

**Buffer AVL**

Version 2.0

Revision Date 11/29/2019

Print Date 06/26/2021

**SECTION 1. IDENTIFICATION**

Product name : Buffer AVL

**Manufacturer or supplier's details**Company : QIAGEN GmbH  
QIAGEN Str. 1  
D-40724 Hilden

Telephone : +49-02103-29-0

Responsible Department : QIAGEN Inc.  
19300 Germantown Road  
Germantown, MD 20874, USA  
Tel.: 800-426-8157  
<http://support.qiagen.com>E-mail : [cpc@qiagen.com](mailto:cpc@qiagen.com)  
addressResponsible/issuing  
personEmergency telephone : CHEMTREC  
USA & Canada 1-800-424-9300**Recommended use of the chemical and restrictions on use**

Recommended use : Laboratory chemicals

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Acute toxicity (Dermal) : Category 4

Skin corrosion : Category 1C

Serious eye damage : Category 1

Chronic aquatic toxicity : Category 3

**GHS Label element**Hazard pictograms : 

Signal Word : Danger

## Buffer AVL

Version 2.0

Revision Date 11/29/2019

Print Date 06/26/2021

- Hazard Statements : H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.  
H314 Causes severe skin burns and eye damage.  
H412 Harmful to aquatic life with long lasting effects.
- Precautionary Statements : **Prevention:**  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

- Substance / Mixture : Mixture
- Substance name : Buffer AVL

**Hazardous ingredients**

Chemical Name	CAS-No.	Concentration (% w/w)
guanidinium thiocyanate	593-84-0	>= 50 - < 70

**SECTION 4. FIRST AID MEASURES**

- General advice : Move out of dangerous area.  
Show this material safety data sheet to the doctor in attendance.
- If inhaled : If unconscious place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.  
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Remove contact lenses.  
Protect unharmed eye.
- If swallowed : If accidentally swallowed obtain immediate medical attention.

**Buffer AVL**

Version 2.0

Revision Date 11/29/2019

Print Date 06/26/2021

	Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	: Harmful if swallowed, in contact with skin or if inhaled. Causes serious eye damage. Causes severe burns. No information available.
Notes to physician	: No information available.

**SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during fire fighting	: Do not allow run-off from fire fighting to enter drains or water courses. Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	: Carbon oxides Sulfur oxides Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
Specific extinguishing methods	: In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for fire-fighters	: Wear self-contained breathing apparatus for firefighting if necessary.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures	: Use personal protective equipment. Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
Environmental precautions	: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.
Methods and materials for containment and cleaning up	: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Unsuitable cleaning agents sodium hypochlorite

**SECTION 7. HANDLING AND STORAGE**

Advice on protection against fire and explosion	: Normal measures for preventive fire protection.
Advice on safe handling	: Do not breathe vapors/dust. Avoid contact with skin and eyes.

## Buffer AVL

Version 2.0

Revision Date 11/29/2019

Print Date 06/26/2021

For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

**Hazardous components without workplace control parameters**

Ingredients	CAS-No.
guanidinium thiocyanate	593-84-0

**Personal protective equipment**

Hand protection

Material : Protective gloves

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection : Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.  
Do not wear contact lenses.  
Ensure that eyewash stations and safety showers are close to the workstation location.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.  
acid-resistant protective clothing  
Footwear protecting against chemicals

Hygiene measures : Keep away from food and drink.  
Wash hands before breaks and at the end of workday.  
Ensure adequate ventilation, especially in confined areas.  
Avoid contact with the skin and the eyes.  
When using do not eat, drink or smoke.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : colorless

**Buffer AVL**

Version 2.0

Revision Date 11/29/2019

Print Date 06/26/2021

Odor	: No data available
Odor Threshold	: No data available
pH	: ca. 7.4
Melting point/range	: No data available
Boiling point/boiling range	: No data available
Flash point	: No data available
Evaporation rate	: No data available
Burning rate	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Relative density	: No data available
Density	: ca. 1.15 g/cm <sup>3</sup> (ca. 20 °C)
Solubility(ies)	
Water solubility	: soluble
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: No decomposition if stored and applied as directed.

## Buffer AVL

Version 2.0

Revision Date 11/29/2019

Print Date 06/26/2021

Possibility of hazardous reactions	: Stable under recommended storage conditions. Hazardous decomposition products formed under fire conditions. Keep away from oxidizing agents, and acidic or alkaline products.
Conditions to avoid	: No data available
Incompatible materials	: No data available
Hazardous decomposition products	: No decomposition if stored and applied as directed.

## SECTION 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

Harmful if swallowed, in contact with skin or if inhaled.

**Product:**

Acute oral toxicity	: Acute toxicity estimate: 991.49 mg/kg Method: Calculation method  No data available
Acute inhalation toxicity	: Acute toxicity estimate: 18.39 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Calculation method  No data available
Acute dermal toxicity	: Acute toxicity estimate: 1,839 mg/kg Method: Calculation method  No data available

**Ingredients:****guanidinium thiocyanate:**

Acute oral toxicity	: LD50 Oral (Rat, female): 593 mg/kg Method: OECD Test Guideline 401
Acute toxicity (other routes of administration)	: LD50 (Mouse): 300 mg/kg

**Skin corrosion/irritation**

Causes severe burns.

**Product:**

Remarks:  
Extremely corrosive and destructive to tissue.  
Causes skin burns.

## Buffer AVL

Version 2.0

Revision Date 11/29/2019

Print Date 06/26/2021

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Product:**

Remarks:

May cause irreversible eye damage.

**Respiratory or skin sensitization**

Skin sensitization: Not classified based on available information.

Respiratory sensitization: Not classified based on available information.

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

**IARC**

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

**OSHA**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**Reproductive toxicity**

Not classified based on available information.

**STOT-single exposure**

Not classified based on available information.

**STOT-repeated exposure**

Not classified based on available information.

**Aspiration toxicity**

Not classified based on available information.

**Further information**

No data available

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**

Toxicity to fish	:	No data available
Toxicity to algae	:	No data available
Toxicity to bacteria	:	No data available

**Ingredients:**

guanidinium thiocyanate:

## Buffer AVL

Version 2.0

Revision Date 11/29/2019

Print Date 06/26/2021

Toxicity to fish	: LC50 (Poecilia reticulata (guppy)): 89.1 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia): 42.4 mg/l Exposure time: 48 h
Toxicity to fish (Chronic toxicity)	: NOEC (Poecilia reticulata (guppy)): 25 mg/l Exposure time: 96 d

### Persistence and degradability

No data available

### Bioaccumulative potential

#### Product:

Bioaccumulation : No data available

### Mobility in soil

No data available

### Other adverse effects

#### Product:

Ozone-Depletion Potential	: Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues	: The product should not be allowed to enter drains, water courses or the soil. Send to a licensed waste management company. Dispose of as hazardous waste in compliance with local and national regulations.
Contaminated packaging	: Dispose of as unused product. Do not re-use empty containers.

## SECTION 14. TRANSPORT INFORMATION

IATA-DGR  
UN/ID No. : UN 1760



**Buffer AVL**

Version 2.0

Revision Date 11/29/2019

Print Date 06/26/2021

Proper shipping name : Corrosive liquid, n.o.s.  
(GUANIDINE THIOCYANATE)

Class : 8

Packing group : III

Labels : Corrosive

**IMDG-Code**

UN number : UN 1760

Proper shipping name : CORROSIVE LIQUID, N.O.S.  
(GUANIDINE THIOCYANATE)

Class : 8

Packing group : III

Labels : 8

EmS Code : F-A, S-B

Marine pollutant : no

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**Domestic regulation****SECTION 15. REGULATORY INFORMATION****EPCRA - Emergency Planning and Community Right-to-Know****CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Acute Health Hazard**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.**US State Regulations****California Prop. 65** This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.**TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

**Buffer AVL**

Version 2.0

Revision Date 11/29/2019

Print Date 06/26/2021

**SECTION 16. OTHER INFORMATION****Full text of other abbreviations**

(Q)SAR - (Quantitative) Structure Activity Relationship; ASTM - American Society for the Testing of Materials; bw - Body weight; DIN - Standard of the German Institute for Standardisation; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; 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; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; 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; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECS - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; EHS - Extremely Hazardous Substance; HMIS - Hazardous Materials Identification System; MSHA - Mine Safety and Health Administration; NFPA - National Fire Protection Association; RCRA - Resource Conservation and Recovery Act; RQ - Reportable Quantity; SARA - Superfund Amendments and Reauthorization Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice; ERG - Emergency Response Guide; NTP - National Toxicology Program; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

Revision Date : 11/29/2019

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.