

Safety data sheet

according to 1907/2006/EC, Article 31

Print date: 01.08.2013

Updated: 01.08.2013



For the Life Scientist

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

• Product identifier

– Trade name: [appGENE Total RNA kit](#)

– Article number: ARN015, ARN016

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

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

Components: *ALY buffer, AW1 buffer, AW2 buffer, AEB buffer*

• 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

– Emergency telephone number: **+44 121 458 7740**

Safety data sheet

according to 1907/2006/EC, Article 31

Print date: 01.08.2013

Updated: 01.08.2013



For the Life Scientist

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

• Product identifier

– Trade name: [ALY buffer](#)

– Hazardous components: *Guanidine thiocyanate, N-Lauroylsarcosine sodium*

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

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

• 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*

– Emergency telephone number: *+44 121 458 7740*

2. Hazards identification

• Classification of the substance or mixture

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



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

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



GHS06

Acute Tox. 2 H330 Fatal if inhaled.

Eye Dam. 1 H318 Causes serious eye damage

Skin Irrit. 2 H315 Causes skin irritation.

– Classification according to Directive 67/548/EEC or Directive 1999/45/EC:



Xn, Harmful

R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.

R32: Contact with acids liberates very toxic gas.



T, Toxic

R23 Toxic by inhalation

R38 Irritating to skin

R41 Risk of serious damage to eyes

- **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: *Warning*

- Hazard-determining components of labeling: *Guanidinium thiocyanate, N-Lauroylsarcosine sodium*

- Hazard statements:

- H302 Harmful if swallowed. Contact with acids liberates very toxic gas.

- H312 Harmful in contact with skin.

- H332 Harmful if inhaled.

- H330 Fatal if inhaled.

- H318 Causes serious eye damage

- H315 Causes skin irritation.

- Precautionary statement(s):

- P273 Avoid release to the environment.

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

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

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

- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

- **Other hazards**

- Not applicable.

3. Composition/information on ingredients

– Chemical characterization: *Mixture*

Dangerous ingredients		
CAS: 593-84-0 EINECS: 209-812-1	<i>Guanidine thiocyanate</i> Xn R20/21/22; Xn R32; Acute Tox. 4, H302, <i>Acute Tox. 4 H312, Acute Tox. 4 H332, Aquatic Chronic 3 H412</i>	50-60 %
CAS: 137-16-6 EINECS: 205-281-5	<i>N-Lauroylsarcosine sodium</i> T, R23-R38-R41 Acute Tox. 2 H330; Skin Irrit 2- H315; Eye Dam. 1; H318,	0-10%

4. First aid measures

- **Description of first aid measures**

- **General information:** Consult a physician. Show this safety data sheet to the doctor in attendance.
- **After inhalation:** *Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.*
- **After skin contact:** *Wash with soap and plenty of water. Immediately remove any clothing soiled by the product. Seek medical treatment.*
- **After eye contact:** *Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.*
- **After swallowing:** *make victim drink water (maximum of 2 drinking glasses). Seek medical treatment.*

- **Information for doctor**

- **Most important symptoms and effects, both acute and delayed:** The most important known symptoms and effects are described in the labelling (see section 2) and/or in 11
- **Indication of any immediate medical attention and special treatment needed:** *No further relevant information available.*

5. Firefighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:** *water spray, CO₂ or powder. Fight larger fires with water spray or alcohol resistant foam.*

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

- **Formation of toxic gases is possible during heating or in case of fire. In case of fire, the following can be released:** *Nitrogen oxides (NO_x), carbon oxides (CO, CO₂), sulfur oxides (SO₂, SO₃...)*

- **Advice 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

- **Personal precautions, protective equipment and emergency procedures:** *Avoid formation of dust. Do not inhale dust. Mount respiratory protective device. Avoid substance contact. Ensure adequate ventilation.*
- **Environmental precautions:** *Do not allow to enter sewers/surface or ground water.*
- **Methods and material for containment and cleaning up:** *Pick up mechanically. Avoid generation of dusts. Dispose of the material collected according to regulations. Ensure adequate ventilation. Clean up affected area.*

7. Handling and storage

- **Handling**
 - **Precautions for safe handling:** *Thorough dedusting. Ensure good ventilation/exhaustion at the workplace. Any unavoidable deposit of dust must be regularly removed.*
- **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:** *Do not store with acids.*
 - **Further information about storage conditions:** *Keep container sealed.*
 - **Recommended storage temperature:** *15-25°C*
 - **Storage class:** *10-13*
 - **Specific end use(s):** *No further relevant information available.*

8. Exposure controls/personal protection

- **Control parameters**
 - **Ingredients with limit values that require monitoring at the workplace:** *Not required.*
- **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. Vacuum clean contaminated clothing. Do not blow or brush off contamination. Avoid contact with the eyes and skin. Change contaminated clothing.*

- **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 P3.
- **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

- **Information on basic physical and chemical properties**
 - Appearance:
 - **Form:** Liquid
 - Other information: No further relevant information available

10. Stability and reactivity

- **Reactivity:** no data available
- **Chemical stability:** no data available
- **Thermal decomposition/conditions to be avoided:** Light/strong heating.
- **Possibility of hazardous reaction:** no dangerous reactions known
- **Conditions to avoid:** no further relevant information available
- **Incompatible materials:** acids
- **Hazardous decomposition product:** See section 5

11. Toxicological information

- **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

- **Toxicity:** *no data available*
- **Persistence and degradability:** *no further relevant information available*
- **Bioaccumulative potential:** *no further relevant information available*
- **Mobility in soil:** *no further relevant information available*
- **Results of PBT and vPvB:** *not applicable*
- **Other adverse effects:** *no further relevant information available*

General notes: *Water hazard class 2: hazardous for water. Do not allow to enter waters, waste water or soil.*

13. Disposal considerations

- **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

- **UN-Number:**
 - **ADR, ADN, IMDG, IATA:** *void*
- **UN proper shipping name:**
 - **ADR, ADN, IMDG, IATA:** *void*
- **Transport hazard class (s):**
 - **ADR, ADN, IMDG, IATA**
 - **Clasa:** *void*
- **Packing group:**
 - **ADR, IMDG, IATA:** *void*
- **Environmental hazards:**
 - **Marine pollutant:** *No*
- **Special precautions for users:** *not applicable*
- **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“:** *void*

15. Regulatory information

– **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

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For the Life Scientist

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

• Product identifier

- Trade name: [AW1 buffer](#)
- Hazardous components: *Guanidine thiocyanate*
- CAS number: 593-84-0
- EC number: 209-812-1
- Relevant identified uses of the substance or mixture and uses advised against:
no data available
- Application of the substance / the preparation: *Laboratory chemicals*

• Details of the supplier of the safety data sheet

– Manufacturer/supplier:

*Appleton Woods Ltd
New Lindon House
Catesby Park
Kings Norton
Birmingham, B38 8SE
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- Emergency telephone number: +44 121 458 7740

2. Hazards identification

• Classification of the substance or mixture

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



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

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

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC:



Xn, Harmful

R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.

R32: Contact with acids liberates very toxic gas.

- **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:** *Warning*

- **Hazard-determining components of labeling:** *Guanidinium thiocyanate*

- **Hazard statements:**

- H302+EUH032 Harmful if swallowed. Contact with acids liberates very toxic gas.*

- H312 Harmful in contact with skin.*

- H332 Harmful if inhaled.*

- **Precautionary statement(s):**

- P273 Avoid release to the environment.*

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

- **Other hazards**

- **Not applicable.**

3. Composition/information on ingredients

- **Chemical characterization:** *Mixture*

Dangerous ingredients		
CAS: 593-84-0	<i>Guanidine thiocyanate</i>	40-50 %
EINECS: 209-812-1	<i>Xn R20/21/22; Xn R32; Acute Tox. 4, H302, Acute Tox. 4 H312,Acute Tox. 4 H332,Aquatic Chronic 3 H412</i>	

4. First aid measures

- **Description of first aid measures**

- **General information:** *No special measures required.*

- **After inhalation:** *Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.*

- **After skin contact:** *Wash with water. Immediately remove any clothing soiled by the product. Seek medical treatment.*

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

- **After swallowing:** *make victim drink water (maximum of 2 drinking glasses).Seek medical treatment.*

- **Information for doctor**

- **Most important symptoms and effects, both acute and delayed:** *No further relevant information available.*

- **Indication of any immediate medical attention and special treatment needed:**
No further relevant information available.

5. Firefighting measures

- **Extinguishing media**
 - **Suitable extinguishing agents:** *water spray, CO₂ or powder. Fight larger fires with water spray or alcohol resistant foam.*
- **Special hazards arising from the substance or mixture**
 - **Formation of toxic gases is possible during heating or in case of fire. In case of fire, the following can be released:** *Nitrogen oxides (NO_x), carbon oxides (CO, CO₂), sulfur oxides (SO₂, SO₃...)*
- **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

- **Personal precautions, protective equipment and emergency procedures:** *Avoid formation of dust. Do not inhale dust. Mount respiratory protective device. Avoid substance contact. Ensure adequate ventilation.*
- **Environmental precautions:** *Do not allow to enter sewers/surface or ground water.*
- **Methods and material for containment and cleaning up:** *Pick up mechanically. Avoid generation of dusts. Dispose of the material collected according to regulations. Ensure adequate ventilation. Clean up affected area.*

7. Handling and storage

- **Handling**
 - **Precautions for safe handling:** *Thorough dedusting. Ensure good ventilation/exhaustion at the workplace. Any unavoidable deposit of dust must be regularly removed.*
- **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:** *Do not store with acids.*
 - **Further information about storage conditions:** *Keep container sealed.*
 - **Recommended storage temperature:** *15-25°C*
 - **Storage class:** *10-13*

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

8. Exposure controls/personal protection

- **Control parameters**

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

- **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. Vacuum clean contaminated clothing. Do not blow or brush off contamination. Avoid contact with the eyes and skin. Change contaminated clothing.*
- **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 P3.*
- **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

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

– **Appearance:**

- **Form:** *Liquid*

– **Other information:** *No further relevant information available*

10. Stability and reactivity

- **Reactivity:** *no data available*
- **Chemical stability:** *no data available*
- **Thermal decomposition/conditions to be avoided:** *Light/strong heating.*
- **Possibility of hazardous reaction:** *no dangerous reactions known*
- **Conditions to avoid:** *no further relevant information available*
- **Incompatible materials:** *acids*
- **Hazardous decomposition product:** *See section 5*

11. Toxicological information

- **Information on toxicological effects**
 - **Primary irritant effect:**
 - **On the skin:** *No irritant effect*
 - **On the eye:** *No irritant effect*
 - **Sensitization:** *no sensitizing effects known*

12. Ecological information

- **Toxicity:** *no data available*
 - **Persistence and degradability:** *no further relevant information available*
 - **Bioaccumulative potential:** *no further relevant information available*
 - **Mobility in soil:** *no further relevant information available*
 - **Results of PBT and vPvB:** *not applicable*
 - **Other adverse effects:** *no further relevant information available*
- General notes:** *Water hazard class 2: hazardous for water. Do not allow to enter waters, waste water or soil.*

13. Disposal considerations

- **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

- **UN-Number:**
 - **ADR, ADN, IMDG, IATA:** *void*
- **UN proper shipping name:**
 - **ADR, ADN, IMDG, IATA:** *void*

- Transport hazard class(s):
 - ADR, ADN, IMDG, IATA
 - Clasa: *void*
- Packing group:
 - ADR, IMDG, IATA: *void*
- Environmental hazards:
 - Marine pollutant: *No*
- Special precautions for users: *not applicable*
- 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“: *void*

15. Regulatory information

- **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

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For the Life Scientist

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

• Product identifier

- Trade name: AW2 buffer
- Hazardous components: 2-propanol
- CAS number: 67-63-0 (2-propanol)
- EC number: 200-661-7 (2-propanol)
- Relevant identified uses of the substance or mixture and uses advised against:
no data available
- Application of the substance / the preparation: *Laboratory chemicals*

• 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

- Emergency telephone number: +44 121 458 7740

2. Hazards identification

• Classification of the substance or mixture

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



GHS02

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H336 May cause respiratory irritation.

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xi; Irritant

R36 Irritating to eyes.



F; Highly flammable

R11: Highly flammable.

R67: Vapours may cause drowsiness and dizziness.

- **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 statements:**

- H225 Highly flammable liquid and vapour.*

- H319 Causes serious eye irritation*

- H336 May cause drowsiness or dizziness.*

- **Precautionary statement(s):**

- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.*

- Remove contact lenses, if present and easy to do. Continue rinsing.*

- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.*

- P233 Keep container tightly closed.*

- **Other hazards**

- **Not applicable.**

3. Composition/information on ingredients

- **Chemical characterization:** *Mixture*

Dangerous ingredients		
CAS: 67-63-0	2-propanol	60-70%
EINECS: 200-661-7	F; R11:R67: Flam. Liq. H225; Eye Irrit. 2 H319, STOT SE 3 H336	

4. First aid measures

- **Description of first aid measures**

- **General information:** *Involve doctor immediately.*

- **After inhalation:** *Supply fresh air; consult doctor in case of complaints.*

- **After skin contact:** *Generally the product does not irritate the skin.*

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

- **Information for doctor**

- **Most important symptoms and effects, both acute and delayed:** *No further relevant information available.*
- **Indication of any immediate medical attention and special treatment needed:** *No further relevant information available.*

5. Firefighting measures

- **Extinguishing media**
 - **Suitable extinguishing agents:** *water spray, CO₂, foam, powder; fight larger fires with spray or alcohol resistant foam.*
- **Special hazards arising from the substance or mixture**
 - **Special hazard arising from the mixture:** *carbon oxides (CO, CO₂)*
- **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

- **Personal precautions, protective equipment and emergency procedures:** *Wear protective equipment. Keep unprotected persons away. Keep away from ignition sources. Avoid substance contact.*
- **Environmental precautions:** *Do not allow to enter sewers/surface or ground water.*
- **Methods and material for containment and cleaning up:** *Absorb with liquid-binding material. Ensure adequate ventilation. Clean up affected area.*

7. Handling and storage

- **Handling**
 - **Precautions for safe handling:** *Keep receptacles tightly sealed*
 - **Information about fire – and explosion protection:** *Keep ignition sources away – do not smoke. Protect against electrostatic charges.*
- **Conditions for safe storage, including any incompatibilities**
 - **Requirements to be met by storerooms and receptacles:** *Store in cool location. Provide acid-resistant floor.*
 - **Information about storage in one common storage facility:** *Away from sources of ignition and heat.*
 - **Further information about storage conditions:** *Keep container tightly sealed. Store in cool, dry conditions in well sealed receptacles. Open receptacle only under localized extractor facilities. Store only outside or in explosion proof rooms. Store*

under lock and key and with access restricted to technical experts or their assistants only.

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

– **Storage class:** 3

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

8. Exposure controls/personal protection

• Control parameters

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

• 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 the eyes. Avoid contact with the eyes and skin.*

- **Respiratory protection:** *Not required.*

- **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

• Information on basic physical and chemical properties

– **Appearance:**

- **Form:** *Liquid*

– **Other information:** *No further relevant information available*

10. Stability and reactivity

- **Reactivity:** *no data available*
- **Chemical stability:** *no data available*
- **Thermal decomposition/conditions to be avoided:** *No decomposition if used according to specifications.*
- **Possibility of hazardous reaction:** *no dangerous reactions known*
- **Conditions to avoid:** *no further relevant information available*
- **Incompatible materials:** *no further relevant information available*
- **Hazardous decomposition product:** *See section 5*

11. Toxicological information

- **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

- **Toxicity:** *no data available*
- **Persistence and degradability:** *no further relevant information available*
- **Bioaccumulative potential:** *no further relevant information available*
- **Mobility in soil:** *no further relevant information available*
- **Results of PBT and vPvB:** *not applicable*
- **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

- **Waste treatment methods**
 - **Recommendation:** *Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.*
 - **Uncleaned packaging (Recommendation):** *Disposal must be made according to official regulations.*
 - **Recommended cleansing agents:** *Water, if necessary together with cleansing agents.*

14. Transport information

- **UN-Number:**

- ADR, ADN, IMDG, IATA: *void*
- UN proper shipping name:
 - ADR, ADN, IMDG, IATA: *void*
- Transport hazard class(s):
 - ADR, ADN, IMDG, IATA
 - Clasa: *void*
- Packing group:
 - ADR, IMDG, IATA: *void*
- Environmental hazards:
 - Marine pollutant: *No*
- Special precautions for users: *not applicable*
- 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“: *void*

15.Regulatory information

- **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.

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For the Life Scientist

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

• Product identifier

- Trade name: [AEB buffer](#)
- Hazardous components: *none*
- Relevant identified uses of the substance or mixture and uses advised against: *no data available*
- Application of the substance / the preparation: *Laboratory chemicals*

• 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*

- Emergency telephone number: **+44 121 458 7740**

2. Hazards identification

• Classification of the substance or mixture

- Classification according to Regulation (EC) No 1272/2008: *Not applicable*
- Classification according to Directive 67/548/EEC or Directive 1999/45/EC: *Not applicable*

• 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*

• Other hazards

- **Not applicable.**

3. Composition/information on ingredients

- **Chemical characterization:** *Mixture*
- **Other information:** *Not significant*

4. First aid measures

- **Description of first aid measures**

- **General information:** *No special measures required.*
- **After inhalation:** *Supply fresh air.*
- **After skin contact:** *Wash with 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.*

- **Information for doctor**

- **Most important symptoms and effects, both acute and delayed:** *No further relevant information available.*
- **Indication of any immediate medical attention and special treatment needed:** *No further relevant information available.*

5. Firefighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:** *water, CO₂, foam, powder. Fight larger fires with water spray or alcohol resistant foam.*

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

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

- **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

- **Personal precautions, protective equipment and emergency procedures:** *Avoid substance contact.*
- **Environmental precautions:** *Do not allow to enter sewers/surface or ground water.*
- **Methods and material for containment and cleaning up:** *Pick up mechanically. Clean up affected area. Dispose of the material collected according to regulations.*

7. Handling and storage

- **Handling**
 - **Precautions for safe handling:** *No special precautions are necessary if used correctly.*
- **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*
 - **Specific end use(s):** *No further relevant information available.*

8. Exposure controls/personal protection

- **Control parameters**
 - **Ingredients with limit values that require monitoring at the workplace:** *Not required.*
- **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

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

- **Appearance:**

- **Form:** *Liquid*

- **Other information:** *No further relevant information available*

10. Stability and reactivity

- **Reactivity:** *no data available*

- **Chemical stability:** *no data available*

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

- **Possibility of hazardous reaction:** *no dangerous reactions known*

- **Conditions to avoid:** *no further relevant information available*

- **Incompatible materials:** *no further relevant information available*

- **Hazardous decomposition product:** *See section 5*

11. Toxicological information

- **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

- **Toxicity:** *no data available*

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

- **Bioaccumulative potential:** *no further relevant information available*

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

- **Results of PBT and vPvB:** *not applicable*

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

13. Disposal considerations

- **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

- UN-Number:
 - ADR, ADN, IMDG, IATA: *void*
- UN proper shipping name:
 - ADR, ADN, IMDG, IATA: *void*
- Transport hazard class(s):
 - ADR, ADN, IMDG, IATA
 - Clasa: *void*
- Packing group:
 - ADR, IMDG, IATA: *void*
- Environmental hazards:
 - Marine pollutant: *No*
- Special precautions for users: *not applicable*
- 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“: *void*

15. Regulatory information

- **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.