

**Product name:** Absolutely RNA FFPE Kit  
**Part no.:** 400809

This product is composed of the following:

### Kit Components, Reagents

Box/Module Part number	Box/Module Name	Kit Component Part Number	Kit Component Name	Qty Units	CLP
400809-1	Absolutely RNA FFPE Kit RT	200345-21	β-Mercaptoethanol	1	No
		400711-14	1.67X High Salt Wash Buffer	1	Yes
		400711-15	5x Low Salt Wash Buffer	1	No
		400711-17	DNase Reconstitution Buffer	1	No
		400711-18	DNase Digestion Buffer	1	Yes
		400711-23	RNase-Free DNase I (Lyophilized)	1	No
		400752-16	Elution Buffer	1	No
400809-5	Absolutely RNA FFPE Kit -20°C	400809-13	RNA Binding Buffer	1	Yes
		400809-17	Proteinase K	1	No
		400809-18	Proteinase K Digestion Buffer	1	Yes
400809-7	De-paraffinization reagent (d-limonene)	750500-41	QPCR Human Reference Total RNA	1	No
		400809-15	De-paraffinization Reagent d-limonene	1	Yes

Article SDSs, if maintained, are available on [www.agilent.com](http://www.agilent.com). We recommend using the article product code when searching. SDSs are only available for a limited set of countries.

### Transport Information for the Kit:

**Dangerous Goods classification for:** 400809

ADR/RID	IMDG	IATA
UN3316, CHEMICAL KIT, 9, II	UN3316, CHEMICAL KIT, 9, II	UN3316, Chemical kit, 9, II

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SDSs for each individual Kit component follow this cover sheet.

# SAFETY DATA SHEET

RNase-Free DNase I (Lyophilized)

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** : RNase-Free DNase I (Lyophilized)  
**EC number** : Not available.  
**CAS number** : -  
**Part no.** : 400711-23

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

**Identified uses** : Analytical reagent.  
2600 U  
**Uses advised against** : None known.

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.  
5500 Lakeside Cheadle Royal Business Park,  
Cheadle, Cheshire, SK8 3GR  
United Kingdom  
Tel: +44 (0) 345 712 5292  
**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +44 20 3807 3798

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : UVCB  
**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**  
Not classified.

The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Signal word** : No signal word.  
**Hazard statements** : No known significant effects or critical hazards.  
**Precautionary statements**  
**Prevention** : Not applicable.  
**Response** : Not applicable.  
**Storage** : Not applicable.  
**Disposal** : Not applicable.  
**Supplemental label elements** : Not applicable.

RNase-Free DNase I (Lyophilized)

## SECTION 2: Hazards identification

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

### Special packaging requirements

**Containers to be fitted with child-resistant fastenings** : Not applicable.

**Tactile warning of danger** : Not applicable.

### 2.3 Other hazards

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** :

PBT	P	B	T	vPvB	vP	vB
N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Other hazards which do not result in classification** : May form explosible dust-air mixture if dispersed.

## SECTION 3: Composition/information on ingredients

**3.1 Substances** : UVCB

Product/ingredient name	Identifiers	%	Classification	Type
Enzyme.	-	100	Not classified. <b>See Section 16 for the full text of the H statements declared above.</b>	[*]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[\*] Substance

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

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

#### Over-exposure signs/symptoms

RNase-Free DNase I (Lyophilized)

## SECTION 4: First aid measures

- Eye contact** : Adverse symptoms may include the following:  
irritation  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : No specific data.
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical powder.
- Unsuitable extinguishing media** : Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.

### 5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : May form explosible dust-air mixture if dispersed.
- Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide

### 5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to British standard BS EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and material for containment and cleaning up

RNase-Free DNase I (Lyophilized)

## SECTION 6: Accidental release measures

**Methods for cleaning up** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

**6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid breathing dust. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

**Recommendations** : Industrial applications, Professional applications.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

No exposure limit value known.

#### Biological exposure indices

No exposure indices known.

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

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## SECTION 8: Exposure controls/personal protection

Not available.

### PNECs

Not available.

### 8.2 Exposure controls

**Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles.

### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### 9.1 Information on basic physical and chemical properties

#### Appearance

**Physical state** : Solid.  
**Colour** : Not available.  
**Odour** : Not available.  
**Odour threshold** : Not available.  
**Melting point/freezing point** : Not available.  
**Initial boiling point and boiling range** : Not available.  
**Flammability** : Not available.

RNase-Free DNase I (Lyophilized)

## SECTION 9: Physical and chemical properties

<b>Lower and upper explosion limit/flammability limit</b>	: Not applicable.
<b>Flash point</b>	: Not applicable.
<b>Auto-ignition temperature</b>	: Not applicable.
<b>Decomposition temperature</b>	: Not available.
<b>pH</b>	: Not available.
<b>Viscosity</b>	: Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C): Not available.
<b>Solubility</b>	: Not available.
<b>Partition coefficient: n-octanol/water</b>	: Not applicable.
<b>Vapour pressure</b>	: Not available.
<b>Relative density</b>	: Not available.
<b>Vapour density</b>	: Not applicable.
<b>Particle characteristics</b>	
<b>Median particle size</b>	: Not available.

### 9.2 Other information

#### 9.2.1 Information with regard to physical hazard classes

<b>Explosive properties</b>	: Not available.
<b>Oxidising properties</b>	: Not available.

#### 9.2.2 Other safety characteristics

<b>Evaporation rate</b>	: Not available.
<b>Physical/chemical properties comments</b>	: Not available.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Prevent dust accumulation.
<b>10.5 Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidising materials
<b>10.6 Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

RNase-Free DNase I (Lyophilized)

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

**Conclusion/Summary** : Not available.  
**[Product]**

#### Acute toxicity estimates

N/A

#### Skin corrosion/irritation

**Conclusion/Summary** : Not available.  
**[Product]**

#### Serious eye damage/eye irritation

**Conclusion/Summary** : Not available.  
**[Product]**

#### Respiratory corrosion/irritation

**Conclusion/Summary** : Not available.  
**[Product]**

#### Respiratory or skin sensitization

##### **Skin**

**Conclusion/Summary** : Not available.  
**[Product]**

##### **Respiratory**

**Conclusion/Summary** : Not available.  
**[Product]**

#### Germ cell mutagenicity

**Conclusion/Summary** : Not available.  
**[Product]**

#### Carcinogenicity

**Conclusion/Summary** : Not available.  
**[Product]**

#### Reproductive toxicity

**Conclusion/Summary** : Not available.  
**[Product]**

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Not available.

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## SECTION 11: Toxicological information

### Potential acute health effects

- Eye contact** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
- Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
irritation  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

### Potential chronic health effects

- Conclusion/Summary [Product]** : Not available.
- General** : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

## SECTION 12: Ecological information

### 12.1 Toxicity

- Conclusion/Summary [Product]** : Not available.

### 12.2 Persistence and degradability

- Conclusion/Summary [Product]** : Not available.

### 12.3 Bioaccumulative potential

Not available.

### 12.4 Mobility in soil

**Soil/water partition coefficient**

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## SECTION 12: Ecological information

Not available.

### Results of PMT and vPvM assessment

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
Enzyme.	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Mobility** : Not available.

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PMT or vPvM.

### 12.5 Results of PBT and vPvB assessment

#### Regulation (EC) No. 1907/2006 [REACH]

According to the results of its assessment, this substance is not a PBT or a vPvB.

#### Regulation (EC) No. 1272/2008 [CLP]

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Enzyme.	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PBT or vPvB.

**Regulation (EC) No. 1272/2008 [CLP]**

### 12.6 Endocrine disrupting properties

Not available.

**Conclusion/Summary [Product]** : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

### 12.7 Other adverse effects

No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. The generation of waste should be avoided or minimised wherever possible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

RNase-Free DNase I (Lyophilized)

## SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to IMO instruments** : Not available.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture UK (GB)/REACH

#### Annex XIV - List of substances subject to authorisation

##### Annex XIV

None of the components are listed.

##### Substances of very high concern

None of the components are listed.

##### Ozone depleting substances

Not listed.

##### Prior Informed Consent (PIC)

Not listed.

##### Persistent Organic Pollutants

Not listed.

### **Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

None of the components are listed / The components are not impacted by a restriction

**Labelling** : Not applicable.

##### Seveso Directive

This product is not controlled under the Seveso Directive.

##### EU regulations

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

RNase-Free DNase I (Lyophilized)

## SECTION 15: Regulatory information

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments might still be required.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**United States** : All components are active or exempted.

## SECTION 16: Other information

🔍 Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** :

- ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
- ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE = Acute Toxicity Estimate
- GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = GB CLP-specific Hazard statement
- IATA = International Air Transport Association
- IMDG = International Maritime Dangerous Goods
- IMO = International Maritime Organization
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
- RRN = REACH Registration Number
- SGG = Segregation Group
- vPvB = Very Persistent and Very Bioaccumulative

### Procedure used to derive the classification

Classification	Justification
Not classified.	

### Full text of abbreviated H statements

Not applicable.

### Full text of classifications

Not applicable.

*RNase-Free DNase I (Lyophilized)*

## SECTION 16: Other information

**Date of issue/ Date of revision** : 30/09/2025

**Date of previous issue** : 19/02/2025

**Version** : 1.1

### Notice to reader

**Disclaimer:** The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

# SAFETY DATA SHEET

β-Mercaptoethanol

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** : β-Mercaptoethanol  
**EC number** : 200-464-6  
**CAS number** : 60-24-2  
**Part no.** : 200345-21  
**Chemical formula** : C<sub>2</sub>H<sub>6</sub>OS

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

**Identified uses** : Analytical reagent.  
 0.75 ml (750 µl 14.33 M)  
**Uses advised against** : None known.

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.  
 5500 Lakeside Cheadle Royal Business Park,  
 Cheadle, Cheshire, SK8 3GR  
 United Kingdom  
 Tel: +44 (0) 345 712 5292  
**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +44 20 3807 3798

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mono-constituent substance

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

H301	ACUTE TOXICITY (oral)	Category 3
H310	ACUTE TOXICITY (dermal)	Category 2
H331	ACUTE TOXICITY (inhalation)	Category 3
H315	SKIN CORROSION/IRRITATION	Category 2
H318	SERIOUS EYE DAMAGE/EYE IRRITATION	Category 1
H317	SKIN SENSITISATION	Category 1A
H361f	REPRODUCTIVE TOXICITY	Category 2
H373	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	Category 2
H400	SHORT-TERM (ACUTE) AQUATIC HAZARD	Category 1
H411	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 2

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

***β-Mercaptoethanol***

## SECTION 2: Hazards identification

**Hazard pictograms** :



**Signal word** : Danger

**Hazard statements** :

- H301 + H331 - Toxic if swallowed or if inhaled.
- H310 - Fatal in contact with skin.
- H315 - Causes skin irritation.
- H317 - May cause an allergic skin reaction.
- H318 - Causes serious eye damage.
- H361f - Suspected of damaging fertility.
- H373 - May cause damage to organs through prolonged or repeated exposure. (heart, liver)
- H410 - Very toxic to aquatic life with long lasting effects.

### Precautionary statements

**Prevention** :

- P280 - Wear protective gloves, protective clothing and eye or face protection.
- P273 - Avoid release to the environment.
- P262 - Do not get in eyes, on skin, or on clothing.
- P260 - Do not breathe vapour.

**Response** : P391 - Collect spillage.

**Storage** : Not applicable.

**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Supplemental label elements** : Not applicable.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

### Special packaging requirements

**Containers to be fitted with child-resistant fastenings** : Not applicable.

**Tactile warning of danger** : Not applicable.

### 2.3 Other hazards

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** :

PBT	P	B	T	vPvB	vP	vB
N/A	N/A	N/A	Yes	N/A	N/A	N/A

**Other hazards which do not result in classification** : None known.

## SECTION 3: Composition/information on ingredients

**3.1 Substances** : Mono-constituent substance

***β*-Mercaptoethanol****SECTION 3: Composition/information on ingredients**

Product/ingredient name	Identifiers	%	Classification	Type
<i>β</i> -Mercaptoethanol	EC: 200-464-6 CAS: 60-24-2	100	Acute Tox. 3, H301 Acute Tox. 2, H310 Acute Tox. 3, H331 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1A, H317 Repr. 2, H361f STOT RE 2, H373 (heart, liver) Aquatic Acute 1, H400 (M=1) Aquatic Chronic 2, H411  <b>See Section 16 for the full text of the H statements declared above.</b>	[1]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[1] Constituent

Occupational exposure limits, if available, are listed in Section 8.

**SECTION 4: First aid measures****4.1 Description of first aid measures**

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Gently wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

***β-Mercaptoethanol***

## SECTION 4: First aid measures

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

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
 pain  
 watering  
 redness
- Inhalation** : Adverse symptoms may include the following:  
 reduced foetal weight  
 increase in foetal deaths  
 skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
 pain or irritation  
 redness  
 blistering may occur  
 reduced foetal weight  
 increase in foetal deaths  
 skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
 stomach pains  
 reduced foetal weight  
 increase in foetal deaths  
 skeletal malformations

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous combustion products** : Decomposition products may include the following materials:  
 carbon dioxide  
 carbon monoxide  
 sulfur oxides

### 5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to British standard BS EN 469 will provide a basic level of protection for chemical incidents.
- Additional information** : Combustible liquid.

***β*-Mercaptoethanol**

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### 6.3 Methods and material for containment and cleaning up

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Avoid release to the environment. Avoid contact with eyes, skin and clothing. Do not ingest. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Do not breathe vapour or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid exposure during pregnancy. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### Seveso Directive - Reporting thresholds

#### Danger criteria

***β*-Mercaptoethanol**

**SECTION 7: Handling and storage**

Category	Notification and MAPP threshold	Safety report threshold
H2 E1	50 tonnes 100 tonnes	200 tonnes 200 tonnes

**7.3 Specific end use(s)**

**Recommendations** : Industrial applications, Professional applications.

**Industrial sector specific solutions** : Not available.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational exposure limits**

No exposure limit value known.

**Biological exposure indices**

No exposure indices known.

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**DNELs/DMELs**

Product/ingredient name	Result	
2-mercaptoethanol	DNEL - General population - Short term - Oral	0.025 mg/kg bw/day
	DNEL - General population - Long term - Oral	0.025 mg/kg bw/day
	DNEL - Workers - Short term - Dermal	0.05 mg/kg bw/day
	DNEL - Workers - Long term - Dermal	0.05 mg/kg bw/day
	DNEL - Workers - Short term - Inhalation	0.17 mg/m <sup>3</sup>
	DNEL - Workers - Long term - Inhalation	0.17 mg/m <sup>3</sup>

**PNECs**

Not available.

**8.2 Exposure controls**

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

***β*-Mercaptoethanol**

## SECTION 8: Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### 9.1 Information on basic physical and chemical properties

#### Appearance

- Physical state** : Liquid.
- Colour** : Not available.
- Odour** : Not available.
- Odour threshold** : Not available.
- Melting point/freezing point** : -100°C
- Initial boiling point and boiling range** : 157°C
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Lower: 2.3%  
Upper: 18%
- Flash point** : Closed cup: 74°C  
Open cup: 74°C
- Auto-ignition temperature** : 295°C
- Decomposition temperature** : Not available.
- pH** : Not available.
- Viscosity** : Dynamic (room temperature): 3.43 mPa·s  
Kinematic (room temperature): Not available.  
Kinematic (40°C): Not available.

***β*-Mercaptoethanol****SECTION 9: Physical and chemical properties**

<b>Solubility</b>	<b>Media</b>	<b>Result</b>
	water	Soluble
<b>Solubility in water</b>	: 1000 g/l	
<b>Partition coefficient: n-octanol/water</b>	: -0.056	
<b>Vapour pressure</b>	: 0.13 kPa (0.97508 mm Hg)	
<b>Relative density</b>	: 1.1	
<b>Density</b>	: 1.114 g/cm <sup>3</sup> [20°C]	
<b>Vapour density</b>	: 2.7 [Air = 1]	
<b><u>Particle characteristics</u></b>		
<b>Median particle size</b>	: Not applicable.	

**9.2 Other information****9.2.1 Information with regard to physical hazard classes****Explosive properties** : Not available.**Oxidising properties** : Not available.**9.2.2 Other safety characteristics****Miscible with water** : Yes.**Evaporation rate** : Not available.**Physical/chemical properties comments** : Not available.**SECTION 10: Stability and reactivity**

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: No specific data.
<b>10.5 Incompatible materials</b>	: May react or be incompatible with oxidising materials. Reactive or incompatible with the following materials: oxidising materials.
<b>10.6 Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

<b>Product/ingredient name</b>	<b>Result</b>	
2-mercaptoethanol	Rat - Oral - LD50	244 mg/kg

**Conclusion/Summary** : Not available.**[Product]****Acute toxicity estimates**

***β*-Mercaptoethanol**

**SECTION 11: Toxicological information**

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
2-mercaptoethanol	244	200	N/A	3	N/A

**Skin corrosion/irritation**

**Conclusion/Summary** : Not available.  
**[Product]**

**Serious eye damage/eye irritation**

Product/ingredient name	Result	Amount/concentration applied:
2-mercaptoethanol	Rabbit - Eyes - Severe irritant	2 mg

**Conclusion/Summary** : Not available.  
**[Product]**

**Respiratory corrosion/irritation**

**Conclusion/Summary** : Not available.  
**[Product]**

**Respiratory or skin sensitization**

**Skin**

**Conclusion/Summary** : Not available.  
**[Product]**

**Respiratory**

**Conclusion/Summary** : Not available.  
**[Product]**

**Germ cell mutagenicity**

**Conclusion/Summary** : Not available.  
**[Product]**

**Carcinogenicity**

**Conclusion/Summary** : Not available.  
**[Product]**

**Reproductive toxicity**

**Conclusion/Summary** : Not available.  
**[Product]**

**Specific target organ toxicity (single exposure)**

Not available.

**Specific target organ toxicity (repeated exposure)**

Product/ingredient name	Result
2-mercaptoethanol	STOT RE 2, H373 (heart, liver)

**Aspiration hazard**

Not available.

***β*-Mercaptoethanol**

## SECTION 11: Toxicological information

**Information on likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

**Eye contact** : Causes serious eye damage.  
**Inhalation** : Toxic if inhaled.  
**Skin contact** : Fatal in contact with skin. Causes skin irritation. May cause an allergic skin reaction.  
**Ingestion** : Toxic if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:  
 pain  
 watering  
 redness

**Inhalation** : Adverse symptoms may include the following:  
 reduced foetal weight  
 increase in foetal deaths  
 skeletal malformations

**Skin contact** : Adverse symptoms may include the following:  
 pain or irritation  
 redness  
 blistering may occur  
 reduced foetal weight  
 increase in foetal deaths  
 skeletal malformations

**Ingestion** : Adverse symptoms may include the following:  
 stomach pains  
 reduced foetal weight  
 increase in foetal deaths  
 skeletal malformations

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

### Potential chronic health effects

**Conclusion/Summary [Product]** : Not available.

**General** : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** : Suspected of damaging fertility.

***β*-Mercaptoethanol****SECTION 12: Ecological information****12.1 Toxicity****Product/ingredient name**

2-mercaptoethanol

**Result**

Acute - EC50 - Fresh water  
 OECD 202 [Daphnia sp. Acute Immobilization Test and Reproduction Test]  
 Daphnia  
 0.4 mg/l [48 hours]

**Conclusion/Summary [Product]** : Not available.

**12.2 Persistence and degradability****Product/ingredient name**

2-mercaptoethanol

**Result**

OECD [Ready Biodegradability - CO<sub>2</sub> in Sealed Vessels (Headspace Test)] 69% [60 days] - Not readily Aerobic - 20 mg/l

**Conclusion/Summary [Product]** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2-mercaptoethanol	-	-	Not readily

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
2-mercaptoethanol	-0.056	-	Low

**12.4 Mobility in soil****Soil/water partition coefficient**

Product/ingredient name	logK <sub>oc</sub>	K <sub>oc</sub>
2-mercaptoethanol	0.98	9.63243

**Results of PMT and vPvM assessment**

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
2-mercaptoethanol	N/A	N/A	Yes	Yes	N/A	N/A	Yes

**Mobility** : Not available.

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PMT or vPvM.

**12.5 Results of PBT and vPvB assessment****Regulation (EC) No. 1907/2006 [REACH]**

According to the results of its assessment, this substance is not a PBT or a vPvB.

**Regulation (EC) No. 1272/2008 [CLP]**

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
2-mercaptoethanol	N/A	N/A	N/A	Yes	N/A	N/A	N/A

**Conclusion/Summary Regulation (EC) No. 1272/2008 [CLP]** : The product does not meet the criteria to be considered as a PBT or vPvB.

**12.6 Endocrine disrupting properties**

***β-Mercaptoethanol***

## SECTION 12: Ecological information

Not available.

**Conclusion/Summary [Product]** : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

### 12.7 Other adverse effects

No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** :  Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. The generation of waste should be avoided or minimised wherever possible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.


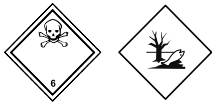

**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	IMDG	IATA
<b>14.1 UN number</b>	UN2966	UN2966	UN2966
<b>14.2 UN proper shipping name</b>	THIOGLYCOL	THIOGLYCOL	Thioglycol
<b>14.3 Transport hazard class(es)</b>	6.1 	6.1 	6.1 
<b>14.4 Packing group</b>	II	II	II
<b>14.5 Environmental hazards</b>	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

### Additional information

**Remarks:** De minimis quantities

**ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
**Hazard identification number** 60  
**Limited quantity** 100 ml  
**Tunnel code** (D/E)

**IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
**Emergency schedules** F-A, S-A

***β-Mercaptoethanol***

## SECTION 14: Transport information

- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.  
**Quantity limitation** Passenger and Cargo Aircraft: 5 L. Packaging instructions: 654. Cargo Aircraft Only: 60 L. Packaging instructions: 662. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y641.
- 14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
- 14.7 Transport in bulk according to IMO instruments** : Not available.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture UK (GB)/REACH

#### Annex XIV - List of substances subject to authorisation

##### Annex XIV

None of the components are listed.

##### Substances of very high concern

None of the components are listed.

##### Ozone depleting substances

Not listed.

##### Prior Informed Consent (PIC)

Not listed.

##### Persistent Organic Pollutants

Not listed.

### Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

None of the components are listed / The components are not impacted by a restriction

**Labelling** : Not applicable.

#### Seveso Directive

This product is controlled under the Seveso Directive.

#### Danger criteria

Category
H2
E1

#### EU regulations

- Industrial emissions (integrated pollution prevention and control) - Air** : Listed
- Industrial emissions (integrated pollution prevention and control) - Water** : Not listed
- 15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments might still be required.

***β*-Mercaptoethanol**

## SECTION 15: Regulatory information

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**United States** : This material is active or exempted.

## SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

### **Abbreviations and acronyms**

: ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway  
 : ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
 ATE = Acute Toxicity Estimate  
 GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments  
 DMEL = Derived Minimal Effect Level  
 DNEL = Derived No Effect Level  
 EUH statement = GB CLP-specific Hazard statement  
 IATA = International Air Transport Association  
 IMDG = International Maritime Dangerous Goods  
 IMO = International Maritime Organization  
 N/A = Not available  
 PBT = Persistent, Bioaccumulative and Toxic  
 PNEC = Predicted No Effect Concentration  
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
 RRN = REACH Registration Number  
 SGG = Segregation Group  
 vPvB = Very Persistent and Very Bioaccumulative

### Procedure used to derive the classification

<b>Classification</b>	<b>Justification</b>
Acute Tox. 3, H301	On basis of test data
Acute Tox. 2, H310	On basis of test data
Acute Tox. 3, H331	On basis of test data
Skin Irrit. 2, H315	Expert judgment
Eye Dam. 1, H318	Expert judgment
Skin Sens. 1A, H317	Expert judgment
Repr. 2, H361f	Expert judgment
STOT RE 2, H373 (heart, liver)	Expert judgment
Aquatic Acute 1, H400 (M=1)	On basis of test data
Aquatic Chronic 2, H411	Expert judgment

### Full text of abbreviated H statements

***β*-Mercaptoethanol**

**SECTION 16: Other information**

H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Full text of classifications

Acute Tox. 2	ACUTE TOXICITY - Category 2
Acute Tox. 3	ACUTE TOXICITY - Category 3
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

**Date of issue/ Date of revision** : 30/09/2025

**Date of previous issue** : 19/02/2025

**Version** : 1.1

Notice to reader

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# SAFETY DATA SHEET

De-paraffinization Reagent d-limonene

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** : De-paraffinization Reagent d-limonene  
**Index number** : 601-096-00-2  
**EC number** : 227-813-5  
**CAS number** : 5989-27-5  
**Part no.** : 400809-15  
**Chemical formula** : C<sub>10</sub>H<sub>16</sub>

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

**Identified uses** : Analytical reagent.  
 De-paraffinization Reagent  
 150 ml  
**Uses advised against** : None known.

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.  
 5500 Lakeside Cheadle Royal Business Park,  
 Cheadle, Cheshire, SK8 3GR  
 United Kingdom  
 Tel: +44 (0) 345 712 5292  
**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +44 20 3807 3798

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mono-constituent substance

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

H226	FLAMMABLE LIQUIDS	Category 3
H315	SKIN CORROSION/IRRITATION	Category 2
H317	SKIN SENSITISATION	Category 1B
H304	ASPIRATION HAZARD	Category 1
H400	SHORT-TERM (ACUTE) AQUATIC HAZARD	Category 1
H412	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 3

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard pictograms** :



**Signal word** : Danger

**De-paraffinization Reagent d-limonene**

**SECTION 2: Hazards identification**

**Hazard statements** : H226 - Flammable liquid and vapour.  
 H304 - May be fatal if swallowed and enters airways.  
 H315 - Causes skin irritation.  
 H317 - May cause an allergic skin reaction.  
 H410 - Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

**Prevention** : P280 - Wear protective gloves.  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P273 - Avoid release to the environment.

**Response** : P391 - Collect spillage.  
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.

**Storage** : Not applicable.

**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Supplemental label elements** : Not applicable.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

**Special packaging requirements**

**Containers to be fitted with child-resistant fastenings** : Not applicable.

**Tactile warning of danger** : Not applicable.

**2.3 Other hazards**

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** :

PBT	P	B	T	vPvB	vP	vB
No	N/A	N/A	No	N/A	N/A	N/A

**Other hazards which do not result in classification** : Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapour may cause flash fire or explosion.

**SECTION 3: Composition/information on ingredients**

**3.1 Substances** : Mono-constituent substance

Product/ingredient name	Identifiers	%	Classification	Type
(R)-p-mentha-1,8-diene	EC: 227-813-5 CAS: 5989-27-5 Index: 601-096-00-2	100	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 3, H412 <b>See Section 16 for the full text of the H statements declared above.</b>	[1]

**De-paraffinization Reagent d-limonene**

**SECTION 3: Composition/information on ingredients**

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[1] Constituent

Occupational exposure limits, if available, are listed in Section 8.

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable extinguishing media** : Do not use water jet.

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

**Hazards from the substance or mixture** : Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly-grounded containers. Static accumulation may be significantly increased by the presence of small quantities of water or other contaminants. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide

**5.3 Advice for firefighters**

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to British standard BS EN 469 will provide a basic level of protection for chemical incidents.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**6.2 Environmental precautions**

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

**6.3 Methods and material for containment and cleaning up**

**Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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**SECTION 6: Accidental release measures**

**6.4 Reference to other sections** : See Section 1 for emergency contact information.  
 See Section 8 for information on appropriate personal protective equipment.  
 See Section 13 for additional waste treatment information.

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Avoid release to the environment. Avoid contact with eyes, skin and clothing. Do not ingest. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Do not swallow. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Restrict flow velocity according to API 2003 (2008), NFPA 77 (2007), and Laurence Britton, "Avoiding Static Ignition Hazards in Chemical Operations". To reduce potential for static discharge, ensure that all equipment is properly grounded and bonded and meets appropriate electrical classification requirements.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**7.2 Conditions for safe storage, including any incompatibilities**

**Storage** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

**Seveso Directive - Reporting thresholds**

**Danger criteria**

Category	Notification and MAPP threshold	Safety report threshold
P5c E1	5000 tonnes 100 tonnes	50000 tonnes 200 tonnes

**7.3 Specific end use(s)**

**Recommendations** : Industrial applications, Professional applications.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

No exposure limit value known.

#### Biological exposure indices

No exposure indices known.

#### Recommended monitoring procedures

: Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

##### Product/ingredient name

(R)-p-mentha-1,8-diene

##### Result

DNEL - General population - Long term - Oral	4.8 mg/kg bw/day
DNEL - General population - Long term - Dermal	4.8 mg/kg bw/day
DNEL - Workers - Long term - Dermal	9.5 mg/kg bw/day
DNEL - General population - Long term - Inhalation	16.6 mg/m <sup>3</sup>
DNEL - Workers - Long term - Inhalation	66.7 mg/m <sup>3</sup>

#### PNECs

Not available.

### 8.2 Exposure controls

#### Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### Individual protection measures

##### Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

##### Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

##### Skin protection

##### Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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**SECTION 8: Exposure controls/personal protection**

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to British Standard BS EN 1149 for further information on material and design requirements and test methods.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

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

Appearance

- Physical state** : Liquid. [Oily liquid.]
- Colour** : White to yellowish.
- Odour** : Not available.
- Odour threshold** : 0.44 ppm
- Melting point/freezing point** : -78.35°C [OECD 102]
- Initial boiling point and boiling range** : 154.44°C
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Lower: 0.7%  
Upper: 6.1%
- Flash point** : Closed cup: 51°C [EU A.9]
- Auto-ignition temperature** : 237°C
- Decomposition temperature** : Not available.
- pH** : Not available.
- Viscosity** : Dynamic (room temperature): 0.85 mPa·s [OECD 114]  
Kinematic (room temperature): Not available.  
Kinematic (40°C): Not available.

<b>Solubility</b>	<b>Media</b>	<b>Result</b>
	water	Insoluble

- Solubility in water** : 0.0123 g/l [OECD 105]
- Partition coefficient: n-octanol/water** : 4.38 [HPLC]
- Vapour pressure** : 0.27 kPa (2 mm Hg) [room temperature]  
1.1 kPa (8.33 mm Hg) [50°C]
- Relative density** : 0.84 [OECD 109]
- Density** : 0.84 g/cm<sup>3</sup> [20°C] [OECD 109]
- Vapour density** : 0.012 [Air = 1]

**De-paraffinization Reagent d-limonene**

**SECTION 9: Physical and chemical properties**

Particle characteristics

**Median particle size** : Not applicable.

**9.2 Other information**

**9.2.1 Information with regard to physical hazard classes**

**Heat of combustion** : -45400000 J/kg

**Explosive properties** : Not available.

**Oxidising properties** : Not available.

**9.2.2 Other safety characteristics**

**Miscible with water** : No.

**Evaporation rate** : <1 (Water = 1 = 1)

**Physical/chemical properties comments** : Not available.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : The product is stable.

**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

**10.5 Incompatible materials** : Reactive or incompatible with the following materials:  
oxidising materials  
Oxidises on contact with air.

**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

Acute toxicity

Product/ingredient name	Result
(R)-p-mentha-1,8-diene	Rat - Oral - LD50 Rabbit - Dermal - LD50
	4400 mg/kg >5000 mg/kg

**Conclusion/Summary** : Not available.

**[Product]**

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
(R)-p-mentha-1,8-diene	4400	N/A	N/A	N/A	N/A

Skin corrosion/irritation

Product/ingredient name	Result

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**SECTION 11: Toxicological information**

(R)-p-mentha-1,8-diene

Rabbit - Skin - Mild irritant

Duration of treatment/  
exposure: 24 hours  
Amount/concentration  
applied: 10 %  
Duration of treatment/  
exposure: 168 hours  
Amount/concentration  
applied: 700 mg l

Mouse - Skin - Severe irritant

**Conclusion/Summary** : Not available.  
**[Product]**

**Serious eye damage/eye irritation**

**Conclusion/Summary** : Not available.  
**[Product]**

**Respiratory corrosion/irritation**

**Conclusion/Summary** : Not available.  
**[Product]**

**Respiratory or skin sensitization**

**Skin**

**Conclusion/Summary** : Not available.  
**[Product]**

**Respiratory**

**Conclusion/Summary** : Not available.  
**[Product]**

**Germ cell mutagenicity**

**Conclusion/Summary** : Not available.  
**[Product]**

**Carcinogenicity**

**Conclusion/Summary** : Not available.  
**[Product]**

**Reproductive toxicity**

**Conclusion/Summary** : Not available.  
**[Product]**

**Specific target organ toxicity (single exposure)**

Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

**Product/ingredient name**

**Result**

(R)-p-mentha-1,8-diene

ASPIRATION HAZARD - Category 1

**Information on likely routes of exposure**

: Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

**Potential acute health effects**

**Eye contact**

: No known significant effects or critical hazards.

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**SECTION 11: Toxicological information**

- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

- Conclusion/Summary [Product]** : Not available.
- General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

**SECTION 12: Ecological information**

12.1 Toxicity

Product/ingredient name	Result
(R)-p-mentha-1,8-diene	Acute - EC50 - Fresh water ASTM Fish - Fathead minnow - <i>Pimephales promelas</i> - Juvenile (Fledgling, Hatchling, Weanling) Age: 34 days; Size: 19.1 mm; Weight: 0.085 g 688 µg/l [96 hours] Behavior
	Acute - EC50 - Fresh water ASTM Daphnia - Water flea -

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**SECTION 12: Ecological information**

*Daphnia magna*  
Age: <24 hours  
421 µg/l [48 hours]  
Intoxication

Chronic - NOEC - Fresh water -  
OECD [Daphnia Magna Reproduction Test]  
Daphnia - Daphnia - *Daphnia magna*  
0.08 mg/l [21 days]

Acute - EC50 - Fresh water -  
OECD [Alga, Growth Inhibition Test]  
Algae - Algae - *Pseudokirchneriella subcapitata*  
0.214 mg/l [72 hours]

**Conclusion/Summary [Product]** : Not available.

**12.2 Persistence and degradability**

Product/ingredient name	Result
(R)-p-mentha-1,8-diene	OECD [ Ready Biodegradability - Closed Bottle Test] 80% [28 days] - Readily Aerobic - 2 mg/l

**Conclusion/Summary [Product]** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
(R)-p-mentha-1,8-diene	-	-	Readily

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
(R)-p-mentha-1,8-diene	4.38	-	High

**12.4 Mobility in soil**

**Soil/water partition coefficient**

Product/ingredient name	logK <sub>oc</sub>	K <sub>oc</sub>
(R)-p-mentha-1,8-diene	3.4	2297

**Results of PMT and vPvM assessment**

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
(R)-p-mentha-1,8-diene	No	N/A	No	No	No	N/A	No

**Mobility** : Not available.

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PMT or vPvM.

**12.5 Results of PBT and vPvB assessment**

**Regulation (EC) No. 1907/2006 [REACH]**

According to the results of its assessment, this substance is not a PBT or a vPvB.

**Regulation (EC) No. 1272/2008 [CLP]**

De-paraffinization Reagent d-limonene

**SECTION 12: Ecological information**

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
(R)-p-mentha-1,8-diene	No	N/A	N/A	No	N/A	N/A	N/A

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PBT or vPvB.  
**Regulation (EC) No. 1272/2008 [CLP]**

**12.6 Endocrine disrupting properties**

Not available.

**Conclusion/Summary [Product]** : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

**12.7 Other adverse effects**

No known significant effects or critical hazards.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Product

**Methods of disposal** : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. The generation of waste should be avoided or minimised wherever possible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.




**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport information**

	ADR/RID	IMDG	IATA
<b>14.1 UN number</b>	UN2052	UN2052	UN2052
<b>14.2 UN proper shipping name</b>	DIPENTENE	DIPENTENE	Dipentene
<b>14.3 Transport hazard class(es)</b>	3 	3 	3 
<b>14.4 Packing group</b>	III	III	III
<b>14.5 Environmental hazards</b>	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

De-paraffinization Reagent d-limonene

## SECTION 14: Transport information

### Additional information

- ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of  $\leq 5$  L or  $\leq 5$  kg.  
**Hazard identification number** 30  
**Limited quantity** 5 L  
**Tunnel code** (D/E)
- IMDG** : The marine pollutant mark is not required when transported in sizes of  $\leq 5$  L or  $\leq 5$  kg.  
**Emergency schedules** F-E, S-E
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.  
**Quantity limitation** Passenger and Cargo Aircraft: 60 L. Packaging instructions: 355. Cargo Aircraft Only: 220 L. Packaging instructions: 366. Limited Quantities - Passenger Aircraft: 10 L. Packaging instructions: Y344.
- 14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
- 14.7 Transport in bulk according to IMO instruments** : Not available.

## SECTION 15: Regulatory information

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

#### UK (GB)/REACH

##### Annex XIV - List of substances subject to authorisation

##### Annex XIV

None of the components are listed.

##### Substances of very high concern

None of the components are listed.

##### Ozone depleting substances

Not listed.

##### Prior Informed Consent (PIC)

Not listed.

##### Persistent Organic Pollutants

Not listed.

### Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product / Ingredient name	Identifiers	Status
(R)-p-mentha-1,8-diene	EC: 227-813-5 CAS: 5989-27-5 Index: 601-096-00-2	3

**Labelling** : Not applicable.

### Seveso Directive

This product is controlled under the Seveso Directive.

#### Danger criteria

Category
P5c E1

De-paraffinization Reagent d-limonene

## SECTION 15: Regulatory information

### EU regulations

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments might still be required.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**United States** : This material is active or exempted.

## SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** :

- ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
- ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE = Acute Toxicity Estimate
- GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = GB CLP-specific Hazard statement
- IATA = International Air Transport Association
- IMDG = International Maritime Dangerous Goods
- IMO = International Maritime Organization
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
- RRN = REACH Registration Number
- SGG = Segregation Group
- vPvB = Very Persistent and Very Bioaccumulative

### Procedure used to derive the classification

**De-paraffinization Reagent d-limonene**

**SECTION 16: Other information**

Classification	Justification
Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 3, H412	On basis of test data Expert judgment Expert judgment Expert judgment On basis of test data Expert judgment

**Full text of abbreviated H statements**

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

**Full text of classifications**

Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1B	SKIN SENSITISATION - Category 1B

**Date of issue/ Date of revision** : 30/09/2025

**Date of previous issue** : No previous validation

**Version** : 1

**Notice to reader**

**Disclaimer:** The information contained in this document is based on Agilent’s state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

# SAFETY DATA SHEET

RNA Binding Buffer

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** : RNA Binding Buffer  
**Part no.** : 400809-13

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

**Identified uses** : Analytical reagent.  
35 ml  
**Uses advised against** : None known.

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.  
 5500 Lakeside Cheadle Royal Business Park,  
 Cheadle, Cheshire, SK8 3GR  
 United Kingdom  
 Tel: +44 (0) 345 712 5292  
**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +44 20 3807 3798

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

H302	ACUTE TOXICITY (oral)	Category 4
H314	SKIN CORROSION/IRRITATION	Category 1C
H412	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 3

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard pictograms** :



**Signal word** : Danger

**Hazard statements** : H302 - Harmful if swallowed.  
 H314 - Causes severe skin burns and eye damage.  
 H412 - Harmful to aquatic life with long lasting effects.

#### Precautionary statements

**Prevention** : P280 - Wear protective gloves, protective clothing and eye or face protection.

RNA Binding Buffer

**SECTION 2: Hazards identification**

- Response** : P304 + P310 - IF INHALED: Immediately call a POISON CENTER or doctor.  
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor.
- Storage** : Not applicable.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazardous ingredients** : salts of thiocyanic acid
- Supplemental label elements** : Not applicable.
- Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.
- Special packaging requirements**
  - Containers to be fitted with child-resistant fastenings** : Not applicable.
  - Tactile warning of danger** : Not applicable.

**2.3 Other hazards**

- Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
- Other hazards which do not result in classification** : None known.

**SECTION 3: Composition/information on ingredients**

**3.2 Mixtures** : Mixture

Product/ingredient name	Identifiers	%	Classification	Type
salts of thiocyanic acid	EC: 209-812-1 CAS: 593-84-0 Index: 615-004-00-3	≥25 - ≤50	Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412 EUH032 EUH071  <b>See Section 16 for the full text of the H statements declared above.</b>	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard  
Occupational exposure limits, if available, are listed in Section 8.

**SECTION 4: First aid measures****4.1 Description of first aid measures**

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**4.2 Most important symptoms and effects, both acute and delayed****Over-exposure signs/symptoms**

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
sulfur oxides

### 5.3 Advice for firefighters

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to British standard BS EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

### 6.3 Methods and material for containment and cleaning up

**Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Avoid breathing vapour or mist. Avoid release to the environment. Avoid contact with eyes, skin and clothing. Do not ingest. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Do not breathe vapour or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

- Recommendations** : Industrial applications, Professional applications.
- Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

No exposure limit value known.

#### Biological exposure indices

No exposure indices known.

- Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

Product/ingredient name	Result	
salts of thiocyanic acid	DNEL - General population - Long term - Oral	0.155 mg/kg bw/day
	DNEL - General population - Long term - Dermal	0.155 mg/kg bw/day
	DNEL - General population - Long term - Inhalation	0.27 mg/m <sup>3</sup>
	DNEL - Workers - Long term - Dermal	0.31 mg/kg bw/day
	DNEL - Workers - Long term - Inhalation	1.092 mg/m <sup>3</sup>

**SECTION 8: Exposure controls/personal protection**

DNEL - Workers - Short term - Inhalation

3.28 mg/m<sup>3</sup>**PNECs**

Not available.

**8.2 Exposure controls**

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

**9.1 Information on basic physical and chemical properties****Appearance**

- Physical state** : Liquid.
- Colour** : Not available.
- Odour** : Not available.
- Odour threshold** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flammability** : Not applicable.

**RNA Binding Buffer**

**SECTION 9: Physical and chemical properties**

**Lower and upper explosion limit/flammability limit** : Not available.

**Flash point** : Not available.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**pH** : 7

**Viscosity** : Dynamic (room temperature): Not available.  
Kinematic (room temperature): Not available.  
Kinematic (40°C): Not available.

<b>Solubility</b>	<b>Media</b>	<b>Result</b>
	water	Soluble

**Partition coefficient: n-octanol/water** : Not applicable.

<b>Vapour pressure</b>	<b>Vapour Pressure at 20°C</b>			<b>Vapour pressure at 50°C</b>			
	<b>Ingredient name</b>	<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>	<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>
	water	17.5	2.3	-	92.258	12.3	-
	salts of thiocyanic acid	<0.000001	<0.00000013	EU A.4	-	-	-

**Relative density** : Not available.

**Vapour density** : Not available.

**Particle characteristics**

**Median particle size** : Not applicable.

**9.2 Other information**

**9.2.1 Information with regard to physical hazard classes**

**Explosive properties** : Not available.

**Oxidising properties** : Not available.

**9.2.2 Other safety characteristics**

**Miscible with water** : Yes.

**Evaporation rate** : Not available.

**Physical/chemical properties comments** : Not available.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : The product is stable.

**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : No specific data.

**10.5 Incompatible materials** : May react or be incompatible with oxidising materials.

**RNA Binding Buffer**

**SECTION 10: Stability and reactivity**

**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

Acute toxicity

<b>Product/ingredient name</b>	<b>Result</b>
salts of thiocyanic acid	Rat - Male, Female - Oral - LD50 593 mg/kg Rat - Female - Inhalation - LC50 Dusts and mists 3.181 mg/l [4 hours]

**Conclusion/Summary** : Not available.

[Product]

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
RNA Binding Buffer salts of thiocyanic acid	1253.7 593	2325.6 1100	N/A N/A	N/A N/A	6.7 3.181

Skin corrosion/irritation

**Conclusion/Summary** : Not available.

[Product]

Serious eye damage/eye irritation

**Conclusion/Summary** : Not available.

[Product]

Respiratory corrosion/irritation

**Conclusion/Summary** : Not available.

[Product]

Respiratory or skin sensitization

**Skin**

**Conclusion/Summary** : Not available.

[Product]

**Respiratory**

**Conclusion/Summary** : Not available.

[Product]

Germ cell mutagenicity

**Conclusion/Summary** : Not available.

[Product]

Carcinogenicity

**Conclusion/Summary** : Not available.

[Product]

Reproductive toxicity

**Conclusion/Summary** : Not available.

[Product]

Specific target organ toxicity (single exposure)

RNA Binding Buffer

## SECTION 11: Toxicological information

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

- Eye contact** : Causes serious eye damage.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : Causes severe burns.  
**Ingestion** : Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

- Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

### Potential chronic health effects

- Conclusion/Summary [Product]** : Not available.  
**General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Reproductive toxicity** : No known significant effects or critical hazards.

## RNA Binding Buffer

**SECTION 12: Ecological information****12.1 Toxicity**

**Conclusion/Summary** : Not available.  
**[Product]**

**12.2 Persistence and degradability**

Product/ingredient name	Result
salts of thiocyanic acid	OECD [ Inherent Biodegradability: Zahn-Wellens/EMPA Test] 46% [28 days] - Inherent Aerobic

**Conclusion/Summary** : Not available.  
**[Product]**

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
salts of thiocyanic acid	-	-	Inherent

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
salts of thiocyanic acid	<-1.7	-	Low

**12.4 Mobility in soil****Soil/water partition coefficient**

Product/ingredient name	logK <sub>oc</sub>	K <sub>oc</sub>
salts of thiocyanic acid	0.56	3.63133

**Results of PMT and vPvM assessment**

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
salts of thiocyanic acid	No	N/A	Yes	No	N/A	N/A	Yes

**Mobility** : Not available.

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PMT or vPvM.

**12.5 Results of PBT and vPvB assessment****Regulation (EC) No. 1907/2006 [REACH]**

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
salts of thiocyanic acid	No	N/A	N/A	No	N/A	N/A	N/A

**Regulation (EC) No. 1272/2008 [CLP]**

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
salts of thiocyanic acid	No	N/A	N/A	No	N/A	N/A	N/A

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PBT or vPvB.

**Regulation (EC) No. 1272/2008 [CLP]**

**12.6 Endocrine disrupting properties**

Not available.

**Conclusion/Summary** : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.  
**[Product]**

**12.7 Other adverse effects**

RNA Binding Buffer

## SECTION 12: Ecological information

No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. The generation of waste should be avoided or minimised wherever possible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.




**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	UN1760	UN1760	UN1760
14.2 UN proper shipping name	CORROSIVE LIQUID, N.O.S. (Guanidinium thiocyanate)	CORROSIVE LIQUID, N.O.S. (Guanidinium thiocyanate)	Corrosive liquid, n.o.s. (Guanidinium thiocyanate)
14.3 Transport hazard class(es)	8 	8 	8 
14.4 Packing group	III	III	III
14.5 Environmental hazards	No.	No.	No.

### Additional information

**ADR/RID** : **Hazard identification number** 80  
**Limited quantity** 5 L  
**Special provisions** 274  
**Tunnel code** (E)

**IMDG** : **Emergency schedules** F-A, S-B  
**Special provisions** 223, 274

**IATA** : **Quantity limitation** Passenger and Cargo Aircraft: 5 L. Packaging instructions: 852. Cargo Aircraft Only: 60 L. Packaging instructions: 856. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y841.  
**Special provisions** A3, A803

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

RNA Binding Buffer

## SECTION 14: Transport information

14.7 Transport in bulk according to IMO instruments : Not available.

## SECTION 15: Regulatory information

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

### UK (GB)/REACH

#### Annex XIV - List of substances subject to authorisation

##### Annex XIV

None of the components are listed.

##### Substances of very high concern

None of the components are listed.

##### Ozone depleting substances

Not listed.

##### Prior Informed Consent (PIC)

Not listed.

##### Persistent Organic Pollutants

Not listed.

#### Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

None of the components are listed / The components are not impacted by a restriction

Labelling : Not applicable.

##### Seveso Directive

This product is not controlled under the Seveso Directive.

### EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

RNA Binding Buffer

## SECTION 15: Regulatory information

**United States** : All components are active or exempted.

## SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** :

- ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
- ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE = Acute Toxicity Estimate
- GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = GB CLP-specific Hazard statement
- IATA = International Air Transport Association
- IMDG = International Maritime Dangerous Goods
- IMO = International Maritime Organization
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
- RRN = REACH Registration Number
- SGG = Segregation Group
- vPvB = Very Persistent and Very Bioaccumulative

### Procedure used to derive the classification

Classification	Justification
Acute Tox. 4, H302 Skin Corr. 1C, H314 Aquatic Chronic 3, H412	Calculation method Calculation method Calculation method

### Full text of abbreviated H statements

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas.
EUH071	Corrosive to the respiratory tract.

### Full text of classifications

Acute Tox. 4 Aquatic Chronic 3 Eye Dam. 1 Skin Corr. 1C	ACUTE TOXICITY - Category 4 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SKIN CORROSION/IRRITATION - Category 1C
--	---

**Date of issue/ Date of revision** : 30/09/2025

**Date of previous issue** : No previous validation

**Version** : 1

### Notice to reader

**Disclaimer:** The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

# SAFETY DATA SHEET

1.67X High Salt Wash Buffer

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** : 1.67X High Salt Wash Buffer  
**Part no.** : 400711-14

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

**Identified uses** : Analytical reagent.  
24 ml  
**Uses advised against** : None known.

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.  
 5500 Lakeside Cheadle Royal Business Park,  
 Cheadle, Cheshire, SK8 3GR  
 United Kingdom  
 Tel: +44 (0) 345 712 5292  
**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +44 20 3807 3798

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

H302	ACUTE TOXICITY (oral)	Category 4
H314	SKIN CORROSION/IRRITATION	Category 1C
H412	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 3

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

**Ingredients of unknown toxicity** : Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard pictograms** :



**Signal word** : Danger

**Hazard statements** : H302 - Harmful if swallowed.  
 H314 - Causes severe skin burns and eye damage.  
 H412 - Harmful to aquatic life with long lasting effects.

#### Precautionary statements

**Prevention** : P280 - Wear protective gloves, protective clothing and eye or face protection.

1.67X High Salt Wash Buffer

**SECTION 2: Hazards identification**

- Response** : P304 + P310 - IF INHALED: Immediately call a POISON CENTER or doctor.  
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor.
- Storage** : Not applicable.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazardous ingredients** : salts of thiocyanic acid
- Supplemental label elements** : Not applicable.
- Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.
- Special packaging requirements**
  - Containers to be fitted with child-resistant fastenings** : Not applicable.
  - Tactile warning of danger** : Not applicable.

2.3 Other hazards

- Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
- Other hazards which do not result in classification** : Causes digestive tract burns.

**SECTION 3: Composition/information on ingredients**

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Type
salts of thiocyanic acid	EC: 209-812-1 CAS: 593-84-0 Index: 615-004-00-3	≥25 - ≤50	Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412 EUH032 EUH071  <b>See Section 16 for the full text of the H statements declared above.</b>	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard  
Occupational exposure limits, if available, are listed in Section 8.

**SECTION 4: First aid measures****4.1 Description of first aid measures**

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**4.2 Most important symptoms and effects, both acute and delayed****Over-exposure signs/symptoms**

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
sulfur oxides  
halogenated compounds

### 5.3 Advice for firefighters

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to British standard BS EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### 6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

### 6.3 Methods and material for containment and cleaning up

**Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

### 6.4 Reference to other sections

: See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

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**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Avoid breathing vapour or mist. Avoid release to the environment. Avoid contact with eyes, skin and clothing. Do not ingest. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Do not breathe vapour or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**7.2 Conditions for safe storage, including any incompatibilities**

- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

**7.3 Specific end use(s)**

- Recommendations** : Industrial applications, Professional applications.
- Industrial sector specific solutions** : Not available.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

Occupational exposure limits

No exposure limit value known.

Biological exposure indices

No exposure indices known.

- Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

<b>Product/ingredient name</b>	<b>Result</b>	
salts of thiocyanic acid	DNEL - General population - Long term - Oral	0.155 mg/kg bw/day
	DNEL - General population - Long term - Dermal	0.155 mg/kg bw/day
	DNEL - General population - Long term - Inhalation	0.27 mg/m <sup>3</sup>
	DNEL - Workers - Long term - Dermal	0.31 mg/kg bw/day
	DNEL - Workers - Long term - Inhalation	1.092 mg/m <sup>3</sup>

**1.67X High Salt Wash Buffer****SECTION 8: Exposure controls/personal protection**

DNEL - Workers - Short term - Inhalation

3.28 mg/m<sup>3</sup>**PNECs**

Not available.

**8.2 Exposure controls**

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

**9.1 Information on basic physical and chemical properties****Appearance**

- Physical state** : Liquid.
- Colour** : Not available.
- Odour** : Not available.
- Odour threshold** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flammability** : Not applicable.

**1.67X High Salt Wash Buffer**

**SECTION 9: Physical and chemical properties**

**Lower and upper explosion limit/flammability limit** : Not available.  
**Flash point** : Not available.  
**Auto-ignition temperature** : Not available.  
**Decomposition temperature** : Not available.  
**pH** : Not available.  
**Viscosity** : Dynamic (room temperature): Not available.  
 Kinematic (room temperature): Not available.  
 Kinematic (40°C): Not available.

<b>Solubility</b>	<b>Media</b>	<b>Result</b>
	water	Soluble

**Partition coefficient: n-octanol/water** : Not applicable.  
**Vapour pressure** : 2.3 kPa (17.5 mm Hg) [Based on solvent.]  
**Relative density** : Not available.  
**Vapour density** : Not available.  
**Particle characteristics**  
**Median particle size** : Not applicable.

**9.2 Other information**

**9.2.1 Information with regard to physical hazard classes**

**Explosive properties** : Not available.  
**Oxidising properties** : Not available.

**9.2.2 Other safety characteristics**

**Miscible with water** : Yes.  
**Evaporation rate** : Not available.  
**Physical/chemical properties comments** : Not available.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.  
**10.2 Chemical stability** : The product is stable.  
**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.  
**10.4 Conditions to avoid** : No specific data.  
**10.5 Incompatible materials** : May react or be incompatible with oxidising materials.  
**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

1.67X High Salt Wash Buffer

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

Acute toxicity

Product/ingredient name	Result	
salts of thiocyanic acid	Rat - Male, Female - Oral - LD50	593 mg/kg
	Rat - Female - Inhalation - LC50 Dusts and mists	3.181 mg/l [4 hours]

**Conclusion/Summary** : Not available.

[Product]

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
1.67X High Salt Wash Buffer salts of thiocyanic acid	1520.5 593	2820.5 1100	N/A N/A	N/A N/A	8.2 3.181

Skin corrosion/irritation

**Conclusion/Summary** : Not available.

[Product]

Serious eye damage/eye irritation

**Conclusion/Summary** : Not available.

[Product]

Respiratory corrosion/irritation

**Conclusion/Summary** : Not available.

[Product]

Respiratory or skin sensitization

Skin

**Conclusion/Summary** : Not available.

[Product]

Respiratory

**Conclusion/Summary** : Not available.

[Product]

Germ cell mutagenicity

**Conclusion/Summary** : Not available.

[Product]

Carcinogenicity

**Conclusion/Summary** : Not available.

[Product]

Reproductive toxicity

**Conclusion/Summary** : Not available.

[Product]

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

1.67X High Salt Wash Buffer

**SECTION 11: Toxicological information**

Not available.

**Aspiration hazard**

Not available.

**Information on likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

**Potential acute health effects**

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns.
- Ingestion** : Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

**Symptoms related to the physical, chemical and toxicological characteristics**

- Eye contact** : Adverse symptoms may include the following:
  - pain
  - watering
  - redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
  - pain or irritation
  - redness
  - blistering may occur
- Ingestion** : Adverse symptoms may include the following:
  - stomach pains

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Short term exposure**

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

**Long term exposure**

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

**Potential chronic health effects**

- Conclusion/Summary [Product]** : Not available.
- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

## 1.67X High Salt Wash Buffer

**SECTION 12: Ecological information****12.1 Toxicity**

**Conclusion/Summary [Product]** : Not available.

**12.2 Persistence and degradability**

Product/ingredient name	Result
salts of thiocyanic acid	OECD [ Inherent Biodegradability: Zahn-Wellens/EMPA Test] 46% [28 days] - Inherent Aerobic

**Conclusion/Summary [Product]** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
salts of thiocyanic acid	-	-	Inherent

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
salts of thiocyanic acid	<-1.7	-	Low

**12.4 Mobility in soil****Soil/water partition coefficient**

Product/ingredient name	logK <sub>oc</sub>	K <sub>oc</sub>
salts of thiocyanic acid	0.56	3.63133

**Results of PMT and vPvM assessment**

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
salts of thiocyanic acid	No	N/A	Yes	No	N/A	N/A	Yes

**Mobility** : Not available.

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PMT or vPvM.

**12.5 Results of PBT and vPvB assessment****Regulation (EC) No. 1907/2006 [REACH]**

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
salts of thiocyanic acid	No	N/A	N/A	No	N/A	N/A	N/A

**Regulation (EC) No. 1272/2008 [CLP]**

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
salts of thiocyanic acid	No	N/A	N/A	No	N/A	N/A	N/A

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PBT or vPvB.

**Regulation (EC) No. 1272/2008 [CLP]**

**12.6 Endocrine disrupting properties**

Not available.

**Conclusion/Summary [Product]** : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

**12.7 Other adverse effects**

1.67X High Salt Wash Buffer

**SECTION 12: Ecological information**

No known significant effects or critical hazards.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Product

**Methods of disposal** : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. The generation of waste should be avoided or minimised wherever possible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.




**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport information**

	ADR/RID	IMDG	IATA
<b>14.1 UN number</b>	UN1760	UN1760	UN1760
<b>14.2 UN proper shipping name</b>	CORROSIVE LIQUID, N.O.S. (Guanidinium thiocyanate)	CORROSIVE LIQUID, N.O.S. (Guanidinium thiocyanate)	Corrosive liquid, n.o.s. (Guanidinium thiocyanate)
<b>14.3 Transport hazard class(es)</b>	8 	8 	8 
<b>14.4 Packing group</b>	III	III	III
<b>14.5 Environmental hazards</b>	No.	No.	No.

Additional information

**ADR/RID** : **Hazard identification number** 80  
**Limited quantity** 5 L  
**Special provisions** 274  
**Tunnel code** (E)

**IMDG** : **Emergency schedules** F-A, S-B  
**Special provisions** 223, 274

**IATA** : **Quantity limitation** Passenger and Cargo Aircraft: 5 L. Packaging instructions: 852. Cargo Aircraft Only: 60 L. Packaging instructions: 856. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y841.  
**Special provisions** A3, A803

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

1.67X High Salt Wash Buffer

## SECTION 14: Transport information

14.7 Transport in bulk according to IMO instruments : Not available.

## SECTION 15: Regulatory information

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

### UK (GB)/REACH

#### Annex XIV - List of substances subject to authorisation

##### Annex XIV

None of the components are listed.

##### Substances of very high concern

None of the components are listed.

##### Ozone depleting substances

Not listed.

##### Prior Informed Consent (PIC)

Not listed.

##### Persistent Organic Pollutants

Not listed.

#### Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

None of the components are listed / The components are not impacted by a restriction

Labelling : Not applicable.

##### Seveso Directive

This product is not controlled under the Seveso Directive.

### EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.


### Inventory list

1.67X High Salt Wash Buffer

**SECTION 15: Regulatory information**

**United States** : All components are active or exempted.

**SECTION 16: Other information**

 Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** :

- ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
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- EUH statement = GB CLP-specific Hazard statement
- IATA = International Air Transport Association
- IMDG = International Maritime Dangerous Goods
- IMO = International Maritime Organization
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
- RRN = REACH Registration Number
- SGG = Segregation Group
- vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

Classification	Justification
Acute Tox. 4, H302 Skin Corr. 1C, H314 Aquatic Chronic 3, H412	Calculation method Calculation method Calculation method

Full text of abbreviated H statements

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas.
EUH071	Corrosive to the respiratory tract.

Full text of classifications

Acute Tox. 4 Aquatic Chronic 3 Eye Dam. 1 Skin Corr. 1C	ACUTE TOXICITY - Category 4 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SKIN CORROSION/IRRITATION - Category 1C
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**Date of issue/ Date of revision** : 30/09/2025

**Date of previous issue** : No previous validation

**Version** : 1

Notice to reader

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# SAFETY DATA SHEET

5x Low Salt Wash Buffer

## SECTION 1: Identification of the substance/mixture and of the company/ undertaking

### 1.1 Product identifier

**Product name** : 5x Low Salt Wash Buffer  
**Part no.** : 400711-15

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

**Identified uses** : Analytical reagent.  
17 ml  
**Uses advised against** : None known.

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.  
5500 Lakeside Cheadle Royal Business Park,  
Cheadle, Cheshire, SK8 3GR  
United Kingdom  
Tel: +44 (0) 345 712 5292  
**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +44 20 3807 3798

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Signal word** : No signal word.  
**Hazard statements** : No known significant effects or critical hazards.  
**Precautionary statements**  
**Prevention** : Not applicable.  
**Response** : Not applicable.  
**Storage** : Not applicable.  
**Disposal** : Not applicable.  
**Supplemental label elements** : Not applicable.

5x Low Salt Wash Buffer

## SECTION 2: Hazards identification

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

### Special packaging requirements

**Containers to be fitted with child-resistant fastenings** : Not applicable.

**Tactile warning of danger** : Not applicable.

### 2.3 Other hazards

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Other hazards which do not result in classification** : None known.

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures** : Mixture

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

**Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

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

#### Over-exposure signs/symptoms

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

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

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous combustion products** : No specific data.

### 5.3 Advice for firefighters

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to British standard BS EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### 6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and material for containment and cleaning up

**Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

### 6.4 Reference to other sections

: See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

## SECTION 7: Handling and storage

- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

- Recommendations** : Industrial applications, Professional applications.
- Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

No exposure limit value known.

#### Biological exposure indices

No exposure indices known.

#### Recommended monitoring procedures

- : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

Not available.

#### PNECs

Not available.

### 8.2 Exposure controls

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

#### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

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**SECTION 8: Exposure controls/personal protection**

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

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

Appearance

- Physical state** : Liquid.
- Colour** : Not available.
- Odour** : Not available.
- Odour threshold** : Not available.
- Melting point/freezing point** : 0°C
- Initial boiling point and boiling range** : 100°C
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Not available.
- Flash point** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- pH** : 6.4
- Viscosity** : Dynamic (room temperature): Not available.  
Kinematic (room temperature): Not available.  
Kinematic (40°C): Not available.

<b>Solubility</b>	<b>Media</b>	<b>Result</b>
	water	Soluble

**Partition coefficient: n-octanol/water** : Not applicable.

<b>Vapour pressure</b>	<b>Vapour Pressure at 20°C</b>			<b>Vapour pressure at 50°C</b>			
	<b>Ingredient name</b>	<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>	<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>
	water	17.5	2.3	-	92.258	12.3	-

- Relative density** : Not available.
- Vapour density** : Not available.

Particle characteristics

- Median particle size** : Not applicable.

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## SECTION 9: Physical and chemical properties

### 9.2 Other information

#### 9.2.1 Information with regard to physical hazard classes

**Explosive properties** : Not available.

**Oxidising properties** : Not available.

#### 9.2.2 Other safety characteristics

**Miscible with water** : Yes.

**Evaporation rate** : Not available.

**Physical/chemical properties comments** : Not available.

## SECTION 10: Stability and reactivity

**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : The product is stable.

**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : No specific data.

**10.5 Incompatible materials** : May react or be incompatible with oxidising materials.

**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

**Conclusion/Summary** : Not available.

[Product]

#### Acute toxicity estimates

N/A

#### Skin corrosion/irritation

**Conclusion/Summary** : Not available.

[Product]

#### Serious eye damage/eye irritation

**Conclusion/Summary** : Not available.

[Product]

#### Respiratory corrosion/irritation

**Conclusion/Summary** : Not available.

[Product]

#### Respiratory or skin sensitization

**Skin**

**Conclusion/Summary** : Not available.

[Product]

## SECTION 11: Toxicological information

### Respiratory

**Conclusion/Summary** : Not available.  
**[Product]**

### Germ cell mutagenicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Carcinogenicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Reproductive toxicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Not available.

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

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## SECTION 11: Toxicological information

### Potential chronic health effects

**Conclusion/Summary** : Not available.

**[Product]**

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** : No known significant effects or critical hazards.

## SECTION 12: Ecological information

### 12.1 Toxicity

**Conclusion/Summary** : Not available.

**[Product]**

### 12.2 Persistence and degradability

**Conclusion/Summary** : Not available.

**[Product]**

### 12.3 Bioaccumulative potential

Not available.

### 12.4 Mobility in soil

**Soil/water partition coefficient**

Not available.

### Results of PMT and vPvM assessment

This mixture does not contain any substances that are assessed to be a PMT or a vPvM.

**Mobility** : Not available.

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PMT or vPvM.

### 12.5 Results of PBT and vPvB assessment

**Regulation (EC) No. 1907/2006 [REACH]**

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

**Regulation (EC) No. 1272/2008 [CLP]**

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

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PBT or vPvB.

**Regulation (EC) No.**

**1272/2008 [CLP]**

### 12.6 Endocrine disrupting properties

Not available.

**Conclusion/Summary** : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

### 12.7 Other adverse effects

No known significant effects or critical hazards.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. The generation of waste should be avoided or minimised wherever possible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to IMO instruments** : Not available.

## SECTION 15: Regulatory information

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

#### UK (GB)/REACH

##### Annex XIV - List of substances subject to authorisation

##### Annex XIV

None of the components are listed.

##### Substances of very high concern

None of the components are listed.

##### Ozone depleting substances

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## SECTION 15: Regulatory information

Not listed.

### Prior Informed Consent (PIC)

Not listed.

### Persistent Organic Pollutants

Not listed.

### **Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

None of the components are listed / The components are not impacted by a restriction

**Labelling** : Not applicable.

### Seveso Directive

This product is not controlled under the Seveso Directive.

### EU regulations

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments might still be required.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**United States** : All components are active or exempted.

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway  
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
ATE = Acute Toxicity Estimate  
GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EUH statement = GB CLP-specific Hazard statement  
IATA = International Air Transport Association

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**SECTION 16: Other information**

IMDG = International Maritime Dangerous Goods  
IMO = International Maritime Organization  
N/A = Not available  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
RRN = REACH Registration Number  
SGG = Segregation Group  
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

Classification	Justification
Not classified.	

Full text of abbreviated H statements

Not applicable.

Full text of classifications

Not applicable.

**Date of issue/ Date of revision** : 30/09/2025

**Date of previous issue** : No previous validation

**Version** : 1

Notice to reader

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# SAFETY DATA SHEET

Elution Buffer

## SECTION 1: Identification of the substance/mixture and of the company/ undertaking

### 1.1 Product identifier

**Product name** : Elution Buffer  
**Part no.** : 400752-16

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

**Identified uses** : Analytical reagent.  
3 ml  
**Uses advised against** : None known.

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.  
5500 Lakeside Cheadle Royal Business Park,  
Cheadle, Cheshire, SK8 3GR  
United Kingdom  
Tel: +44 (0) 345 712 5292  
**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +44 20 3807 3798

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Signal word** : No signal word.  
**Hazard statements** : No known significant effects or critical hazards.  
**Precautionary statements**  
**Prevention** : Not applicable.  
**Response** : Not applicable.  
**Storage** : Not applicable.  
**Disposal** : Not applicable.  
**Supplemental label elements** : Not applicable.

Elution Buffer

## SECTION 2: Hazards identification

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

### Special packaging requirements

**Containers to be fitted with child-resistant fastenings** : Not applicable.

**Tactile warning of danger** : Not applicable.

### 2.3 Other hazards

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Other hazards which do not result in classification** : None known.

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures** : Mixture

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

**Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

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

#### Over-exposure signs/symptoms

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

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

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous combustion products** : No specific data.

### 5.3 Advice for firefighters

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to British standard BS EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and material for containment and cleaning up

**Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

Elution Buffer

## SECTION 7: Handling and storage

**Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

**Recommendations** : Industrial applications, Professional applications.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

No exposure limit value known.

#### Biological exposure indices

No exposure indices known.

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

Not available.

#### PNECs

Not available.

### 8.2 Exposure controls

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

#### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

#### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Elution Buffer

**SECTION 8: Exposure controls/personal protection**

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

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

Appearance

- Physical state** : Liquid.
- Colour** : Not available.
- Odour** : Not available.
- Odour threshold** : Not available.
- Melting point/freezing point** : 0°C
- Initial boiling point and boiling range** : 100°C
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Not available.
- Flash point** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- pH** : 7.5
- Viscosity** : Dynamic (room temperature): Not available.  
Kinematic (room temperature): Not available.  
Kinematic (40°C): Not available.

<b>Solubility</b>	<b>Media</b>	<b>Result</b>
	water	Soluble

**Partition coefficient: n-octanol/water** : Not applicable.

<b>Vapour pressure</b>	<b>Vapour Pressure at 20°C</b>			<b>Vapour pressure at 50°C</b>			
	<b>Ingredient name</b>	<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>	<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>
	water	17.5	2.3	-	92.258	12.3	-

- Relative density** : Not available.
- Vapour density** : Not available.

Particle characteristics

- Median particle size** : Not applicable.

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## SECTION 9: Physical and chemical properties

### 9.2 Other information

#### 9.2.1 Information with regard to physical hazard classes

**Explosive properties** : Not available.

**Oxidising properties** : Not available.

#### 9.2.2 Other safety characteristics

**Miscible with water** : Yes.

**Evaporation rate** : Not available.

**Physical/chemical properties comments** : Not available.

## SECTION 10: Stability and reactivity

**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : The product is stable.

**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : No specific data.

**10.5 Incompatible materials** : May react or be incompatible with oxidising materials.

**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

**Conclusion/Summary [Product]** : Not available.

#### Acute toxicity estimates

N/A

#### Skin corrosion/irritation

**Conclusion/Summary [Product]** : Not available.

#### Serious eye damage/eye irritation

**Conclusion/Summary [Product]** : Not available.

#### Respiratory corrosion/irritation

**Conclusion/Summary [Product]** : Not available.

#### Respiratory or skin sensitization

##### Skin

**Conclusion/Summary [Product]** : Not available.

Elution Buffer

## SECTION 11: Toxicological information

### Respiratory

**Conclusion/Summary** : Not available.  
**[Product]**

### Germ cell mutagenicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Carcinogenicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Reproductive toxicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Not available.

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

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## SECTION 11: Toxicological information

### Potential chronic health effects

- Conclusion/Summary** : Not available.  
**[Product]**
- General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Reproductive toxicity** : No known significant effects or critical hazards.

## SECTION 12: Ecological information

### 12.1 Toxicity

- Conclusion/Summary** : Not available.  
**[Product]**

### 12.2 Persistence and degradability

- Conclusion/Summary** : Not available.  
**[Product]**

### 12.3 Bioaccumulative potential

Not available.

### 12.4 Mobility in soil

- Soil/water partition coefficient**  
Not available.

### Results of PMT and vPvM assessment

This mixture does not contain any substances that are assessed to be a PMT or a vPvM.

- Mobility** : Not available.  
**Conclusion/Summary** : The product does not meet the criteria to be considered as a PMT or vPvM.

### 12.5 Results of PBT and vPvB assessment

#### Regulation (EC) No. 1907/2006 [REACH]

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

#### Regulation (EC) No. 1272/2008 [CLP]

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

- Conclusion/Summary** : The product does not meet the criteria to be considered as a PBT or vPvB.  
**Regulation (EC) No. 1272/2008 [CLP]**

### 12.6 Endocrine disrupting properties

Not available.

- Conclusion/Summary** : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.  
**[Product]**

### 12.7 Other adverse effects

No known significant effects or critical hazards.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. The generation of waste should be avoided or minimised wherever possible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to IMO instruments** : Not available.

## SECTION 15: Regulatory information

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

#### UK (GB)/REACH

##### Annex XIV - List of substances subject to authorisation

##### Annex XIV

None of the components are listed.

##### Substances of very high concern

None of the components are listed.

##### Ozone depleting substances

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## SECTION 15: Regulatory information

Not listed.

### Prior Informed Consent (PIC)

Not listed.

### Persistent Organic Pollutants

Not listed.

### **Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

None of the components are listed / The components are not impacted by a restriction

**Labelling** : Not applicable.

### Seveso Directive

This product is not controlled under the Seveso Directive.

### EU regulations

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments might still be required.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**United States** : All components are active or exempted.

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway  
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
ATE = Acute Toxicity Estimate  
GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EUH statement = GB CLP-specific Hazard statement  
IATA = International Air Transport Association

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**SECTION 16: Other information**

IMDG = International Maritime Dangerous Goods  
IMO = International Maritime Organization  
N/A = Not available  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
RRN = REACH Registration Number  
SGG = Segregation Group  
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

Classification	Justification
Not classified.	

Full text of abbreviated H statements

Not applicable.

Full text of classifications

Not applicable.

**Date of issue/ Date of revision** : 30/09/2025  
**Date of previous issue** : No previous validation  
**Version** : 1

Notice to reader

**Disclaimer:** The information contained in this document is based on Agilent’s state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

# SAFETY DATA SHEET

DNase Reconstitution Buffer

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** : DNase Reconstitution Buffer  
**Part no.** : 400711-17

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

**Identified uses** : Analytical reagent.  
0.3 ml  
**Uses advised against** : None known.

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.  
5500 Lakeside Cheadle Royal Business Park,  
Cheadle, Cheshire, SK8 3GR  
United Kingdom  
Tel: +44 (0) 345 712 5292  
**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +44 20 3807 3798

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

**Ingredients of unknown toxicity** : Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Signal word** : No signal word.  
**Hazard statements** : No known significant effects or critical hazards.

#### Precautionary statements

**Prevention** : Not applicable.  
**Response** : Not applicable.  
**Storage** : Not applicable.  
**Disposal** : Not applicable.  
**Supplemental label elements** : Safety data sheet available on request.

**DNase Reconstitution Buffer**

**SECTION 2: Hazards identification**

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

**Special packaging requirements**

**Containers to be fitted with child-resistant fastenings** : Not applicable.

**Tactile warning of danger** : Not applicable.

**2.3 Other hazards**

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Other hazards which do not result in classification** : None known.

**SECTION 3: Composition/information on ingredients**

**3.2 Mixtures** : Mixture

Product/ingredient name	Identifiers	%	Classification	Type
Glycerol	UK (GB) REACH #: Annex V REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.  <b>See Section 16 for the full text of the H statements declared above.</b>	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

**Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

## SECTION 4: First aid measures

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

#### Over-exposure signs/symptoms

Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: No specific data.
Ingestion	: No specific data.

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

Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: None known.

### 5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide

### 5.3 Advice for firefighters

Special protective actions for fire-fighters	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to British standard BS EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
For emergency responders	: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions	: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
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### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up	: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
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**DNase Reconstitution Buffer**

**SECTION 6: Accidental release measures**

**6.4 Reference to other sections** : See Section 1 for emergency contact information.  
 See Section 8 for information on appropriate personal protective equipment.  
 See Section 13 for additional waste treatment information.

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

**Protective measures** : Put on appropriate personal protective equipment (see Section 8).  
**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**7.2 Conditions for safe storage, including any incompatibilities**

**Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

**7.3 Specific end use(s)**

**Recommendations** : Industrial applications, Professional applications.  
**Industrial sector specific solutions** : Not available.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

Occupational exposure limits

Product/ingredient name	Exposure limit values
glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020)</b> TWA 8 hours: 10 mg/m <sup>3</sup> . Form: Mist.

Biological exposure indices

No exposure indices known.

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Not available.

PNECs

Not available.

**8.2 Exposure controls**

**DNase Reconstitution Buffer**

**SECTION 8: Exposure controls/personal protection**

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

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

**Appearance**

- Physical state** : Liquid.
- Colour** : Not available.
- Odour** : Not available.
- Odour threshold** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Not available.

<b>Flash point</b> :	<b>Closed cup</b>		<b>Open cup</b>		
	<b>Ingredient name</b>	<b>°C</b>	<b>Method</b>	<b>°C</b>	<b>Method</b>
	glycerol	-	-	177	-

<b>Auto-ignition temperature</b> :	<b>Ingredient name</b>	<b>°C</b>	<b>Method</b>
	glycerol	370	-

**DNase Reconstitution Buffer**

**SECTION 9: Physical and chemical properties**

**Decomposition temperature** : Not available.

**pH** : 7.5

**Viscosity** : Dynamic (room temperature): Not available.  
Kinematic (room temperature): Not available.  
Kinematic (40°C): Not available.

<b>Solubility</b>	<b>Media</b>	<b>Result</b>
	water	Soluble

**Partition coefficient: n-octanol/water** : Not applicable.

<b>Vapour pressure</b>	<b>Ingredient name</b>	<b>Vapour Pressure at 20°C</b>			<b>Vapour pressure at 50°C</b>		
		<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>	<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>
	water	17.5	2.3	-	92.258	12.3	-
	glycerol	0.000075	0.00001	-	0.0025	0.00033	-

**Relative density** : Not available.

**Vapour density** : Not available.

**Particle characteristics**

**Median particle size** : Not applicable.

**9.2 Other information**

**9.2.1 Information with regard to physical hazard classes**

**Explosive properties** : Not available.

**Oxidising properties** : Not available.

**9.2.2 Other safety characteristics**

**Miscible with water** : Yes.

**Evaporation rate** : Not available.

**Physical/chemical properties comments** : Not available.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : The product is stable.

**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : No specific data.

**10.5 Incompatible materials** : May react or be incompatible with oxidising materials.

**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

**Product/ingredient name** glycerol **Result** Rat - Oral - LD50 12600 mg/kg

**Conclusion/Summary** : Not available.

[Product]

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
glycerol	12600	N/A	N/A	N/A	N/A

#### Skin corrosion/irritation

**Product/ingredient name** glycerol **Result** Rabbit - Skin - Mild irritant  
Duration of treatment/exposure: 24 hours  
Amount/concentration applied: 500 mg

**Conclusion/Summary** : Not available.

[Product]

#### Serious eye damage/eye irritation

**Product/ingredient name** glycerol **Result** Rabbit - Eyes - Mild irritant  
Duration of treatment/exposure: 24 hours  
Amount/concentration applied: 500 mg

**Conclusion/Summary** : Not available.

[Product]

#### Respiratory corrosion/irritation

**Conclusion/Summary** : Not available.

[Product]

#### Respiratory or skin sensitization

##### Skin

**Conclusion/Summary** : Not available.

[Product]

##### Respiratory

**Conclusion/Summary** : Not available.

[Product]

#### Germ cell mutagenicity

**Conclusion/Summary** : Not available.

[Product]

#### Carcinogenicity

**Conclusion/Summary** : Not available.

[Product]

#### Reproductive toxicity

**DNase Reconstitution Buffer**

**SECTION 11: Toxicological information**

**Conclusion/Summary [Product]** : Not available.

**Specific target organ toxicity (single exposure)**

Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

**Information on likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

**Potential acute health effects**

**Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : No specific data.  
**Inhalation** : No specific data.  
**Skin contact** : No specific data.  
**Ingestion** : No specific data.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Short term exposure**

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

**Long term exposure**

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

**Potential chronic health effects**

**Conclusion/Summary [Product]** : Not available.  
**General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Reproductive toxicity** : No known significant effects or critical hazards.

**DNase Reconstitution Buffer**

**SECTION 12: Ecological information**

**12.1 Toxicity**

Product/ingredient name	Result
glycerol	Acute - LC50 - Fresh water OECD [Fish, Acute Toxicity Test] Fish - Trout - <i>Oncorhynchus mykiss</i> 54000 mg/l [96 hours]

**Conclusion/Summary [Product]** : Not available.

**12.2 Persistence and degradability**

Product/ingredient name	Result
glycerol	Ready Biodegradability - 93% [30 days] Closed Bottle Test

**Conclusion/Summary [Product]** : Not available.

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
glycerol	-1.76	-	Low

**12.4 Mobility in soil**

**Soil/water partition coefficient**  
Not available.

**Results of PMT and vPvM assessment**

This mixture does not contain any substances that are assessed to be a PMT or a vPvM.

**Mobility** : Not available.  
**Conclusion/Summary** : The product does not meet the criteria to be considered as a PMT or vPvM.

**12.5 Results of PBT and vPvB assessment**

**Regulation (EC) No. 1907/2006 [REACH]**

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
glycerol	No	N/A	N/A	No	N/A	N/A	N/A

**Regulation (EC) No. 1272/2008 [CLP]**

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

**Conclusion/Summary Regulation (EC) No. 1272/2008 [CLP]** : The product does not meet the criteria to be considered as a PBT or vPvB.

**12.6 Endocrine disrupting properties**

Not available.

**Conclusion/Summary [Product]** : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

**12.7 Other adverse effects**

No known significant effects or critical hazards.

**DNase Reconstitution Buffer**

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Product

**Methods of disposal** : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. The generation of waste should be avoided or minimised wherever possible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport information**

	<b>ADR/RID</b>	<b>IMDG</b>	<b>IATA</b>
<b>14.1 UN number</b>	Not regulated.	Not regulated.	Not regulated.
<b>14.2 UN proper shipping name</b>	-	-	-
<b>14.3 Transport hazard class(es)</b>	-	-	-
<b>14.4 Packing group</b>	-	-	-
<b>14.5 Environmental hazards</b>	No.	No.	No.

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to IMO instruments** : Not available.

**SECTION 15: Regulatory information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture UK (GB)/REACH**

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Ozone depleting substances

**DNase Reconstitution Buffer**

**SECTION 15: Regulatory information**

Not listed.

**Prior Informed Consent (PIC)**

Not listed.

**Persistent Organic Pollutants**

Not listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

None of the components are listed / The components are not impacted by a restriction

**Labelling** : Not applicable.

**Seveso Directive**

This product is not controlled under the Seveso Directive.

**EU regulations**

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments might still be required.

**International regulations**

**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

**Montreal Protocol**

Not listed.

**Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

**Inventory list**

**United States** : All components are active or exempted.

**SECTION 16: Other information**

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway  
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
ATE = Acute Toxicity Estimate  
GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EUH statement = GB CLP-specific Hazard statement  
IATA = International Air Transport Association

**DNase Reconstitution Buffer**

**SECTION 16: Other information**

IMDG = International Maritime Dangerous Goods  
IMO = International Maritime Organization  
N/A = Not available  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
RRN = REACH Registration Number  
SGG = Segregation Group  
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

<b>Classification</b>	<b>Justification</b>
Not classified.	

Full text of abbreviated H statements

Not applicable.

Full text of classifications

Not applicable.

**Date of issue/ Date of revision** : 30/09/2025  
**Date of previous issue** : No previous validation  
**Version** : 1

Notice to reader

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# SAFETY DATA SHEET

DNase Digestion Buffer

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** : DNase Digestion Buffer  
**Part no.** : 400711-18

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

**Identified uses** : Analytical reagent.  
1.5 ml  
**Uses advised against** : None known.

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.  
 5500 Lakeside Cheadle Royal Business Park,  
 Cheadle, Cheshire, SK8 3GR  
 United Kingdom  
 Tel: +44 (0) 345 712 5292  
**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +44 20 3807 3798

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

H226 FLAMMABLE LIQUIDS Category 3

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

**Ingredients of unknown toxicity** : Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard pictograms** :



**Signal word** : Warning

**Hazard statements** : H226 - Flammable liquid and vapour.

#### Precautionary statements

**Prevention** : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Response** : Not applicable.

**Storage** : Not applicable.

**DNase Digestion Buffer**

**SECTION 2: Hazards identification**

**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Supplemental label elements** : Not applicable.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

**Special packaging requirements**

**Containers to be fitted with child-resistant fastenings** : Not applicable.

**Tactile warning of danger** : Not applicable.

**2.3 Other hazards**

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Other hazards which do not result in classification** : None known.

**SECTION 3: Composition/information on ingredients**

**3.2 Mixtures** : Mixture

Product/ingredient name	Identifiers	%	Classification	Type
ethanol	EC: 200-578-6 CAS: 64-17-5 Index: 603-002-00-5	≥25 - <50	Flam. Liq. 2, H225 Eye Irrit. 2, H319	[1] [2]
Manganese dichloride	EC: 231-869-6 CAS: 7773-01-5	≤0.3	Acute Tox. 3, H301 Eye Dam. 1, H318 STOT RE 2, H373 (brain) Aquatic Chronic 2, H411 <b>See Section 16 for the full text of the H statements declared above.</b>	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

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

#### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
- Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
halogenated compounds  
metal oxide/oxides

### 5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to British standard BS EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and material for containment and cleaning up

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Avoid contact with eyes, skin and clothing. Do not ingest. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

- Storage** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### Seveso Directive - Reporting thresholds

#### Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c	5000 tonnes	50000 tonnes

**DNase Digestion Buffer**

**SECTION 7: Handling and storage**

**7.3 Specific end use(s)**

- Recommendations** : Industrial applications, Professional applications.
- Industrial sector specific solutions** : Not available.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

Occupational exposure limits

Product/ingredient name	Exposure limit values
ethanol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020)</b> TWA 8 hours: 1000 ppm. TWA 8 hours: 1920 mg/m <sup>3</sup> .
manganese dichloride	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020) [manganese and its inorganic compounds]</b> TWA 8 hours: 0.2 mg/m <sup>3</sup> (as Mn). Form: Inhalable fraction. TWA 8 hours: 0.05 mg/m <sup>3</sup> (as Mn). Form: Respirable fraction.

Biological exposure indices

No exposure indices known.

- Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Result
ethanol	DNEL - Workers - Long term - Inhalation 380 mg/m <sup>3</sup>
	DNEL - General population - Long term - Oral 87 mg/kg bw/day
	DNEL - General population - Long term - Inhalation 114 mg/m <sup>3</sup>
	DNEL - General population - Long term - Dermal 206 mg/kg bw/day
	DNEL - Workers - Long term - Dermal 343 mg/kg bw/day
	DNEL - General population - Short term - Inhalation 950 mg/m <sup>3</sup>
	DNEL - Workers - Short term - Inhalation 1900 mg/m <sup>3</sup>
manganese dichloride	DNEL - General population - Long term - Dermal 0.0021 mg/kg bw/day
	DNEL - Workers - Long term - Dermal 0.00414 mg/kg bw/day
	DNEL - General population - Long term - Inhalation 0.043 mg/m <sup>3</sup>
	DNEL - General population - Short term - Oral 0.15 mg/kg bw/day
	DNEL - Workers - Long term - Inhalation 0.2 mg/m <sup>3</sup>

PNECs

Not available.

**8.2 Exposure controls**

**SECTION 8: Exposure controls/personal protection**

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to British Standard BS EN 1149 for further information on material and design requirements and test methods.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

**9.1 Information on basic physical and chemical properties****Appearance**

- Physical state** : Liquid.
- Colour** : Not available.
- Odour** : Not available.
- Odour threshold** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flammability** : Not applicable.

**DNase Digestion Buffer**

**SECTION 9: Physical and chemical properties**

**Lower and upper explosion limit/flammability limit** : Not available.

**Flash point** : Closed cup: 23 to 37.8°C

Auto-ignition temperature	Ingredient name	°C	Method
	ethanol	455	DIN 51794

**Decomposition temperature** : Not available.

**pH** : 7

**Viscosity** : Dynamic (room temperature): Not available.  
Kinematic (room temperature): Not available.  
Kinematic (40°C): Not available.

Solubility	Media	Result
	water	Soluble

**Partition coefficient: n-octanol/water** : Not applicable.

Vapour pressure	Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
		mm Hg	kPa	Method	mm Hg	kPa	Method
	ethanol	42.94865	5.7	-	-	-	-
	water	17.5	2.3	-	92.258	12.3	-

**Relative density** : Not available.

**Vapour density** : Not available.

**Particle characteristics**

**Median particle size** : Not applicable.

**9.2 Other information**

**9.2.1 Information with regard to physical hazard classes**

**Explosive properties** : Not available.

**Oxidising properties** : Not available.

**9.2.2 Other safety characteristics**

**Miscible with water** : Yes.

**Evaporation rate** : Not available.

**Physical/chemical properties comments** : Not available.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : The product is stable.

**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

**10.5 Incompatible materials** : Reactive or incompatible with the following materials:  
oxidising materials

**DNase Digestion Buffer**

**SECTION 10: Stability and reactivity**

**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

Acute toxicity

Product/ingredient name	Result	
ethanol	Rat - Oral - LD50	7 g/kg
	Rat - Inhalation - LC50 Vapour	124700 mg/m <sup>3</sup> [4 hours]
manganese dichloride	Rat - Oral - LD50	250 mg/kg

**Conclusion/Summary** : Not available.

[Product]

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
DNase Digestion Buffer	192307.7	N/A	N/A	N/A	N/A
ethanol	7000	N/A	N/A	124.7	N/A
manganese dichloride	250	N/A	N/A	N/A	N/A

Skin corrosion/irritation

**Conclusion/Summary** : Not available.

[Product]

Serious eye damage/eye irritation

Product/ingredient name	Result	
ethanol	Rabbit - Eyes - Mild irritant	Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg
	Rabbit - Eyes - Moderate irritant	Duration of treatment/exposure: 0.066666667 minutes Amount/concentration applied: 100 mg
	Rabbit - Eyes - Moderate irritant	Amount/concentration applied: 100 uL
	Rabbit - Eyes - Mild irritant	Duration of treatment/exposure: 1 hours Amount/concentration applied: 50 pph

**Conclusion/Summary** : Not available.

[Product]

Respiratory corrosion/irritation

**Conclusion/Summary** : Not available.

[Product]

Respiratory or skin sensitization

**Skin**

**Conclusion/Summary** : Not available.

[Product]

**Respiratory**

## SECTION 11: Toxicological information

**Conclusion/Summary** : Not available.  
**[Product]**

### Germ cell mutagenicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Carcinogenicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Reproductive toxicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result
manganese dichloride	STOT RE 2, H373 (brain)

### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**DNase Digestion Buffer**

**SECTION 11: Toxicological information**

Potential chronic health effects

- Conclusion/Summary** : Not available.  
**[Product]**  
**General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Reproductive toxicity** : No known significant effects or critical hazards.  
**Other information** : Adverse symptoms may include the following: Repeated exposure may cause skin dryness or cracking.

**SECTION 12: Ecological information**

**12.1 Toxicity**

Product/ingredient name	Result
ethanol	Acute - LC50 - Marine water - Fish - Bleak - <i>Alburnus alburnus</i> Size: 8 to 10 cm 11 g/l [96 hours] Mortality -
	Chronic - NOEC - Marine water - Algae - Green algae - <i>Ulva pertusa</i> 4.995 mg/l [96 hours] Reproduction -
	Chronic - NOEC - Fresh water - Daphnia - Water flea - <i>Daphnia magna</i> - Neonate Age: <24 hours 100 µl/l [21 days] Mortality -
	Acute - EC50 - Marine water - Algae - Green algae - <i>Ulva pertusa</i> Size: 9.4 mm 3306 mg/l [96 hours] Reproduction -
	Acute - EC50 - Fresh water - Daphnia - Water flea - <i>Daphnia magna</i> 2 mg/l [48 hours] Intoxication -
manganese dichloride	Acute - EC50 - Fresh water - Daphnia - Water flea - <i>Daphnia magna</i> - Neonate 4700 µg/l [48 hours] Intoxication -
	Acute - LC50 - Marine water -

**DNase Digestion Buffer**

**SECTION 12: Ecological information**

Fish - White Sea Bass -  
*Lates calcarifer* - Fry  
 Size: 11 mm  
 220 ppm [96 hours]  
 Mortality

Chronic - NOEC - Fresh water -

Fish - Brown trout -  
*Salmo trutta* - Eyed stage, eyed embryo  
 510 µg/l [62 days]  
 Mortality

Acute - EC50 - Fresh water -

ISO  
 Algae - Green algae -  
*Desmodesmus subspicatus*  
 5.92 mg/l [72 hours]  
 Population

**Conclusion/Summary [Product]** : Not available.

**12.2 Persistence and degradability**

**Conclusion/Summary [Product]** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
ethanol	-	-	Readily

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
ethanol	-0.35	0.5	Low

**12.4 Mobility in soil**

**Soil/water partition coefficient**

Product/ingredient name	logK <sub>oc</sub>	K <sub>oc</sub>
ethanol	0.2	1.59008

**Results of PMT and vPvM assessment**

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
ethanol	No	N/A	Yes	No	N/A	N/A	Yes
manganese dichloride	No	No	No	No	No	No	No

**Mobility** : Not available.

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PMT or vPvM.

**12.5 Results of PBT and vPvB assessment**

**Regulation (EC) No. 1907/2006 [REACH]**

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
ethanol	No	N/A	No	No	No	N/A	No
manganese dichloride	No	No	No	No	No	No	No

**Regulation (EC) No. 1272/2008 [CLP]**

**DNase Digestion Buffer**

**SECTION 12: Ecological information**

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
ethanol	No	N/A	No	No	No	N/A	No
manganese dichloride	No	No	No	No	No	No	No

**Conclusion/Summary Regulation (EC) No. 1272/2008 [CLP]** : The product does not meet the criteria to be considered as a PBT or vPvB.

**12.6 Endocrine disrupting properties**

Not available.

**Conclusion/Summary [Product]** : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

**12.7 Other adverse effects**

No known significant effects or critical hazards.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Product

**Methods of disposal** : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. The generation of waste should be avoided or minimised wherever possible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.




**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport information**

	ADR/RID	IMDG	IATA
<b>14.1 UN number</b>	UN1170	UN1170	UN1170
<b>14.2 UN proper shipping name</b>	ETHANOL SOLUTION	ETHANOL SOLUTION	Ethanol solution
<b>14.3 Transport hazard class(es)</b>	3 	3 	3 
<b>14.4 Packing group</b>	II	II	II
<b>14.5 Environmental hazards</b>	No.	No.	No.

DNase Digestion Buffer

## SECTION 14: Transport information

### Additional information

- ADR/RID** : **Hazard identification number** 33  
**Limited quantity** 1 L  
**Special provisions** 144, 601  
**Tunnel code** (D/E)
- IMDG** : **Emergency schedules** F-E, S-D  
**Special provisions** 144
- IATA** : **Quantity limitation** Passenger and Cargo Aircraft: 5 L. Packaging instructions: 353.  
Cargo Aircraft Only: 60 L. Packaging instructions: 364. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y341.  
**Special provisions** A3, A58, A180
- 14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
- 14.7 Transport in bulk according to IMO instruments** : Not available.

## SECTION 15: Regulatory information

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

#### UK (GB)/REACH

##### Annex XIV - List of substances subject to authorisation

###### Annex XIV

None of the components are listed.

###### Substances of very high concern

None of the components are listed.

###### Ozone depleting substances

Not listed.

###### Prior Informed Consent (PIC)

Not listed.

###### Persistent Organic Pollutants

Not listed.

###### **Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

None of the components are listed / The components are not impacted by a restriction

**Labelling** : Not applicable.

###### Seveso Directive

This product is controlled under the Seveso Directive.

###### Danger criteria

**Category**

P5c

### EU regulations

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**DNase Digestion Buffer**

**SECTION 15: Regulatory information**

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments might still be required.

**International regulations**

**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

**Montreal Protocol**

Not listed.

**Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

**Inventory list**

**United States** : All components are active or exempted.

**SECTION 16: Other information**

✔ Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** :  
 ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway  
 ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
 ATE = Acute Toxicity Estimate  
 GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments  
 DMEL = Derived Minimal Effect Level  
 DNEL = Derived No Effect Level  
 EUH statement = GB CLP-specific Hazard statement  
 IATA = International Air Transport Association  
 IMDG = International Maritime Dangerous Goods  
 IMO = International Maritime Organization  
 N/A = Not available  
 PBT = Persistent, Bioaccumulative and Toxic  
 PNEC = Predicted No Effect Concentration  
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
 RRN = REACH Registration Number  
 SGG = Segregation Group  
 vPvB = Very Persistent and Very Bioaccumulative

**Procedure used to derive the classification**

Classification	Justification
Flam. Liq. 3, H226	On basis of test data

**Full text of abbreviated H statements**

**DNase Digestion Buffer**

**SECTION 16: Other information**

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

**Full text of classifications**

Acute Tox. 3	ACUTE TOXICITY - Category 3
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

**Date of issue/ Date of revision** : 30/09/2025

**Date of previous issue** : No previous validation

**Version** : 1

**Notice to reader**

**Disclaimer:** The information contained in this document is based on Agilent’s state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

# SAFETY DATA SHEET

Proteinase K

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** : Proteinase K  
**Part no.** : 400809-17

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

**Identified uses** : Analytical reagent.  
0.5 ml  
**Uses advised against** : None known.

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.  
5500 Lakeside Cheadle Royal Business Park,  
Cheadle, Cheshire, SK8 3GR  
United Kingdom  
Tel: +44 (0) 345 712 5292  
**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +44 20 3807 3798

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

**Ingredients of unknown toxicity** : Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 10 - 30%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Signal word** : No signal word.  
**Hazard statements** : No known significant effects or critical hazards.

#### Precautionary statements

**Prevention** : Not applicable.  
**Response** : Not applicable.  
**Storage** : Not applicable.  
**Disposal** : Not applicable.  
**Supplemental label elements** : Safety data sheet available on request.

Proteinase K

## SECTION 2: Hazards identification

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

### Special packaging requirements

**Containers to be fitted with child-resistant fastenings** : Not applicable.  
**Tactile warning of danger** : Not applicable.

### 2.3 Other hazards

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Other hazards which do not result in classification** : None known.

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures** : Mixture

Product/ingredient name	Identifiers	%	Classification	Type
Glycerol	UK (GB) REACH #: Annex V REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥25 - ≤50	Not classified.  <b>See Section 16 for the full text of the H statements declared above.</b>	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

#### Type

[1] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

Proteinase K

## SECTION 4: First aid measures

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

#### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide

### 5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to British standard BS EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and material for containment and cleaning up

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Proteinase K

## SECTION 6: Accidental release measures

**6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8).  
**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

**Recommendations** : Industrial applications, Professional applications.  
**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
glycerol	EH40/2005 WELs (United Kingdom (UK), 1/2020) TWA 8 hours: 10 mg/m <sup>3</sup> . Form: Mist.

#### Biological exposure indices

No exposure indices known.

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

Not available.

#### PNECs

Not available.

### 8.2 Exposure controls

**Proteinase K**

**SECTION 8: Exposure controls/personal protection**

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

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

**Appearance**

- Physical state** : Liquid.
- Colour** : Not available.
- Odour** : Not available.
- Odour threshold** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Not available.

<b>Flash point</b> :	<b>Closed cup</b>		<b>Open cup</b>		
	<b>Ingredient name</b>	<b>°C</b>	<b>Method</b>	<b>°C</b>	<b>Method</b>
	glycerol	-	-	177	-

<b>Auto-ignition temperature</b> :	<b>Ingredient name</b>	<b>°C</b>	<b>Method</b>
	glycerol	370	-

Proteinase K

## SECTION 9: Physical and chemical properties

**Decomposition temperature** : Not available.

**pH** : Not available.

**Viscosity** : Dynamic (room temperature): Not available.  
Kinematic (room temperature): Not available.  
Kinematic (40°C): Not available.

**Solubility** : Not available.

**Partition coefficient: n-octanol/water** : Not applicable.

**Vapour pressure** :

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
water	17.5	2.3	-	92.258	12.3	-
glycerol	0.000075	0.00001	-	0.0025	0.00033	-

**Relative density** : Not available.

**Vapour density** : Not available.

**Particle characteristics**

**Median particle size** : Not applicable.

### 9.2 Other information

#### 9.2.1 Information with regard to physical hazard classes

**Explosive properties** : Not available.

**Oxidising properties** : Not available.

#### 9.2.2 Other safety characteristics

**Evaporation rate** : Not available.

**Physical/chemical properties comments** : Not available.

## SECTION 10: Stability and reactivity

**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : The product is stable.

**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : No specific data.

**10.5 Incompatible materials** : May react or be incompatible with oxidising materials.

**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Proteinase K

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

**Product/ingredient name** glycerol **Result** Rat - Oral - LD50 12600 mg/kg

**Conclusion/Summary** : Not available.

[Product]

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
glycerol	12600	N/A	N/A	N/A	N/A

#### Skin corrosion/irritation

**Product/ingredient name** glycerol **Result** Rabbit - Skin - Mild irritant  
Duration of treatment/exposure: 24 hours  
Amount/concentration applied: 500 mg

**Conclusion/Summary** : Not available.

[Product]

#### Serious eye damage/eye irritation

**Product/ingredient name** glycerol **Result** Rabbit - Eyes - Mild irritant  
Duration of treatment/exposure: 24 hours  
Amount/concentration applied: 500 mg

**Conclusion/Summary** : Not available.

[Product]

#### Respiratory corrosion/irritation

**Conclusion/Summary** : Not available.

[Product]

#### Respiratory or skin sensitization

##### Skin

**Conclusion/Summary** : Not available.

[Product]

##### Respiratory

**Conclusion/Summary** : Not available.

[Product]

#### Germ cell mutagenicity

**Conclusion/Summary** : Not available.

[Product]

#### Carcinogenicity

**Conclusion/Summary** : Not available.

[Product]

#### Reproductive toxicity

Proteinase K

## SECTION 11: Toxicological information

**Conclusion/Summary [Product]** : Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

**Conclusion/Summary [Product]** : Not available.

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** : No known significant effects or critical hazards.

Proteinase K

**SECTION 12: Ecological information****12.1 Toxicity**

Product/ingredient name	Result
glycerol	Acute - LC50 - Fresh water OECD [Fish, Acute Toxicity Test] Fish - Trout - <i>Oncorhynchus mykiss</i> 54000 mg/l [96 hours]

**Conclusion/Summary [Product]** : Not available.

**12.2 Persistence and degradability**

Product/ingredient name	Result
glycerol	Ready Biodegradability - 93% [30 days] Closed Bottle Test

**Conclusion/Summary [Product]** : Not available.

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
glycerol	-1.76	-	Low

**12.4 Mobility in soil****Soil/water partition coefficient**

Not available.

**Results of PMT and vPvM assessment**

This mixture does not contain any substances that are assessed to be a PMT or a vPvM.

**Mobility** : Not available.

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PMT or vPvM.

**12.5 Results of PBT and vPvB assessment****Regulation (EC) No. 1907/2006 [REACH]**

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
glycerol	No	N/A	N/A	No	N/A	N/A	N/A

**Regulation (EC) No. 1272/2008 [CLP]**

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

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PBT or vPvB.

**Regulation (EC) No. 1272/2008 [CLP]**

**12.6 Endocrine disrupting properties**

Not available.

**Conclusion/Summary [Product]** : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

**12.7 Other adverse effects**

No known significant effects or critical hazards.

Proteinase K

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. The generation of waste should be avoided or minimised wherever possible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to IMO instruments** : Not available.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture UK (GB)/REACH

#### Annex XIV - List of substances subject to authorisation

##### Annex XIV

None of the components are listed.

##### Substances of very high concern

None of the components are listed.

##### Ozone depleting substances

Proteinase K

## SECTION 15: Regulatory information

Not listed.

### Prior Informed Consent (PIC)

Not listed.

### Persistent Organic Pollutants

Not listed.

### Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

None of the components are listed / The components are not impacted by a restriction

**Labelling** : Not applicable.

### Seveso Directive

This product is not controlled under the Seveso Directive.

### EU regulations

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments might still be required.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**United States** : All components are active or exempted.

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway  
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
ATE = Acute Toxicity Estimate  
GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EUH statement = GB CLP-specific Hazard statement  
IATA = International Air Transport Association

**Proteinase K**

**SECTION 16: Other information**

IMDG = International Maritime Dangerous Goods  
 IMO = International Maritime Organization  
 N/A = Not available  
 PBT = Persistent, Bioaccumulative and Toxic  
 PNEC = Predicted No Effect Concentration  
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
 RRN = REACH Registration Number  
 SGG = Segregation Group  
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

Classification	Justification
Not classified.	

Full text of abbreviated H statements

Not applicable.

Full text of classifications

Not applicable.

**Date of issue/ Date of revision** : 30/09/2025  
**Date of previous issue** : No previous validation  
**Version** : 1

Notice to reader

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# SAFETY DATA SHEET

## Proteinase K Digestion Buffer

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** : Proteinase K Digestion Buffer  
**Part no.** : 400809-18

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

**Identified uses** : Analytical reagent.  
5 ml  
**Uses advised against** : None known.

#### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.  
 5500 Lakeside Cheadle Royal Business Park,  
 Cheadle, Cheshire, SK8 3GR  
 United Kingdom  
 Tel: +44 (0) 345 712 5292  
**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

#### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +44 20 3807 3798

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

EUH430                      ENDOCRINE DISRUPTOR FOR THE ENVIRONMENT                      Category 1

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

**Ingredients of unknown toxicity** : Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity:  
1 - 10%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

#### 2.2 Label elements

**Signal word** : Danger  
**Hazard statements** : EUH430 - May cause endocrine disruption in the environment.

#### Precautionary statements

**Prevention** : P201 - Obtain special instructions before use.  
P273 - Avoid release to the environment.  
**Response** : P391 - Collect spillage.  
**Storage** : P405 - Store locked up.  
**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.  
**Supplemental label elements** : Not applicable.

**Proteinase K Digestion Buffer**

**SECTION 2: Hazards identification**

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

**Special packaging requirements**

**Containers to be fitted with child-resistant fastenings** : Not applicable.  
**Tactile warning of danger** : Not applicable.

**2.3 Other hazards**

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Product meets the criteria for endocrine disrupting properties according to Regulation (EC) No. 1907/2006.** : Contains Polyoxyethylene octyl phenyl ether. May cause endocrine disruption.

**Other hazards which do not result in classification** : None known.

**SECTION 3: Composition/information on ingredients**

**3.2 Mixtures** : Mixture

Product/ingredient name	Identifiers	%	Classification	Type
Sodium dodecyl sulphate	EC: 205-788-1 CAS: 151-21-3	≤2.2	Flam. Sol. 2, H228 Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 3, H412	[1]
Polyoxyethylene octyl phenyl ether	CAS: 9002-93-1	≤0.22	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=1) ED ENV 1, EUH430 <b>See Section 16 for the full text of the H statements declared above.</b>	[1] [2] [3]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

**Proteinase K Digestion Buffer**

**SECTION 3: Composition/information on ingredients**

[1] Substance classified with a health or environmental hazard  
[2] Substance of equivalent concern  
[3] Substance of equivalent concern - Endocrine disrupting properties  
Occupational exposure limits, if available, are listed in Section 8.

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

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

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

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

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material may cause endocrine disruption in the environment. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous combustion products** : Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide
  - sulfur oxides
  - halogenated compounds
  - metal oxide/oxides

**5.3 Advice for firefighters**

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Proteinase K Digestion Buffer**

## SECTION 5: Firefighting measures

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to British standard BS EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### 6.2 Environmental precautions

- : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). May be harmful to the environment if released in large quantities. Collect spillage.

### 6.3 Methods and material for containment and cleaning up

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. May be harmful to the environment if released. Dispose of spillages under controlled conditions.

### 6.4 Reference to other sections

- : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid breathing vapour or mist. Avoid release to the environment. Avoid contact with eyes, skin and clothing. Do not ingest. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

- Recommendations** : Industrial applications, Professional applications.
- Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

No exposure limit value known.

#### Biological exposure indices

No exposure indices known.

#### Recommended monitoring procedures

: Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

##### Product/ingredient name

sodium dodecyl sulphate

##### Result

DNEL - General population - Long term - Oral	24 mg/kg bw/day
DNEL - General population - Long term - Inhalation	85 mg/m <sup>3</sup>
DNEL - Workers - Long term - Inhalation	285 mg/m <sup>3</sup>
DNEL - General population - Long term - Dermal	2440 mg/kg bw/day
DNEL - Workers - Long term - Dermal	4060 mg/kg bw/day

#### PNECs

Not available.

### 8.2 Exposure controls

#### Appropriate engineering controls

: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

#### Individual protection measures

##### Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

##### Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

##### Skin protection

##### Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

##### Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

##### Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Proteinase K Digestion Buffer**

**SECTION 8: Exposure controls/personal protection**

- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

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

Appearance

- Physical state** : Liquid.
- Colour** : Not available.
- Odour** : Not available.
- Odour threshold** : Not available.
- Melting point/freezing point** : 0°C
- Initial boiling point and boiling range** : 100°C
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Not available.
- Flash point** :

Ingredient name	Closed cup		Open cup	
	°C	Method	°C	Method
sodium dodecyl sulphate	170	-	-	-

Ingredient name	°C	Method
sodium dodecyl sulphate	310.5	VDI 2263

**Decomposition temperature** : Not available.

**pH** : 7.5

**Viscosity** : Dynamic (room temperature): Not available.  
Kinematic (room temperature): Not available.  
Kinematic (40°C): Not available.

Media	Result
water	Soluble

**Partition coefficient: n-octanol/water** : Not applicable.

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
water	17.5	2.3	-	92.258	12.3	-
sodium dodecyl sulphate	≤0.0013501	≤0.00018	-	-	-	-

**Relative density** : Not available.

**Vapour density** : Not available.

Particle characteristics

**Proteinase K Digestion Buffer**

**SECTION 9: Physical and chemical properties**

**Median particle size** : Not applicable.

**9.2 Other information**

**9.2.1 Information with regard to physical hazard classes**

**Explosive properties** : Not available.

**Oxidising properties** : Not available.

**9.2.2 Other safety characteristics**

**Miscible with water** : Yes.

**Evaporation rate** : Not available.

**Physical/chemical properties comments** : Not available.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : The product is stable.

**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : No specific data.

**10.5 Incompatible materials** : May react or be incompatible with oxidising materials.

**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

Acute toxicity

Product/ingredient name	Result	
sodium dodecyl sulphate	Rat - Oral - LD50	1288 mg/kg
Polyoxyethylene octyl phenyl ether	Rat - Oral - LD50	1800 mg/kg

**Conclusion/Summary** : Not available.

[Product]

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Proteinase K Digestion Buffer	129572.8	N/A	N/A	N/A	150.9
sodium dodecyl sulphate	1288	N/A	N/A	N/A	1.5
Polyoxyethylene octyl phenyl ether	1800	N/A	N/A	N/A	N/A

Skin corrosion/irritation

Product/ingredient name	Result
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## Proteinase K Digestion Buffer

## SECTION 11: Toxicological information

sodium dodecyl sulphate	Guinea pig - Skin - Mild irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 25 mg
	Mouse - Skin - Moderate irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 25 mg
	Rabbit - Skin - Mild irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 50 mg
	Rabbit - Skin - Moderate irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 25 mg
	Rabbit - Skin - Moderate irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 250 mg
	Guinea pig - Skin - Mild irritant	Duration of treatment/ exposure: 336 hours Amount/concentration applied: 25250 ppm
	Guinea pig - Skin - Mild irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 25250 ppm
	Guinea pig - Skin - Severe irritant	Duration of treatment/ exposure: 48 hours Amount/concentration applied: 25250 ppm
	Guinea pig - Skin - Severe irritant	Duration of treatment/ exposure: 72 hours Amount/concentration applied: 25250 ppm
	Human - Skin - Mild irritant	Duration of treatment/ exposure: 48 hours Amount/concentration applied: 5 %
	Human - Skin - Severe irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 10 %
	Rabbit - Skin - Moderate irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 5 %
	Rabbit - Skin - Severe irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 2.5 %
	Human - Skin - Mild irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 0.5 %
	Human - Skin - Moderate irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 10 pph
	Man - Skin - Mild irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 5 %

**Proteinase K Digestion Buffer**

**SECTION 11: Toxicological information**

	Mouse - Skin - Moderate irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 5 %
	Mouse - Skin - Severe irritant	Duration of treatment/ exposure: 4 hours Amount/concentration applied: 1 pph
	Rabbit - Skin - Mild irritant	Duration of treatment/ exposure: 1 hours Amount/concentration applied: 5 %
Polyoxyethylene octyl phenyl ether	Rabbit - Skin - Mild irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 500 uL

**Conclusion/Summary [Product]** : Not available.

<b>Ingredient name</b>	<b>Conclusion/Summary</b>
sodium dodecyl sulphate	Irritating to skin.

**Serious eye damage/eye irritation**

<b>Product/ingredient name</b>	<b>Result</b>	
sodium dodecyl sulphate	Rabbit - Eyes - Mild irritant	Amount/concentration applied: 250 ug
	Rabbit - Eyes - Moderate irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 100 mg
	Rabbit - Eyes - Moderate irritant	Amount/concentration applied: 10 mg
	Rabbit - Eyes - Severe irritant	Duration of treatment/ exposure: 1 hours Amount/concentration applied: 1 %
	Rabbit - Eyes - Mild irritant	Duration of treatment/ exposure: 1 hours Amount/concentration applied: 5 pph
	Rabbit - Eyes - Severe irritant	Duration of treatment/ exposure: 1 hours Amount/concentration applied: 1 %

**Conclusion/Summary [Product]** : Not available.

<b>Ingredient name</b>	<b>Conclusion/Summary</b>
sodium dodecyl sulphate	Irritating to eyes.

**Respiratory corrosion/irritation**

**Conclusion/Summary [Product]** : Not available.

**Respiratory or skin sensitization**

**Skin**

**Conclusion/Summary [Product]** : Not available.

**Respiratory**

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**SECTION 11: Toxicological information**

**Conclusion/Summary** : Not available.  
**[Product]**

**Germ cell mutagenicity**

**Conclusion/Summary** : Not available.  
**[Product]**

**Carcinogenicity**

**Conclusion/Summary** : Not available.  
**[Product]**

**Reproductive toxicity**

**Conclusion/Summary** : Not available.  
**[Product]**

**Specific target organ toxicity (single exposure)**

<b>Product/ingredient name</b>	<b>Result</b>
sodium dodecyl sulphate	STOT SE 3, H335 (Respiratory tract irritation)

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

**Information on likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

**Potential acute health effects**

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Short term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Long term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

Proteinase K Digestion Buffer

**SECTION 11: Toxicological information**

Potential chronic health effects

- Conclusion/Summary** : Not available.  
**[Product]**  
**General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Reproductive toxicity** : No known significant effects or critical hazards.

**SECTION 12: Ecological information**

12.1 Toxicity

Product/ingredient name	Result
sodium dodecyl sulphate	Acute - LC50 - Fresh water - Fish - Carp, hawk fish - <i>Cirrhinus mrigala</i> - Larvae Age: 2 days; Size: 4.5 mm; Weight: 51 mg 590 µg/l [96 hours] Mortality -
	Acute - LC50 - Marine water - Crustaceans - Brine shrimp - <i>Artemia salina</i> - Adult Age: 25 days; Size: 3.5 to 4.5 mm 900 µg/l [48 hours] Mortality -
	Acute - EC50 - Marine water - Algae - Diatom - <i>Skeletonema costatum</i> 1200 µg/l [96 hours] Population -
	Chronic - NOEC - Marine water - Algae - Sea Lettuce - <i>Ulva fasciata</i> - Zoea 1.25 mg/l [96 hours] Reproduction -
	Chronic - NOEC - Fresh water - OECD Crustaceans - Water flea - <i>Pseudosida ramosa</i> - Neonate Age: <24 hours 1 mg/l [21 days] Reproduction -
	Chronic - NOEC - Fresh water - OECD Fish - Eastern mosquitofish - <i>Gambusia holbrooki</i> Weight: 0.14 g -

Proteinase K Digestion Buffer

**SECTION 12: Ecological information**

0.8 mg/l [28 days]  
Enzymes

Polyoxyethylene octyl phenyl ether	Acute - LC50 - Fresh water Fish - Fathead minnow - <i>Pimephales promelas</i> Age: 2 to 3 months; Size: 16 mm; Weight: 0.039 g 4500 µg/l [96 hours] Mortality	-	-
	Acute - LC50 - Fresh water Crustaceans - Water flea - <i>Ceriodaphnia rigaudi</i> - Neonate Age: 24 hours 5.85 mg/l [48 hours] Mortality	-	-
	Chronic - NOEC - Fresh water OECD Fish - Eastern mosquitofish - <i>Gambusia holbrooki</i> Weight: 0.14 g 0.004 mg/l [28 days] Enzymes	-	-

**Conclusion/Summary [Product]** : Not available.

**12.2 Persistence and degradability**

Product/ingredient name	Result
sodium dodecyl sulphate	OECD [ Ready Biodegradability - CO2 Evolution Test] 95% [28 days] - Readily Aerobic - 20 mg/l

**Conclusion/Summary [Product]** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
sodium dodecyl sulphate	-	-	Readily
Polyoxyethylene octyl phenyl ether	-	-	Readily

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
sodium dodecyl sulphate	-2.03	-	Low
Polyoxyethylene octyl phenyl ether	4.86	-	High

**12.4 Mobility in soil**

**Soil/water partition coefficient**

Product/ingredient name	logK <sub>oc</sub>	K <sub>oc</sub>
sodium dodecyl sulphate	3.1	1234.14

**Proteinase K Digestion Buffer**

**SECTION 12: Ecological information**

**Results of PMT and vPvM assessment**

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
sodium dodecyl sulphate	No	N/A	No	No	No	N/A	No
Polyoxyethylene octyl phenyl ether	N/A	N/A	N/A	Yes	N/A	N/A	N/A

**Mobility** : Not available.

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PMT or vPvM.

**12.5 Results of PBT and vPvB assessment**

**Regulation (EC) No. 1907/2006 [REACH]**

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
sodium dodecyl sulphate	No	N/A	N/A	No	N/A	N/A	N/A
Polyoxyethylene octyl phenyl ether	N/A	N/A	N/A	Yes	N/A	N/A	N/A

**Regulation (EC) No. 1272/2008 [CLP]**

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
sodium dodecyl sulphate	No	N/A	N/A	No	N/A	N/A	N/A
Polyoxyethylene octyl phenyl ether	N/A	N/A	N/A	Yes	N/A	N/A	N/A

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PBT or vPvB.

**Regulation (EC) No. 1272/2008 [CLP]**

**12.6 Endocrine disrupting properties**

Not available.

**Conclusion/Summary [Product]** : May cause endocrine disruption. May cause endocrine disruption in the environment.

**12.7 Other adverse effects**

No known significant effects or critical hazards.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Product**

**Methods of disposal** : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. The generation of waste should be avoided or minimised wherever possible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

**Packaging**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : Dispose of material(s) and residues under controlled conditions. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**Proteinase K Digestion Buffer**

**SECTION 14: Transport information**

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to IMO instruments** : Not available.

**SECTION 15: Regulatory information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**UK (GB)/REACH**

Annex XIV - List of substances subject to authorisation

Annex XIV

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
Substance of equivalent concern for environment	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated covering well-defined substances and UVCB substances, polymers and homologues	Listed	42	1/1/2021

Substances of very high concern

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
Substance of equivalent concern for environment	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated covering well-defined substances and UVCB substances, polymers and homologues	Candidate	-	12/19/2012

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

**Proteinase K Digestion Buffer**

**SECTION 15: Regulatory information**

None of the components are listed / The components are not impacted by a restriction

**Labelling** : Not applicable.

**Seveso Directive**

This product is not controlled under the Seveso Directive.

**EU regulations**

**Industrial emissions (integrated pollution prevention and control) - Air** : Listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments might still be required.

**International regulations**

**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

**Montreal Protocol**

Not listed.

**Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

**Inventory list**

**United States** : All components are active or exempted.

**SECTION 16: Other information**

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway  
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
ATE = Acute Toxicity Estimate  
GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EUH statement = GB CLP-specific Hazard statement  
IATA = International Air Transport Association  
IMDG = International Maritime Dangerous Goods  
IMO = International Maritime Organization  
N/A = Not available  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
RRN = REACH Registration Number  
SGG = Segregation Group  
vPvB = Very Persistent and Very Bioaccumulative

**Proteinase K Digestion Buffer**

**SECTION 16: Other information**

Procedure used to derive the classification

Classification	Justification
ED ENV 1, EUH430	Calculation method

Full text of abbreviated H statements

H228	Flammable solid.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH430	May cause endocrine disruption in the environment.

Full text of classifications

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
ED ENV 1	ENDOCRINE DISRUPTOR FOR THE ENVIRONMENT - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Flam. Sol. 2	FLAMMABLE SOLIDS - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

**Date of issue/ Date of revision** : 30/09/2025

**Date of previous issue** : No previous validation

**Version** : 1

Notice to reader

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# SAFETY DATA SHEET

QPCR Human Reference Total RNA

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** : QPCR Human Reference Total RNA  
**Part no.** : 750500-41

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

**Identified uses** : Analytical reagent.  
0.025 ml (25 µg 1 µg/µl)  
**Uses advised against** : None known.

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.  
5500 Lakeside Cheadle Royal Business Park,  
Cheadle, Cheshire, SK8 3GR  
United Kingdom  
Tel: +44 (0) 345 712 5292  
**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +44 20 3807 3798

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Signal word** : No signal word.  
**Hazard statements** : No known significant effects or critical hazards.  
**Precautionary statements**  
**Prevention** : Not applicable.  
**Response** : Not applicable.  
**Storage** : Not applicable.  
**Disposal** : Not applicable.  
**Supplemental label elements** : Not applicable.

## SECTION 2: Hazards identification

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

### Special packaging requirements

**Containers to be fitted with child-resistant fastenings** : Not applicable.

**Tactile warning of danger** : Not applicable.

### 2.3 Other hazards

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Other hazards which do not result in classification** : None known.

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures** : Mixture

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

**Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

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

#### Over-exposure signs/symptoms

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

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

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous combustion products** : No specific data.

### 5.3 Advice for firefighters

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to British standard BS EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### 6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and material for containment and cleaning up

**Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

### 6.4 Reference to other sections

: See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

## SECTION 7: Handling and storage

**Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

**Recommendations** : Industrial applications, Professional applications.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

No exposure limit value known.

#### Biological exposure indices

No exposure indices known.

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

Not available.

#### PNECs

Not available.

### 8.2 Exposure controls

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

#### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

#### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

## SECTION 8: Exposure controls/personal protection

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### 9.1 Information on basic physical and chemical properties

#### Appearance

- Physical state** : Liquid.
- Colour** : Not available.
- Odour** : Not available.
- Odour threshold** : Not available.
- Melting point/freezing point** : 0°C
- Initial boiling point and boiling range** : 100°C
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Not available.
- Flash point** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- pH** : Not available.
- Viscosity** : Dynamic (room temperature): Not available.  
Kinematic (room temperature): Not available.  
Kinematic (40°C): Not available.

<b>Solubility</b>	<b>Media</b>	<b>Result</b>
	water	Soluble

**Partition coefficient: n-octanol/water** : Not applicable.

<b>Vapour pressure</b>	<b>Vapour Pressure at 20°C</b>			<b>Vapour pressure at 50°C</b>			
	<b>Ingredient name</b>	<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>	<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>
	water	17.5	2.3	-	92.258	12.3	-

- Relative density** : Not available.
- Vapour density** : Not available.

#### Particle characteristics

- Median particle size** : Not applicable.

## SECTION 9: Physical and chemical properties

### 9.2 Other information

#### 9.2.1 Information with regard to physical hazard classes

**Explosive properties** : Not available.

**Oxidising properties** : Not available.

#### 9.2.2 Other safety characteristics

**Miscible with water** : Yes.

**Evaporation rate** : Not available.

**Physical/chemical properties comments** : Not available.

## SECTION 10: Stability and reactivity

**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : The product is stable.

**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : No specific data.

**10.5 Incompatible materials** : May react or be incompatible with oxidising materials.

**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

**Conclusion/Summary [Product]** : Not available.

#### Acute toxicity estimates

N/A

#### Skin corrosion/irritation

**Conclusion/Summary [Product]** : Not available.

#### Serious eye damage/eye irritation

**Conclusion/Summary [Product]** : Not available.

#### Respiratory corrosion/irritation

**Conclusion/Summary [Product]** : Not available.

#### Respiratory or skin sensitization

##### Skin

**Conclusion/Summary [Product]** : Not available.

## SECTION 11: Toxicological information

### Respiratory

**Conclusion/Summary** : Not available.  
**[Product]**

### Germ cell mutagenicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Carcinogenicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Reproductive toxicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Not available.

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

## SECTION 11: Toxicological information

### Potential chronic health effects

- Conclusion/Summary** : Not available.  
**[Product]**
- General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Reproductive toxicity** : No known significant effects or critical hazards.

## SECTION 12: Ecological information

### 12.1 Toxicity

- Conclusion/Summary** : Not available.  
**[Product]**

### 12.2 Persistence and degradability

- Conclusion/Summary** : Not available.  
**[Product]**

### 12.3 Bioaccumulative potential

Not available.

### 12.4 Mobility in soil

#### Soil/water partition coefficient

Not available.

#### Results of PMT and vPvM assessment

This mixture does not contain any substances that are assessed to be a PMT or a vPvM.

- Mobility** : Not available.  
**Conclusion/Summary** : The product does not meet the criteria to be considered as a PMT or vPvM.

### 12.5 Results of PBT and vPvB assessment

#### Regulation (EC) No. 1907/2006 [REACH]

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

#### Regulation (EC) No. 1272/2008 [CLP]

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

- Conclusion/Summary** : The product does not meet the criteria to be considered as a PBT or vPvB.  
**Regulation (EC) No. 1272/2008 [CLP]**

### 12.6 Endocrine disrupting properties

Not available.

- Conclusion/Summary** : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.  
**[Product]**

### 12.7 Other adverse effects

No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. The generation of waste should be avoided or minimised wherever possible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to IMO instruments** : Not available.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture UK (GB)/REACH

#### Annex XIV - List of substances subject to authorisation

##### Annex XIV

None of the components are listed.

##### Substances of very high concern

None of the components are listed.

##### Ozone depleting substances

## SECTION 15: Regulatory information

Not listed.

### Prior Informed Consent (PIC)

Not listed.

### Persistent Organic Pollutants

Not listed.

### **Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

None of the components are listed / The components are not impacted by a restriction

**Labelling** : Not applicable.

### Seveso Directive

This product is not controlled under the Seveso Directive.

### EU regulations

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments might still be required.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**United States** : All components are active or exempted.

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway  
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DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EUH statement = GB CLP-specific Hazard statement  
IATA = International Air Transport Association

**SECTION 16: Other information**

IMDG = International Maritime Dangerous Goods  
IMO = International Maritime Organization  
N/A = Not available  
PBT = Persistent, Bioaccumulative and Toxic  
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RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
RRN = REACH Registration Number  
SGG = Segregation Group  
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

<b>Classification</b>	<b>Justification</b>
Not classified.	

Full text of abbreviated H statements

Not applicable.

Full text of classifications

Not applicable.

**Date of issue/ Date of revision** : 30/09/2025

**Date of previous issue** : No previous validation

**Version** : 1

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