Safety data sheet

according to 1907/2006/EC, Article 31

Print date: 20.12.2017
Updated: 20.12.2017
Version: 2

For the Life Scientist

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

– Trade name: ***appGENE GENOMIC DNA KIT***

– Article number: *ARN020, ARN021*

- **Components: A***GL Buffer (Genomic Lysis Buffer), RNase A (lyophilized), RNase Buffer, Proteinase K (lyophilized), Proteinase Buffer, AGB Buffer (conc.; binding buffer), AGW1 Buffer (conc.; Wash Buffer 1), AGW2 Buffer (Wash Buffer 2), Elution Buffer*

1.2 – Relevant identified uses of the substance or mixture and uses advised against: *no data available*

– Application of the substance / the preparation: *Laboratory chemicals*

1.3 Details of the supplier of the safety data sheet

– Manufacturer/supplier:

Appleton Woods Ltd
New Lindon House
Catesby Park
Kings Norton
Birmingham, B38 8SE
United Kingdom
info@appletonwoods.co.uk

1.4 Emergency telephone number:

+44 121 458 7740

Safety data sheet

according to 1907/2006/EC, Article 31

Print date: 20.12.2017
Updated: 20.12.2017

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

– Trade name: ***RNase buffer, Proteinase buffer, AGW2 buffer, Elution buffer***

– Hazardous components: *none*

1.2 – Relevant identified uses of the substance or mixture and uses advised against: *no data available*

– Application of the substance / the preparation: *Laboratory chemicals*

1.3 Details of the supplier of the safety data sheet

– Manufacturer/supplier:

Appleton Woods Ltd
New Lindon House
Catesby Park
Kings Norton
Birmingham, B38 8SE
United Kingdom
info@appletonwoods.co.uk

1.4 Emergency telephone number:

+44 121 458 7740

2. Hazards identification

2.1 Classification of the substance or mixture

– Classification according to Regulation (EC) No 1272/2008: *Not a hazardous mixture according to Regulation (EC) No. 1272/2008.*

2.2 Label elements

– Labelling according to Regulation (EC) No 1272/2008

The mixture is not classified and labelled according to the CLP regulation.

– Hazard pictograms: *Not applicable*

– Signal word: *Not applicable*

– Hazard-determining components of labelling: *Not applicable*

– Hazard statements: *Not applicable*

– Precautionary statement(s): *Not applicable*

2.3 Other hazards

Not applicable.

3. Composition/information on ingredients

3.2 Chemical characterization: *Mixture*

– Other information: *Not significant*

4. First aid measures

4.1 Description of first aid measures

– General information: *No special measures required.*

– After inhalation: *Supply fresh air.*

– After skin contact: *Wash with plenty of water. If skin irritation continues, consult a doctor.*

– After eye contact: *Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.*

– After swallowing: *Rinse out mouth. If symptoms persist consult doctor.*

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

No further relevant information available.

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

No further relevant information available.

5. Firefighting measures

5.1 Extinguishing media

– Suitable extinguishing agents: *water, CO_2, foam, powder. Fight larger fires with water spray or alcohol resistant foam.*

5.2 Special hazards arising from the substance or mixture

– In case of fire, the fallowing can be released: *No further relevant information available*

5.3 Advise for firefighters

– Protective equipment: *Wear self-contained respiratory protective device.*

Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures: *Avoid mixture contact.*

6.2 Environmental precautions: *Do not allow to enter sewers/surface or ground water.*

6.3 Methods and material for containment and cleaning up: *Pick up mechanically. Clean up affected area. Dispose of the material collected according to regulations.*

6.4 Reference to other sections

See section 7 for information on safe handling.

See section 8 for information on personal equipment.

See section 13 for disposal information.

7. Handling and storage

7.1 Precautions for safe handing: *No special precautions are necessary if used correctly.*

7.2 Conditions for safe storage, including any incompatibilities

– **Requirements to be met by storerooms and receptacles:** *No special requirements.*

– **Information about storage in one common storage facility:** *Not required.*

– Further information about storage conditions: *Keep container sealed.*

– Recommended storage temperature: ***15-25°C***

– Storage class: *10-13*

7.3 Specific end use(s): *No further relevant information available.*

8. Exposure controls/personal protection

8.1 Control parameters

– Ingredients with limit values that require monitoring at the workplace: *Not required.*

– Additional information: *The lists valid during the making were used as basis.*

8.2 Exposure controls

– Personal protective equipment:

- ***General protective and hygienic measures:*** *Keep away from foodstuffs, beverages and feed. Wash hands before breaks and at the end of work.*
- ***Respiratory protection:*** *No further relevant information available.*
- ***Protection of hands:***

  Protective gloves – the glove material has to be impermeable and resistant to the product/the substance/the preparation.

  – Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation:

- ***Material of gloves:*** *the selection of suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.*
- ***Penetration time of glove material:*** *The exact break through time has to be observed.*
- ***For the permanent contact gloves made of the following materials are suitable:*** *Nitrile rubber, NBR. Recommended thickness of the material ≥0.11 mm. Value for the permeation: Level ≥480 min.*
- ***Eye protection:*** *Safety glasses.*
- ***Body protection:*** *Protective work clothing. Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.*

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

– Appearance:
Form: *Liquid*

9.2 Other information: *No further relevant information available*

10. Stability and reactivity

10.1 Reactivity: *No data available.*

10.2 Chemical stability:

no data available.

– Thermal decomposition/conditions to be avoided: *No decomposition if used according to specifications.*

10.3 Possibility of hazardous reaction: *No dangerous reactions known.*

10.4 Conditions to avoid: *No further relevant information available.*

10.5 Incompatible materials: *No further relevant information available.*

10.6 Hazardous decomposition product: *See chapter 5*

11. Toxicological information

11.1 Information on toxicological effects

– Primary irritant effect:

- **On the skin:** *No data available.*
- **On the eye:** *No data available.*

– Sensitization: *No sensitizing effects known.*

12. Ecological information

12.1 Toxicity: *No data available.*

12.2 Persistence and degradability: *No further relevant information available.*

12.3 Bioaccumulative potential: *No further relevant information available.*

12.4 Mobility in soil: *No further relevant information available.*

12.5 Results of PBT and vPvB: *Not applicable.*

12.6 Other adverse effects: *No further relevant information available.*

13. Disposal considerations

13.1 Waste treatment methods

– Recommendation: *Chemicals must be disposed of in compliance with the respective national regulations. Must not be disposed together with household garbage. Do not allow product to reach sewage system.*

– Uncleaned packaging (Recommendation): *Disposal must be made according to official regulations.*

– Recommended cleansing agents: *Water, if necessary together with cleansing agents.*

14. Transport information

14.1 UN-Number:

- **ADR, ADN, IMDG, IATA:** *not dangerous goods/not applicable*

14.2 UN proper shipping name:

- **ADR, ADN, IMDG, IATA:** *not dangerous goods/not applicable*

14.3 Transport hazard class(es):

- **ADR, ADN, IMDG, IATA:** *not dangerous goods/not applicable*
- **Clasa:** *not dangerous goods/not applicable*

14.4 Packing group:

- **ADR, IMDG, IATA:** *not dangerous goods/not applicable*

14.5 Environmental hazards:

- **Marine pollutant:** *No*

14.6 Special precautions for users: *not applicable*

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

– Transport/additional information: *not dangerous according to the above specifications.*

– UN „Model Regulation”: *not applicable*

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture: *not applicable*

15.2 Chemical safety assessment: *A Chemical Safety Assessment has not been carried out.*

16. Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Safety data sheet

according to 1907/2006/EC, Article 31

Print date: 27.11.2017
Updated: 27.11.2017
Version: 2

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1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

– Trade name: ***RNase A (lyophilized)***

– CAS number: *9001-99-4*

– EC number: *232-646-6*

1.2 Relevant identified uses of the substance or mixture and uses advised against: *no data available*

– Application of the substance / the preparation: *Biochemistry, molecular biology, cell culture*

1.3 Details of the supplier of the safety data sheet

– Manufacturer/supplier:

Appleton Woods Ltd
New Lindon House
Catesby Park
Kings Norton
Birmingham, B38 8SE
United Kingdom
info@appletonwoods.co.uk

1.4 Emergency telephone number:

+44 121 458 7740

2. Hazards identification

2.1 Classification of the substance or mixture

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

Not a hazardous substance according to Regulation (EC) No. 1272/2008.

2.2 Label elements

– Labelling according to Regulation (EC) No 1272/2008

The substance is not classified and labelled according to the CLP regulation.

– Hazard pictograms: *Not applicable*

– Signal word: *Not applicable*

– Hazard-determining components of labelling: *Not applicable*

– Hazard statements: *Not applicable*

– Precautionary statement(s): *Not applicable*

2.3 Other hazards

Not applicable.

3. Composition/information on ingredients

3.1 Chemical characterization: *Substance*

– CAS No. Description: *9001-99-4 Nuclease, ribo-*

– EC number: *232-646-6*

– Other information: *Not significant*

4. First aid measures

4.1 Description of first aid measures

– General information*: Consult a doctor. Show this safety data sheet to the doctor.*

– After inhalation*: Supply fresh air. If not breathing, give artificial respiration. Consult a doctor.*

– After skin contact: *Wash with soap and plenty of water. If skin irritation continues, consult a doctor.*

– After eye contact: *Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.*

– After swallowing: *Rinse out mouth. Do not induce vomiting. If symptoms persist consult doctor.*

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

No further relevant information available.

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

No further relevant information available.

5. Firefighting measures

5.1 Extinguishing media

– Suitable extinguishing agents: *water, CO_2, foam, powder.*

5.2 Special hazards arising from the substance or mixture

– Ambient fire may liberate hazardous vapours: *carbon oxides (CO, CO2)*

5.3 Advise for firefighters

– Protective equipment: *Wear self-contained respiratory protective device.*

Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Avoid formation of dust. Do not inhale dust. Ensure adequate ventilation.

6.2 Environmental precautions:

Do not allow to enter sewers/surface or ground water.

6.3 Methods and material for containment and cleaning up:

Pick up mechanically. Avoid generation of dusts. Clean up affected area.

6.4 Reference to other sections

See section 7 for information on safe handling.

See section 8 for information on personal equipment.

See section 13 for disposal information.

7. Handling and storage

7.1 Precautions for safe handing: *Avoid **c**ontact with skin and eyes. Avoid inhalation. Ensure adequate ventilation. Avoid generation of dust.*

7.2 Conditions for safe storage, including any incompatibilities

– **Requirements to be met by storerooms and receptacles:** *No special requirements.*

– **Information about storage in one common storage facility:** *Not required.*

– **Further information about storage conditions:** *Keep container sealed.*

– **Recommended storage temperature:** ***-20°C***

– **Storage class:** *10-13*

7.3 Specific end use(s): *No further relevant information available.*

8. Exposure controls/personal protection

8.1 Control parameters

– **Ingredients with limit values that require monitoring at the workplace:** *Not required.*

– **Additional information:** *The lists valid during the making were used as basis.*

8.2 Exposure controls

– **Personal protective equipment:**

- **General protective and hygienic measures:** *Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Vacuum clean contaminated clothing. Do not blow or brush off contamination. Avoid contact with the eyes and skin.*
- ***Respiratory protection:*** *In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device. Filter P2.*
- ***Protection of hands:***

  <u>Protective gloves</u> – the glove material has to be impermeable and reistant to the product/the substance/the preparation.

  – Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation:

- ***Material of gloves:*** *the selection of suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.*

- ***Penetration time of glove material:*** *The exact break through time has to be observed.*
- ***For the permanent contact gloves made of the following materials are suitable:*** *Nitrile rubber, NBR. Recommended thickness of the material ≥0,11 mm. Value for the permeation: Level ≥480 min.*
- ***Eye protection:*** *Safety glasses.*
- ***Body protection:*** *Protective work clothing. Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.*

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

– Appearance:

Form: *Powder*
Color: *White*

– pH-value: *Not determined*

– Odour: *Not determined*

– Change in condition:

- **Melting point/ melting range:** *undetermined*
- **Boiling point/ boiling range:** *undetermined*

– Flash point: *not applicable*

– Flammability (solid, gaseous): *not applicable*

– Danger of explosion: *product does not present an explosion hazard.*

– Density: *Not determined*

– Solubility in/ Miscibility with:

- **Water:** *Not miscible or difficult to mix*

9.2 Other information: *No further relevant information available*

10. Stability and reactivity

10.1 Reactivity: *No data available.*

10.2 Chemical stability: *No data available.*

Thermal decomposition/conditions to be avoided: *No decomposition if used according to specifications.*

10.3 Possibility of hazardous reaction: *No dangerous reactions known.*

10.4 Conditions to avoid: *No further relevant information available.*

10.5 Incompatible materials: *Strong bases, Strong oxidizing agents.*

10.6 Hazardous decomposition product: *No data available.*

11. Toxicological information

11.1 Information on toxicological effects

– Primary irritant effect:

- **On the skin:** *No data available.*
- **On the eye:** *No data available.*

– Sensitization: *No sensitizing effects known.*

12. Ecological information

12.1 Toxicity: *No data available.*

12.2 Persistence and degradability: *No further relevant information available.*

12.3 Bioaccumulative potential: *No further relevant information available.*

12.4 Mobility in soil: *No further relevant information available.*

12.5 Results of PBT and vPvB: *Not applicable.*

12.6 Other adverse effects: *No further relevant information available.*

13. Disposal considerations

13.1 Waste treatment methods

– Recommendation: *Chemicals must be disposed of in compliance with the respective national regulations. Must not be disposed together with household garbage. Do not allow product to reach sewage system.*

– Uncleaned packaging (Recommendation): *Disposal must be made according to official regulations.*

– Recommended cleansing agents: *Water, if necessary together with cleansing agents.*

14. Transport information

14.1 UN-Number:

- **ADR, ADN, IMDG, IATA:** *not dangerous goods/not applicable*

14.2 UN proper shipping name:

- **ADR, ADN, IMDG, IATA:** *not dangerous goods/not applicable*

14.3 Transport hazard class(es):

- **ADR, ADN, IMDG, IATA:** *not dangerous goods/not applicable*
- **Clasa:** *not dangerous goods/not applicable*

14.4 Packing group:

- **ADR, IMDG, IATA:** *not dangerous goods/not applicable*

14.5 Environmental hazards:

- **Marine pollutant:** *No*

14.6 Special precautions for users: *not applicable*

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

– Transport/additional information: *not dangerous according to the above specifications.*

– UN „Model Regulation”: *not applicable*

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture: *not applicable*

15.2 Chemical safety assessment: *A Chemical Safety Assessment has not been carried out.*

16. Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Safety data sheet

according to 1907/2006/EC, Article 31

Print date: 28.11.2017
Updated: 28.11.2017
Version 2

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

– Trade name: ***Proteinase K (lyophilized)***

– CAS number: *39450-01-6*

– EC number: *254-457-8*

1.2 Relevant identified uses of the substance or mixture and uses advised against: *no data available*

– Application of the substance / the preparation: *biochemistry*

1.3 Details of the supplier of the safety data sheet

– Manufacturer/supplier:

Appleton Woods Ltd
New Lindon House
Catesby Park
Kings Norton
Birmingham, B38 8SE
United Kingdom
info@appletonwoods.co.uk

1.4 Emergency telephone number:

+44 121 458 7740

2. Hazards identification

2.1 Classification of the substance or mixture

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

GHS08

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

2.2 Label elements

– Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

– Hazard pictograms

– Signal word: *Danger*

– Hazard-determining components of labeling: *Proteinase, Tritirachium album serine*

– Hazard statements:

H315 *Causes skin irritation.*

H319 *Causes serious eye irritation.*

H334 *May cause allergy or asthma symptoms or breathing difficulties if inhaled.*

H335 *May cause respiratory irritation.*

– Precautionary statement(s):

Prevention:

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

P264 Wash hands thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

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

Response:

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

P337+313 If eye irritation persists get medical advice/attention

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

P304+340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/ doctor if you feel unwell.

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

P332+313 P362 If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing.

2.3 Other hazards

Not applicable.

3. Composition/information on ingredients

3.1 Chemical characterization: *Substances*

– CAS No. Description: *39450-01-6 Proteinase, Tritirachium album serine*

– EC number: *254-457-8*

4. First aid measures

4.1 Description of first aid measures

– After inhalation: *Supply fresh air or oxygen; call for a doctor.*

– After skin contact: *Immediately wash with plenty of water. Seek medical treatment.*

– After eye contact: *Rinse opened eye for several minutes under running water. Then consult a doctor.*

– After swallowing: *Make victim drink water (maximum of 2 drinking glasses). Do not induce vomiting; call for medical help immediately.*

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

No further relevant information available.

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

No further relevant information available.

5. Firefighting measures

5.1 Extinguishing media

– Suitable extinguishing agents: *Water spray, CO_2 or powder. Fight larger fires with water spray or alcohol resistant foam.*

5.2 Special hazards arising from the substance or mixture

– Combustible

5.3 Advise for firefighters

– Protective equipment: *Wear self-contained respiratory protective device.*

Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures: *Avoid formation of dust. Do not inhale dust. Avoid substance contact. Ensure adequate ventilation.*

6.2 Environmental precautions: *Do not allow to enter sewers/surface or ground water.*

6.3 Methods and material for containment and cleaning up: *Pick up mechanically. Avoid generation of dusts. Ensure adequate ventilation. Dispose contaminated material as waste according to item 13. Clean up affected area.*

6.4 Reference to other sections

See section 7 for information on safe handling.

See section 8 for information on personal equipment.

See section 13 for disposal information.

7. Handling and storage

7.1 - **Precautions for safe handing:** *Ensure good ventilation/exhaustion at the workplace. Prevent formation of dust. Any unavoidable deposit of dust must be regularly removed.*

7.2 Conditions for safe storage, including any incompatibilities

– **Requirements to be met by storerooms and receptacles:** *No special requirements.*

– **Information about storage in one common storage facility:** *Not required.*

– **Further information about storage conditions:** *Keep container tightly sealed.*

– **Recommended storage temperature:** ***-20°C***

– **Storage class:** *10-13*

7.3 Specific end use(s): *No further relevant information available.*

8. Exposure controls/personal protection

8.1 Control parameters

– **Ingredients with limit values that require monitoring at the workplace:** *Not required.*

– **Additional information:** *The lists valid during the making were used as basis.*

8.2 Exposure controls

– **Personal protective equipment:**

- **General protective and hygienic measures:** *Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Vacuum clean contaminated clothing. Do not blow or brush off contamination. Avoid contact with the eyes and skin.*
- ***Respiratory protection:*** *In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device. Filter P2.*
- ***Protection of hands:***

  Protective gloves – the glove material has to be impermeable and reistant to the product/the substance/the preparation.

  – Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation:

- ***Material of gloves:*** *the selection of suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.*
- ***Penetration time of glove material:*** *The exact break through time has to be observed.*
- ***For the permanent contact gloves made of the following materials are suitable:*** *Nitrile rubber, NBR. Recommended thickness of the material ≥0,11 mm. Value for the permeation: Level ≥480 min.*
- ***Eye protection:*** *Safety glasses.*
- ***Body protection:*** *Protective work clothing. Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.*

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

– Appearance:

Form: *Powder*
Color: *White*

– pH-value at 20^{0}C: *6.2-6.8*

– Odour: *Odourless.*

– Change in condition:

- **Melting point/ melting range:** *undetermined*
- **Boiling point/ boiling range:** *undetermined*

– Flash point: *not applicable*

– Flammability (solid, gaseous): *product is not flammable*

– Danger of explosion: *Product does not present an explosion hazard.*

– Density: *Not determined*

– Solubility in/ Miscibility with:

- **Water:** *Soluble*

9.2 Other information: *No further relevant information available.*

10. Stability and reactivity

10.1 Reactivity: *No data available.*
10.2 Chemical stability: *No data available.*
Thermal decomposition/conditions to be avoided: *Light/strong heating.*
10.3 Possibility of hazardous reaction: *No dangerous reactions known.*
10.4 Conditions to avoid: *No further relevant information available.*
10.5 Incompatible materials: *No further relevant information available.*
10.6 Hazardous decomposition product: *See chapter 5.*
Additional information*: Dust explosion possible. Sensitive to air, light sensitive.*

11. Toxicological information

11.1 Information on toxicological effects

– LD/LC50 values relevant for classification: *not available*

– Primary irritant effect:

- **On the skin:** *Irritant to skin and mucous membranes.*
- **On the eye:** *Irritant effect.*

– Sensitization: *Sensitization possible through inhalation.*

12. Ecological information

12.1 Toxicity: *No data available.*

12.2 Persistence and degradability: *No further relevant information available.*

12.3 Bioaccumulative potential: *No further relevant information available.*

12.4 Mobility in soil: *No further relevant information available.*

12.5 Results of PBT and vPvB: *Not applicable.*

12.6 Other adverse effects: *No further relevant information available.*

General notes: *Generally not hazardous for water.*

13. Disposal considerations

13.1 Waste treatment methods

– Recommendation: *Must not be disposed together with household garbage. Do not allow product to reach sewage system.*

– Uncleaned packaging (Recommendation): *Disposal must be made according to official regulations. Packagings that may not be cleansed are to be disposed of in the same manner as the product.*

14. Transport information

14.1 UN-Number:

- **ADR, ADN, IMDG, IATA:** *not dangerous goods/not applicable*

14.2 UN proper shipping name:

- **ADR, ADN, IMDG, IATA:** *not dangerous goods/not applicable*

14.3 Transport hazard class(es):

- **ADR, ADN, IMDG, IATA** *not dangerous goods/not applicable*
- **Clasa:** *not dangerous goods/not applicable*

14.4 Packing group:

- **ADR, IMDG, IATA:** *not dangerous goods/not applicable*

14.5 Environmental hazards:

- **Marine pollutant:** *No*

14.6 Special precautions for users: *not applicable*

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

– Transport/additional information: *not dangerous according to the above specifications.*

– UN „Model Regulation”: *not applicable*

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture: *not applicable*

15.2 Chemical safety assessment: *A Chemical Safety Assessment has not been carried out.*

16. Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship

Safety data sheet

according to 1907/2006/EC, Article 31

Print date: 20.12.2017
Updated: 20.12.2017

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

– Trade name: ***AGL buffer***

– Hazardous components: *Guanidine hydrochloride, Triton X-100*

– CAS number: *50-01-1 (Guanidine hydrochloride), 9002-93-1(Triton X-100)*

– EC number: *200-002-3(Guanidine hydrochloride),*

1.2 Relevant identified uses of the substance or mixture and uses advised against: *no data available*

– Application of the substance / the preparation: *Laboratory chemicals*

1.3 Details of the supplier of the safety data sheet

– Manufacturer/supplier:

Appleton Woods Ltd
New Lindon House
Catesby Park
Kings Norton
Birmingham, B38 8SE
United Kingdom
info@appletonwoods.co.uk

1.4 Emergency telephone number:

+44 121 458 7740

2. Hazards identification

2.1 Classification of the substance or mixture

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

GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

2.2 Label elements

– Labelling according to Regulation (EC) No 1272/2008

The mixture is classified and labelled according to the CLP regulation.

– Hazard pictograms

– Signal word: *Warning*

– Hazard-determining components of labeling: *guanidine hydrochloride, Triton X-100*

– Hazard statements:

H319 Causes serious eye irritation

– Precautionary statement(s):
Prevention:

P264: Wash hands thoroughly after handling.

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

Response:

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

P337+313: If eye irritation persists get medical advice/attention.

2.3 Other hazards

Not applicable.

3. Composition/information on ingredients

3.2 Chemical characterization: *Mixture*

Dangerous ingredients		
CAS: *50-01-1* **EINECS:** *200-002-3*	*Guanidine hydrochloride* Acute Tox. 4, H302, Acute Tox. 4 H332, Skin Irrit. 2, H315; Eye Irrit. 2, H319;	*0-10 %*
CAS: ***9002-93-1***	*Triton X-100* Acute Tox. 4, H302, Eye Dam. 1, H318, Aquatic Chronic 2 H411	*0-10%*

4. First aid measures

4.1 Description of first aid measures

– After inhalation: *Supply fresh air. If symptoms persist, consult a doctor.*

– After skin contact: *Wash with water with soap. If skin irritation continues, consult a doctor.*

– After eye contact: *Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor. Call a doctor immediately.*

– After swallowing: *Rinse out mouth. Do not induce vomiting. If symptoms persist consult a doctor.*

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

No further relevant information available.

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

No further relevant information available.

5. Firefighting measures

5.1 Extinguishing media

– Suitable extinguishing agents: *water, CO_2, foam, powder.*

5.2 Special hazards arising from the substance or mixture

– Combustible

– In case of fire, the following can be released: *nitrogen oxides (NO_x), carbon oxides (CO, CO_2), hydrogen chloride (HCl).*

5.3 Advise for firefighters

– Protective equipment: *Wear self-contained respiratory protective device.*

Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures: *Do not inhale, avoid mixture contact, ensure adequate ventilation.*

6.2 Environmental precautions: *Do not allow to enter sewers/surface or ground water.*

6.3 Methods and material for containment and cleaning up: *Pick up mechanically. Clean up affected area. Dispose of material collected according to regulations. Ensure adequate ventilation.*

6.4 Reference to other sections

See section 7 for information on safe handling.

See section 8 for information on personal equipment.

See section 13 for disposal information.

7. Handling and storage

7.1 Precautions for safe handing: *No special precautions are necessary if used correctly.*

7.2 Conditions for safe storage, including any incompatibilities

– **Requirements to be met by storerooms and receptacles:** *No special requirements.*

– **Information about storage in one common storage facility:** *Not required.*

– Further information about storage conditions: *Keep container tightly sealed.*

– Recommended storage temperature: ***15-25°C***

– Storage class: *10-13*

7.3 Specific end use(s): *No further relevant information available.*

8. Exposure controls/personal protection

8.1 Control parameters

– Ingredients with limit values that require monitoring at the workplace: *Not required.*

– Additional information: *The lists valid during the making were used as basis.*

8.2 Exposure controls

– Personal protective equipment:

- ***General protective and hygienic measures:*** *Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with eyes and skin.*

- ***Respiratory protection:*** *In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device. Filter P2.*

- ***Protection of hands:***

Protective gloves – the glove material has to be impermeable and resistant to the product/the substance/the preparation.

– Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation:

- ***Material of gloves:*** *the selection of suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.*
- ***Penetration time of glove material:*** *The exact break through time has to be observed.*

- ***For the permanent contact gloves made of the following materials are suitable:*** *Nitrile rubber, NBR. Recommended thickness of the material ≥0,11 mm. Value for the permeation: Level ≥480 min.*

- ***Eye protection:*** *Safety glasses.*

- ***Body protection:*** *Protective work clothing. Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.*

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

– Appearance:
Form: *Liquid*

9.2 Other information: *No further relevant information available*

10. Stability and reactivity

10.1 Reactivity: *No data available.*

10.2 Chemical stability: *No data available.*

– Thermal decomposition/conditions to be avoided: *Moisture.*

10.3 Possibility of hazardous reaction: *No dangerous reactions known.*

10.4 Conditions to avoid: *No further relevant information available.*

10.5 Incompatible materials: *Strong oxidants.*

10.6 Hazardous decomposition product: *See chapter 5.*

11. Toxicological information

11.1 Information on toxicological effects

– Primary irritant effect:

- **On the skin:** *No irritant effect.*

- **On the eye:** *Irritant effect*

– Sensitization: No sensitizing effects known.

12. Ecological information

12.1 Toxicity: *no data available*

12.2 Persistence and degradability: *no further relevant information available*

12.3 Bioaccumulative potential: *no further relevant information available*

12.4 Mobility in soil: *no further relevant information available*

12.5 Results of PBT and vPvB: *not applicable*

12.6 Other adverse effects: *no further relevant information available*

– General notes: *Water hazard class 1: slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*

13. Disposal considerations

13.1 Waste treatment methods

– Recommendation: *Chemicals must be disposed of in compliance with the respective national regulations. Must not be disposed together with household garbage. Do not allow product to reach sewage system.*

– Uncleaned packaging (Recommendation): *Disposal must be made according to official regulations. Packagings that may not be cleansed are to be disposed of in the same manner as the product.*

– Recommended cleansing agents: *Water, if necessary together with cleansing agents.*

14. Transport information

14.1 UN-Number:

- **ADR, ADN, IMDG, IATA:** *not dangerous goods/not applicable*

14.2 UN proper shipping name:

- **ADR, ADN, IMDG, IATA:** *not dangerous goods/not applicable*

14.3 Transport hazard class(es):

- **ADR, ADN, IMDG, IATA** *not dangerous goods/not applicable*
- **Clasa:** *not dangerous goods/not applicable*

14.4 Packing group:

- **ADR, IMDG, IATA:** *not dangerous goods/not applicable*

14.5 Environmental hazards:

- **Marine pollutant:** *No*

14.6 Special precautions for users: *not applicable*

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

– Transport/additional information: *not dangerous according to the above specifications.*

– UN „Model Regulation”: *not applicable*

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture: *not applicable*

15.2 Chemical safety assessment: *A Chemical Safety Assessment has not been carried out.*

16. Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Safety data sheet

according to 1907/2006/EC, Article 31

Print date: 20.12.2017
Updated: 20.12.2017
Version: 2

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

– Trade name: ***AGB Buffer***

– Hazardous components: *Guanidine hydrochloride, Triton X-100*

– CAS number: *50-01-1 (Guanidine hydrochloride), 9002-93-1(Triton X-100)*

– EC number: *200-002-3(Guanidine hydrochloride)*

1.2 Relevant identified uses of the substance or mixture and uses advised against: *no data available*

– Application of the substance / the preparation: *Laboratory chemicals*

1.3 Details of the supplier of the safety data sheet

– Manufacturer/supplier:

Appleton Woods Ltd
New Lindon House
Catesby Park
Kings Norton
Birmingham, B38 8SE
United Kingdom
info@appletonwoods.co.uk

1.4 Emergency telephone number:

+44 121 458 7740

2. Hazards identification

2.1 Classification of the substance or mixture

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

GHS05

Eye Dam. 1 H318 Causes serious eye damage

GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Acute Tox. 4 H332 Harmful if inhaled

Aquatic Chronic 3 H412 Harmful to aquatic life with long-lasting effects

2.2 Label elements

– Labelling according to Regulation (EC) No 1272/2008

The mixture is classified and labelled according to the CLP regulation.

– Hazard pictograms

– Signal word: *Danger*

– Hazard-determining components of labeling: *Guanidine hydrochloride, Triton X-100*

– Hazard statements:

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage

H332 Harmful if inhaled

H412 Harmful to aquatic life with long-lasting effects

– Precautionary statement(s):

Prevention:

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

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

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

Response:

P301+P312 P330 IF SWALLOWED: Call a POISON CENTER/doctor/…/if you feel unwell. Rinse mouth.

P304+P340 P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

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/doctor.

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

P332+P313 P362 If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing.

2.3 Other hazards

Not applicable.

3. Composition/information on ingredients

3.2 Chemical characterization: *Mixture*

Dangerous ingredients:		
CAS: ***50-01-1***	*Guanidine hydrochloride*	*70-80 %*
EINECS: ***200-002-3***	Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319;	
CAS: ***9002-93-1***	*Triton X-100*	*0-10 %*
	Eye Dam. 1, H318; Acute Tox. 4, H302; Aquatic Chronic 2, H411	

4. First aid measures

4.1 Description of first aid measures

– After inhalation: *Supply fresh air, consult doctor in case of complains.*

– After skin contact: *Immediately rinse with water with soap and remove any clothing soiled by the product. If skin irritation continues, consult a doctor.*

– After eye contact: *Rinse opened eye for several minutes under running water. Call a doctor immediately.*

– After swallowing: *Make victim drink water (maximum of 2 drinking glasses), do not induce vomiting. Call for a doctor immediately.*

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

No further relevant information available.

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

No further relevant information available.

5. Firefighting measures

5.1 Extinguishing media

– Suitable extinguishing agents: *water, CO_2, foam, powder. Fight larger fires with water spray or alcohol resistant foam.*

5.2 Special hazards arising from the substance or mixture

– Forms explosive mixtures with air on intense heating. Vapours ara heavier than air and may spread along floors. In case of fire, the following can be released: *nitrogen oxides (NO_x), carbon oxides (CO, CO_2), hydrogen chloride (HCl).*

5.3 Advise for firefighters

– Protective equipment: *Wear self-contained respiratory protective device.*

Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures: *Do not inhale , avoid mixture contact, ensure adequate ventilation.*

6.2 Environmental precautions: *Do not allow to enter sewers/surface or ground water.*

6.3 Methods and material for containment and cleaning up: *Pick up mechanically. Clean up affected area. Dispose of material collected according to regulations.*

6.4 Reference to other sections

See section 7 for information on safe handling.

See section 8 for information on personal equipment.

See section 13 for disposal information.

7. Handling and storage

7.1 Precautions for safe handing: *Ensure adequate ventilation.*

7.2 Conditions for safe storage, including any incompatibilities

– **Requirements to be met by storerooms and receptacles:** *No special requirements.*

– **Information about storage in one common storage facility:** *Not required.*

– **Further information about storage conditions:** *Keep container sealed.*

– **Recommended storage temperature:** ***15-25°C***

– **Storage class:** *10-13*

7.3 Specific end use(s): *No further relevant information available.*

8. Exposure controls/personal protection

8.1 Control parameters

– Ingredients with limit values that require monitoring at the workplace: *Not required.*

– Additional information: *The lists valid during the making were used as basis.*

8.2 Exposure controls

– Personal protective equipment:

• ***General protective and hygienic measures:*** *Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with eyes and skin.*

• ***Respiratory protection:*** *In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device. Filter P2.*

• ***Protection of hands:***

Protective gloves – the glove material has to be impermeable and resistant to the product/the substance/the preparation.

– Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation:

• ***Material of gloves:*** *the selection of suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.*

• ***Penetration time of glove material:*** *The exact break through time has to be observed.*

• ***For the permanent contact gloves made of the following materials are suitable:*** *Nitrile rubber, NBR. Recommended thickness of the material ≥0,11 mm. Value for the permeation: Level ≥480 min.*

- ***Eye protection:*** *Safety glasses.*

- ***Body protection:*** *Protective work clothing. Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.*

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

– Appearance:
Form: *Liquid*

9.2 Other information: *No further relevant information available.*

10. Stability and reactivity

10.1 Reactivity: *No data available.*

10.2 Chemical stability: *No data available.*

– Thermal decomposition/conditions to be avoided: *Moisture .*

10.3 Possibility of hazardous reaction: *No dangerous reactions known.*

10.4 Conditions to avoid: *No further relevant information available.*

10.5 Incompatible materials: *Strong oxidants, strong acids.*

10.6 Hazardous decomposition product: *See chapter 5.*

11. Toxicological information

11.1 Information on toxicological effects

– Primary irritant effect:

- **On the skin:** *Irritant to skin and mucous membranes.*
- **On the eye:** *Strong irritant with the danger of severe eye injury; risk of corneal clouding.*

– Sensitization: *No sensitizing effects known.*

12. Ecological information

12.1 Toxicity: *No data available.*

12.2 Persistence and degradability: *No further relevant information available.*

12.3 Bioaccumulative potential: *No further relevant information available.*

12.4 Mobility in soil: *No further relevant information available.*

12.5 Results of PBT and vPvB: *Not applicable.*

12.6 Other adverse effects: *No further relevant information available.*

– General notes: *Water hazard class 1: slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*

13. Disposal considerations

13.1 Waste treatment methods

– Recommendation: *Chemicals must be disposed of in compliance with the respective national regulations. Must not be disposed together with household garbage. Do not allow product to reach sewage system.*

– Uncleaned packaging (Recommendation): *Disposal must be made according to official regulations. Packagings that may not be cleansed are to be disposed of in the same manner as the product.*

– Recommended cleansing agents: *Water, if necessary together with cleansing agents.*

14. Transport information

14.1 UN-Number:

- **ADR, ADN, IMDG, IATA:** *not dangerous goods/not applicable*

14.2 UN proper shipping name:

- **ADR, ADN, IMDG, IATA:** *not dangerous goods/not applicable*

14.3 Transport hazard class(es):

- **ADR, ADN, IMDG, IATA** *not dangerous goods/not applicable*
- **Clasa:** *not dangerous goods/not applicable*

14.4 Packing group:

- **ADR, IMDG, IATA:** *not dangerous goods/not applicable*

14.5 Environmental hazards:

- **Marine pollutant:** *No*

14.6 Special precautions for users: *not applicable*

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

– Transport/additional information: *not dangerous according to the above specifications.*

– UN „Model Regulation”: *not applicable*

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture: *not applicable*

15.2 Chemical safety assessment: *A Chemical Safety Assessment has not been carried out.*

16. Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Safety data sheet

according to 1907/2006/EC, Article 31

Print date: 20.12.2017
Updated: 20.12.2017
Version: 2

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

– Trade name: ***AGW1 Buffer***

– Hazardous components: *Guanidine hydrochloride, Triton X-100*

– CAS number: *50-01-1 (Guanidine hydrochloride), 9002-93-1(Triton X-100)*

– EC number: *200-002-3(Guanidine hydrochloride)*

1.2 Relevant identified uses of the substance or mixture and uses advised against: *no data available*

– Application of the substance / the preparation: *Laboratory chemicals*

1.3 Details of the supplier of the safety data sheet

– Manufacturer/supplier:

Appleton Woods Ltd
New Lindon House
Catesby Park
Kings Norton
Birmingham, B38 8SE
United Kingdom
info@appletonwoods.co.uk

1.4 Emergency telephone number:

+44 121 458 7740

2. Hazards identification

2.1 Classification of the substance or mixture

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

GHS05

Eye Dam. 1 H318 Causes serious eye damage

GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long-lasting effects

2.2 Label elements

– Labelling according to Regulation (EC) No 1272/2008

The mixture is classified and labelled according to the CLP regulation.

– Hazard pictograms

Signal word: *Danger*

Hazard-determining components of labeling: *Triton X100, guanidinium hydrochloride*

– Hazard statements:

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H412 Harmful to aquatic life with long-lasting effects.

– Precautionary statement(s):

Prevention:

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

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

Response:

P301+P312 P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth

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/doctor

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

P332+P313 P362 If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing

2.3 Other hazards

Not applicable.

3. Composition/information on ingredients

3.2 Chemical characterization: *Mixture*

Dangerous ingredients		
CAS: ***50-01-1***	*Guanidine hydrochloride*	*30-40 %*
EINECS: ***200-002-3***	Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319;	
CAS: ***9002-93-1***	*Triton X-100*	*0-10*
	Eye Dam. 1, H318; Acute Tox. 4, H302; Aquatic Chronic 2, H411	

4. First aid measures

4.1 Description of first aid measures

– After inhalation: *Supply fresh air, consult doctor in case of complains.*

– After skin contact: *Immediately rinse with water with soap and remove any clothing soiled by the product. If skin irritation continues, consult a doctor.*

– After eye contact: *Rinse opened eye for several minutes under running water. Call a doctor immediately.*

– After swallowing: *Make victim drink water (maximum of 2 drinking glasses), do not induce vomiting. Call for a doctor immediately.*

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

No further relevant information available.

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

No further relevant information available.

5. Firefighting measures

5.1 Extinguishing media

– Suitable extinguishing agents: *water, CO_2, foam, powder. Fight larger fires with spray or alcohol resistant foam.*

5.2 Special hazards arising from the substance or mixture

– Forms explosive mixtures with air on intense heating. Vapours are heavier than air and may spread along floors. In case of fire, the following can be released: *nitrogen oxides (NO_x), carbon oxides (CO, CO_2), hydrogen chloride (HCl).*

5.3 Advise for firefighters

– Protective equipment: *Wear self-contained respiratory protective device.*

Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures: *Do not inhale, avoid mixture contact, ensure adequate ventilation.*

6.2 Environmental precautions: *Do not allow to enter sewers/surface or ground water.*

6.3 Methods and material for containment and cleaning up: *Pick up mechanically. Clean up affected area. Dispose of material collected according to regulations.*

6.4 Reference to other sections

See section 7 for information on safe handling.

See section 8 for information on personal equipment.

See section 13 for disposal information.

7. Handling and storage

7.1 Precautions for safe handing: *Ensure adequate ventilation.*

7.2 Conditions for safe storage, including any incompatibilities

– **Requirements to be met by storerooms and receptacles:** *No special requirements.*

– **Information about storage in one common storage facility:** *Not required.*

– **Further information about storage conditions:** *Keep container sealed.*

– **Recommended storage temperature:** ***15-25°C***

– **Storage class:** *10-13*

7.3 Specific end use(s): *No further relevant information available.*

8. Exposure controls/personal protection

8.1 Control parameters

– Ingredients with limit values that require monitoring at the workplace: *Not required.*

– Additional information: *The lists valid during the making were used as basis.*

8.2 Exposure controls

– Personal protective equipment:

• ***General protective and hygienic measures:*** *Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with eyes and skin.*

• ***Respiratory protection:*** *In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device. Filter P2.*

• ***Protection of hands:***

Protective gloves – the glove material has to be impermeable and resistant to the product/the substance/the preparation.

– Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation:

• ***Material of gloves:*** *the selection of suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.*

• ***Penetration time of glove material:*** *The exact break through time has to be observed.*

• ***For the permanent contact gloves made of the following materials are suitable:*** *Nitrile rubber, NBR. Recommended thickness of the material ≥0,11 mm. Value for the permeation: Level ≥480 min.*

• ***Eye protection:*** *Safety glasses.*

• ***Body protection:*** *Protective work clothing. Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.*

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

– Appearance:
Form: *Liquid*

9.2 Other information: *No further relevant information available*

10. Stability and reactivity

10.1 Reactivity: *No data available.*

10.2 Chemical stability: *No data available.*

– Thermal decomposition/conditions to be avoided: *No data available.*

10.3 Possibility of hazardous reaction: *No dangerous reactions known.*

10.4 Conditions to avoid: *No further relevant information available.*

10.5 Incompatible materials: *No data available.*

10.6 Hazardous decomposition product: *See chapter 5*

11. Toxicological information

11.1 Information on toxicological effects

– Primary irritant effect:

- **On the skin:** *Irritant to skin and mucous membranes.*
- **On the eye:** *Strong irritant with the danger of severe eye injury; risk of corneal clouding.*

– Sensitization: *No sensitizing effects known.*

12. Ecological information

12.1 Toxicity: *No data available.*

12.2 Persistence and degradability: *no further relevant information available.*

12.3 Bioaccumulative potential: *No further relevant information available.*

12.4 Mobility in soil:N*no further relevant information available.*

12.5 Results of PBT and vPvB: *Not applicable.*

12.6 Other adverse effects: *No further relevant information available.*

– General notes: *Water hazard class 1: slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*

13. Disposal considerations

13.1 Waste treatment methods

– Recommendation: *Chemicals must be disposed of in compliance with the respective national regulations. Must not be disposed together with household garbage. Do not allow product to reach sewage system.*

– Uncleaned packaging (Recommendation): *Disposal must be made according to official regulations. Packagings that may not be cleansed are to be disposed of in the same manner as the product.*

– Recommended cleansing agents: *Water, if necessary together with cleansing agents.*

14. Transport information

14.1 UN-Number:

- **ADR, ADN, IMDG, IATA:** *not dangerous goods/not applicable*

14.2 UN proper shipping name:

- **ADR, ADN, IMDG, IATA:** *not dangerous goods/not applicable*

14.3 Transport hazard class(es):

- **ADR, ADN, IMDG, IATA** *not dangerous goods/not applicable*
- **Clasa:** *not dangerous goods/not applicable*

14.4 Packing group:

- **ADR, IMDG, IATA:** *not dangerous goods/not applicable*

14.5 Environmental hazards:

- **Marine pollutant:** *No*

14.6 Special precautions for users: *not applicable*

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

– Transport/additional information: *not dangerous according to the above specifications.*

– UN „Model Regulation”: *not dangerous goods/not applicable*

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture: *not applicable*

15.2 Chemical safety assessment: *A Chemical Safety Assessment has not been carried out.*

16. Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.