, ICAO / IATA-DGR | |
| ADR/RID, GGVSEB | Not dangerous good during shipping |
| IMDG / GGVSee | Not dangerous good during shipping |
| ICAO / IATA-DGR | Not dangerous good during shipping |
| 14.3 Transport hazard class(es) | |
| ADR/RID, IMDG, IATA | None |

14.4 Packaging group

ADR/RID, IMDG, IATA None

14.5 Environmental hazards

ADR/RID, IMDG, IATA None

14.6 Special precautions for user

No data available

SECTION 15: Regulatory information

15.1 EU regulations:

15.1.1 Chemical safety assessment according to Regulation (EC) No 1907/2006: Substance safety assessments (CSA) according to Article 14 (1) of Regulation (EC) No 1907/2006 (REACH) for the components of the product are neither banned nor restricted

15.1.2 Classification and labeling according to directives 67/548 / EEC (DSD) and 1999/45 / EC (DPD):
Not a hazardous substance or mixture, see section 2

15.1.3 Classification and labeling according to Regulation (EC) No 1272/2008 (CLP):
Hazardous substance or mixture, see section 2

15.1.4 Hazardous components which must be listed on the label.

15.1.5 Pictograms:



Signal word: Danger to Regulation (EC) No. 1272/2008

H-Statements: Hazardous substance or mixture according to Regulation (EC) No. 1272/2008

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

| | |
|---|--|
| Eye Irrit. | Eye irritation |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |
| H360FD | May damage fertility. May damage the unborn child |
| Repr. | Reproductive toxicity |
| Skin Irrit. | Skin irritation |
| STOT SE | Specific target organ toxicity - single exposure |
| Full text of R-phrases referred to under sections 2 and 3 | |
| T | Toxic |
| R36/37/38 | Irritating to eyes, respiratory system and skin. |
| R60 | May impair fertility. |
| R61 | May cause harm to the unborn child. |
| Xi | Irritant |
| Repr.Cat.2 | Toxic to Reproduction Category 2 |

15.1.6 Special labeling of certain preparations: Neither banned nor restricted

15.1.7 Approvals and / or restrictions of use: Neither banned nor restricted

15.1.8 Information on Directive 1999/13 / EC (VOC Directive) on the limitation of VOC emissions: Neither banned nor restricted

15.2 National regulations (Germany):

15.2.1 Classification and labeling according to Hazardous Substances Ordinance (GefStoffV): Not a hazardous substance or mixture. See section 2.

15.2.2 Employment restrictions:

Observe the Ordinance on Hazardous Substances (GefStoffV), the Youth Protection Act (JArbSchG) or the Ordinance on the Protection against Mothers (MuSchV).

15.2.3 Ordinance on Hazardous Substances (12. BImSchV):

Neither banned nor restricted

15.2.4 Classification according to the regulation of water pollutants (VwVwS):

WGK 1 Slightly flammable

15.2.5 Technical Instructions for Air (TA Luft): Neither banned nor restricted

15.2.6 Other regulations, restrictions and prohibitions:

For this product, a chemical safety assessment was not carried out

SECTION 16: Other information

16.1 Training instructions:

Accordance with applicable laws and Good Laboratory Practices.

16.3 Recommended use (s) of application:

For research use only.

16.4 Further information and contact for technical information:

Department issuing data sheet:

Company: Bioatlas
Riia 181A
Tartu, 51014
Estonia
Phone: +372 5562 4867
e-mail: info@bioatlas.com

Bioatlas ltd

Riia 181A Tartu, 51014 Estonia
Phone: +372 5562 4867
Contact person: Liane Viru
e-mail: liane.viru@bioatlast.com

16.5 Data sources for the preparation of the safety data sheet:

European Chemical Substances Information System (ESIS),

Internet: <http://ecb.jrc.ec.europa.eu/esis>.

Hazardous substance information system of the trade associations (GESTIS), Internet: <http://www.hvbg.de/d/bia/gestis/stoffdb/index.html>.

Hazardous Substances Database (HSDB) - U.S. National Library of Medicine, Internet: <http://toxnet.nlm.nih.gov>

Hommel interactive 4.0 - Handbook of Dangerous Goods,

Internet: <http://www.springer.com/dal/home/chemistry>.

CRC Handbook of Chemistry and Physics, 88th Edition, 2007-2008,

Internet: <http://www.hbcnetbase.com>.

16.6 Amended information and reasons for amendment:

Version number:

Version1: 24.10.2017

The reason for the change: Voluntary preparation on the basis of Annex II to Regulation (EC) No 1907/2006 (REACH) and Annex I to Regulation No 1272/2008 (CLP).

The safety data sheet is based on Article 32 (REACH) and is, therefore, voluntarily adopted in accordance with Annex II (EU No. 453/2010) Regulation (EC) No 1907/2006 (REACH).

16.7 Notes:

This information is only intended to describe the safety requirements of the product and is based on the present state of our knowledge. They do not constitute a guarantee for the characteristics of the product described in the sense of the statutory warranty regulations. Please refer to the respective product data sheets for the delivery properties. If the product mentioned in this Material Safety Data Sheet is mixed, mixed or processed with other materials, the data in this Material Safety Data Sheet may not be transferred to the new material, unless otherwise specified.

End of Safety Data Sheet