diagenode
Innovating Epigenetics Solutions

Premium RRBS kit V2

C02030036

Flyleaf

Date of compilation: 2022-02-11

Bill of materials

Name of substance	Identifier	Number of pieces	Classification acc. to GHS	Pictograms	Page
Enzyme buffer		1			3 – 10
Restriction enzyme		1			11 – 19
Ends preparation enzyme		1			20 – 28
dNTP mix		1			29 – 36
Unmethylated spike-in control		1			37 – 44
Methylated spike-in control		1			45 – 52
Adapter dilution buffer		1			53 – 60
Ligation Buffer		1			61 – 68
Ligase		1			69 – 77
Primer mix		1			78 – 85
MethylTaq Plus 2X Master Mix		1	Acute Tox. 3 / H301 STOT SE 2 / H371		86 – 99
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Resuspension buffer		1			108 – 115
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ChIP DNA Binding Buffer		1	Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319		124 – 133
DNA Wash Buffer		1			134 – 141
BS Conversion Reagent		1	Acute Tox. 4 / H302 Eye Dam. 1 / H318		142 – 151
BS Dilution Buffer		1	Skin Corr. 1A / H314 Eye Dam. 1 / H318		152 – 161
BS Solubilization Buffer		1			162 – 170

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Name of substance	Identifier	Number of pieces	Classification acc. to GHS	Pictograms	Page
BS Reaction Buffer		1	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336		171 – 182
BS Binding Buffer		1	Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319		183 – 192
BS Wash Buffer (without ethanol)		1			193 – 200
BS Desulphonation Buffer		1	Flam. Liq. 2 / H225 Skin Corr. 1B / H314 Eye Dam. 1 / H318 STOT SE 3 / H336		201 – 213
BS Elution Buffer		1			214 – 221

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Enzyme buffer

version number: GHS 1.0 | date of compilation: 2020-04-28

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

1.1 product identifier

trade name	**Enzyme buffer**
registration number (REACH)	not relevant (mixture)
product code(s)	K09721004/K09821004

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined

vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

there is no additional information.

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity
shall not be classified as acutely toxic.

skin corrosion/irritation
shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation
shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation
shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity
shall not be classified as germ cell mutagenic.

carcinogenicity
shall not be classified as carcinogenic.

reproductive toxicity
shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure
shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure
shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard
shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity
shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability
data are not available.

12.3 bioaccumulative potential
data are not available.

12.4 mobility in soil
data are not available.

12.5 results of PBT and vPvB assessment
data are not available.

12.6 other adverse effects
data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Restriction enzyme

version number: GHS 1.0 | date of compilation: 2020-04-28

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

1.1 product identifier

trade name	**Restriction enzyme**
registration number (REACH)	not relevant (mixture)
product code(s)	K09721001/K09821001

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

hazardous combustion products

nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide (CO2)

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

hazardous combustion products: see section 5. personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

occupational exposure limit values (Workplace Exposure Limits)

country	name of agent	CAS No	identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	notation	source
GB	glycerol	56-81-5	WEL		10					mist	EH40/2005

notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
mist	as mists
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined
vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

oxidisers

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity

shall not be classified as acutely toxic.

skin corrosion/irritation

shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation

shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation

shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity

shall not be classified as germ cell mutagenic.

carcinogenicity

shall not be classified as carcinogenic.

reproductive toxicity

shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure

shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure

shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard

shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity

shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability

data are not available.

12.3 bioaccumulative potential

data are not available.

12.4 mobility in soil

data are not available.

12.5 results of PBT and vPvB assessment

data are not available.

12.6 other adverse effects

data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Ends preparation enzyme

version number: GHS 1.0 | date of compilation: 2020-04-28

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

1.1 product identifier

trade name	**Ends preparation enzyme**
registration number (REACH)	not relevant (mixture)
product code(s)	K09721003/K09821003

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

hazardous combustion products

nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide (CO2)

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

hazardous combustion products: see section 5. personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

occupational exposure limit values (Workplace Exposure Limits)

country	name of agent	CAS No	identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	notation	source
GB	glycerol	56-81-5	WEL		10					mist	EH40/2005

notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
mist	as mists
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined
vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

oxidisers

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity

shall not be classified as acutely toxic.

skin corrosion/irritation

shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation

shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation

shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity

shall not be classified as germ cell mutagenic.

carcinogenicity

shall not be classified as carcinogenic.

reproductive toxicity

shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure

shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure

shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard

shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity

shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability

data are not available.

12.3 bioaccumulative potential

data are not available.

12.4 mobility in soil

data are not available.

12.5 results of PBT and vPvB assessment

data are not available.

12.6 other adverse effects

data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

dNTP mix

version number: GHS 1.0 | date of compilation: 2020-05-04

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

1.1 product identifier

trade name	**dNTP mix**
registration number (REACH)	not relevant (mixture)
product code(s)	K09721005/K09821005

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined

vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

there is no additional information.

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity
shall not be classified as acutely toxic.

skin corrosion/irritation
shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation
shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation
shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity
shall not be classified as germ cell mutagenic.

carcinogenicity
shall not be classified as carcinogenic.

reproductive toxicity
shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure
shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure
shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard
shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity
shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability
data are not available.

12.3 bioaccumulative potential
data are not available.

12.4 mobility in soil
data are not available.

12.5 results of PBT and vPvB assessment
data are not available.

12.6 other adverse effects
data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Unmethylated spike-in control

version number: GHS 1.0 | date of compilation: 2020-05-04

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

1.1 product identifier

trade name	**Unmethylated spike-in control**
registration number (REACH)	not relevant (mixture)
product code(s)	K09721006/K09821006

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined

vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

there is no additional information.

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity
shall not be classified as acutely toxic.

skin corrosion/irritation
shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation
shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation
shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity
shall not be classified as germ cell mutagenic.

carcinogenicity
shall not be classified as carcinogenic.

reproductive toxicity
shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure
shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure
shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard
shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity
shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability
data are not available.

12.3 bioaccumulative potential
data are not available.

12.4 mobility in soil
data are not available.

12.5 results of PBT and vPvB assessment
data are not available.

12.6 other adverse effects
data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Methylated spike-in control

version number: GHS 1.0 | date of compilation: 2020-05-04

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

1.1 product identifier

trade name	**Methylated spike-in control**
registration number (REACH)	not relevant (mixture)
product code(s)	K09721007/K09821007

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined

vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

there is no additional information.

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity
shall not be classified as acutely toxic.

skin corrosion/irritation
shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation
shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation
shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity
shall not be classified as germ cell mutagenic.

carcinogenicity
shall not be classified as carcinogenic.

reproductive toxicity
shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure
shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure
shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard
shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity
shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability
data are not available.

12.3 bioaccumulative potential
data are not available.

12.4 mobility in soil
data are not available.

12.5 results of PBT and vPvB assessment
data are not available.

12.6 other adverse effects
data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Adapter dilution buffer

version number: GHS 1.0 | date of compilation: 2022-02-11

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

1.1 product identifier

trade name	**Adapter dilution buffer**
registration number (REACH)	not relevant (mixture)
product code(s)	K18021007

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

of no significance

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

physical state	liquid
colour	colourless
odour	odourless
melting point/freezing point	not determined
boiling point or initial boiling point and boiling range	not determined
flammability	non-combustible
lower and upper explosion limit	not determined
flash point	not determined
auto-ignition temperature	not determined
decomposition temperature	not relevant
pH (value)	not determined

kinematic viscosity	not determined
solubility(ies)	not determined

partition coefficient

partition coefficient n-octanol/water (log value)	this information is not available

vapour pressure	not determined

density and/or relative density

density	not determined
relative vapour density	information on this property is not available

particle characteristics	not relevant (liquid)

9.2 other information

information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
other safety characteristics	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

there is no additional information.

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on hazard classes as defined in Regulation (EC) No 1272/2008

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity

shall not be classified as acutely toxic.

skin corrosion/irritation

shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation

shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation

shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity

shall not be classified as germ cell mutagenic.

carcinogenicity

shall not be classified as carcinogenic.

reproductive toxicity

shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure

shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure

shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard

shall not be classified as presenting an aspiration hazard.

11.2 information on other hazards

there is no additional information.

SECTION 12: Ecological information

12.1 toxicity

shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability

data are not available.

12.3 bioaccumulative potential

data are not available.

12.4 mobility in soil

data are not available.

12.5 results of PBT and vPvB assessment

data are not available.

12.6 endocrine disrupting properties

information on this property is not available.

12.7 other adverse effects

data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number or ID number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 maritime transport in bulk according to IMO instruments

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

International Maritime Dangerous Goods Code (IMDG) - additional information

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - additional information

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Ligation Buffer

version number: GHS 1.0 | date of compilation: 2020-05-04

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

1.1 product identifier

trade name	**Ligation Buffer**
registration number (REACH)	not relevant (mixture)
product code(s)	K09721015/K09821015

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO2)

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

hazardous combustion products: see section 5. personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined

vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

oxidisers

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity
shall not be classified as acutely toxic.

skin corrosion/irritation
shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation
shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation
shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity
shall not be classified as germ cell mutagenic.

carcinogenicity
shall not be classified as carcinogenic.

reproductive toxicity
shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure
shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure
shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard
shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity
shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability
data are not available.

12.3 bioaccumulative potential
data are not available.

12.4 mobility in soil
data are not available.

12.5 results of PBT and vPvB assessment
data are not available.

12.6 other adverse effects
data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Ligase

version number: GHS 1.0 date of compilation: 2020-05-04

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

1.1 product identifier

trade name	**Ligase**
registration number (REACH)	not relevant (mixture)
product code(s)	K09721014/K09821014

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

hazardous combustion products

nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide (CO2)

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

hazardous combustion products: see section 5. personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

occupational exposure limit values (Workplace Exposure Limits)

country	name of agent	CAS No	identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	notation	source
GB	glycerol	56-81-5	WEL		10					mist	EH40/2005

notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
mist	as mists
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined
vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

oxidisers

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity

shall not be classified as acutely toxic.

skin corrosion/irritation

shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation

shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation

shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity

shall not be classified as germ cell mutagenic.

carcinogenicity

shall not be classified as carcinogenic.

reproductive toxicity

shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure

shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure

shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard

shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity

shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability

data are not available.

12.3 bioaccumulative potential

data are not available.

12.4 mobility in soil

data are not available.

12.5 results of PBT and vPvB assessment

data are not available.

12.6 other adverse effects

data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Primer mix

version number: GHS 1.0 date of compilation: 2020-05-04

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

1.1 product identifier

trade name	**Primer mix**
registration number (REACH)	not relevant (mixture)
product code(s)	K09721016/K09821016

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

hazardous combustion products

nitrogen oxides (NOx)

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

hazardous combustion products: see section 5. personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined

vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

there is no additional information.

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity
shall not be classified as acutely toxic.

skin corrosion/irritation
shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation
shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation
shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity
shall not be classified as germ cell mutagenic.

carcinogenicity
shall not be classified as carcinogenic.

reproductive toxicity
shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure
shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure
shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard
shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity
shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability
data are not available.

12.3 bioaccumulative potential
data are not available.

12.4 mobility in soil
data are not available.

12.5 results of PBT and vPvB assessment
data are not available.

12.6 other adverse effects
data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

diagenode
Innovating Epigenetics Solutions

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

MethylTaq Plus 2X Master Mix

version number: GHS 2.0
replaces version of: 2020-05-04 (GHS 1)

revision: 2021-01-26

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

1.1 product identifier

trade name	**MethylTaq Plus 2X Master Mix**
registration number (REACH)	not relevant (mixture)
product code(s)	C09010012

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

section	hazard class	category	hazard class and category	hazard statement
3.10	acute toxicity (oral)	3	Acute Tox. 3	H301
3.8	specific target organ toxicity - single exposure	2	STOT SE 2	H371

for full text of abbreviations: see SECTION 16.

the most important adverse physicochemical, human health and environmental effects

immediate effects can be expected after short-term exposure.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word: danger
- pictograms

GHS06, GHS08

- hazard statements

H301	toxic if swallowed.
H371	may cause damage to organs.

- precautionary statements

P260	do not breathe dust/fume/gas/mist/vapours/spray.
P264	wash thoroughly after handling.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor.
P321	specific treatment (see on this label).
P501	dispose of contents/container to industrial combustion plant.

- hazardous ingredients for labelling Tetramethylammonium chloride

2.3 other hazards

of no significance

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures

description of the mixture

name of substance	identifier	wt%	classification acc. to GHS	pictograms
Tetramethylammonium chloride	CAS No 75-57-0 EC No 200-880-8	≤ 2.5	Acute Tox. 2 / H300 Acute Tox. 3 / H311 Skin Irrit. 2 / H315 STOT SE 1 / H370 Aquatic Chronic 2 / H411	

name of substance	Specific Conc. Limits	M-Factors	ATE	exposure route
Tetramethylammonium chloride	-	-	5 $^{mg}/_{kg}$ 200 $^{mg}/_{kg}$	oral dermal

for full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

- packaging compatibilities

only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

relevant DNELs of components of the mixture

name of substance	CAS No	endpoint	threshold level	protection goal, route of exposure	used in	exposure time
Tetramethylammonium chloride	75-57-0	DNEL	2.9 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Tetramethylammonium chloride	75-57-0	DNEL	0.4 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

relevant PNECs of components of the mixture

name of substance	CAS No	endpoint	threshold level	organism	environmental compartment	exposure time
Tetramethylammonium chloride	75-57-0	PNEC	0.6 µg/l	aquatic organisms	freshwater	short-term (single instance)
Tetramethylammonium chloride	75-57-0	PNEC	0.06 µg/l	aquatic organisms	marine water	short-term (single instance)
Tetramethylammonium chloride	75-57-0	PNEC	6 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Tetramethylammonium chloride	75-57-0	PNEC	35 µg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Tetramethylammonium chloride	75-57-0	PNEC	3.5 µg/kg	aquatic organisms	marine sediment	short-term (single instance)

relevant PNECs of components of the mixture

name of substance	CAS No	endpoint	threshold level	organism	environmental compartment	exposure time
Tetramethylammonium chloride	75-57-0	PNEC	6.6 $\mu g/_{kg}$	terrestrial organisms	soil	short-term (single instance)

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

physical state	liquid
colour	colourless
odour	odourless
melting point/freezing point	not determined
boiling point or initial boiling point and boiling range	not determined
flammability	non-combustible
lower and upper explosion limit	not determined
flash point	not determined
auto-ignition temperature	not determined

decomposition temperature	not relevant
pH (value)	not determined
kinematic viscosity	not determined
solubility(ies)	not determined

partition coefficient

partition coefficient n-octanol/water (log value)	this information is not available

vapour pressure	not determined

density and/or relative density

density	not determined

particle characteristics	no data available

9.2 other information

information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
other safety characteristics	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

see below "Conditions to avoid".

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

there is no additional information.

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on hazard classes as defined in Regulation (EC) No 1272/2008

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

acute toxicity

toxic if swallowed.

- acute toxicity estimate (ATE)

oral 250 $^{mg}/_{kg}$

acute toxicity estimate (ATE) of components of the mixture

name of substance	CAS No	exposure route	ATE
Tetramethylammonium chloride	75-57-0	oral	5 $^{mg}/_{kg}$
Tetramethylammonium chloride	75-57-0	dermal	200 $^{mg}/_{kg}$

skin corrosion/irritation

shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation

shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation

shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity

shall not be classified as germ cell mutagenic.

carcinogenicity

shall not be classified as carcinogenic.

reproductive toxicity

shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure

may cause damage to organs.

specific target organ toxicity - repeated exposure

shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard

shall not be classified as presenting an aspiration hazard.

11.2 information on other hazards

there is no additional information.

SECTION 12: Ecological information

12.1 toxicity

shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability

data are not available.

12.3 bioaccumulative potential

data are not available.

12.4 mobility in soil

data are not available.

12.5 results of PBT and vPvB assessment

data are not available.

12.6 endocrine disrupting properties

information on this property is not available.

12.7 other adverse effects

data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

it is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number

ADR/RID/ADN	2810
IMDG-Code	2810
ICAO-TI	2810

14.2 UN proper shipping name

ADR/RID/ADN	TOXIC LIQUID, ORGANIC, N.O.S.
IMDG-Code	TOXIC LIQUID, ORGANIC, N.O.S.
ICAO-TI	Toxic liquid, organic, n.o.s.
technical name (hazardous ingredients)	Tetramethylammonium chloride

14.3 transport hazard class(es)

ADR/RID/ADN	6.1
IMDG-Code	6.1

ICAO-TI	6.1

14.4 packing group

ADR/RID/ADN	III
IMDG-Code	III
ICAO-TI	III

14.5 environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

provisions for dangerous goods (ADR) should be complied within the premises.

14.7 maritime transport in bulk according to IMO instruments

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - additional information

classification code	T1
danger label(s)	6.1

special provisions (SP)	274, 614, 802(ADN)
excepted quantities (EQ)	E1
limited quantities (LQ)	5 L
transport category (TC)	2
tunnel restriction code (TRC)	E
hazard identification No	60
Emergency Action Code	2X

International Maritime Dangerous Goods Code (IMDG) - additional information

marine pollutant	-
danger label(s)	6.1

special provisions (SP)	223, 274
excepted quantities (EQ)	E1
limited quantities (LQ)	5 L
EmS	F-A, S-A
stowage category	A

International Civil Aviation Organization (ICAO-IATA/DGR) - additional information

danger label(s)	6.1

special provisions (SP)	A3, A4, A137
excepted quantities (EQ)	E1
limited quantities (LQ)	2 L

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

indication of changes (revised safety data sheet)

section	former entry (text/value)	actual entry (text/value)	safety-relevant
1.1	product code(s): K09721018/K09821018	product code(s): C09010012	yes
1.3	details of the supplier of the safety data sheet: Diagenode SA LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3 4102 Seraing Belgium telephone: +32 4 364 20 50 e-mail: info@diagenode.com	details of the supplier of the safety data sheet: Diagenode SA LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3 4102 Seraing Belgium telephone: +32 4 364 20 50	yes
2.3	other hazards	other hazards: of no significance	yes
2.3	results of PBT and vPvB assessment: this mixture does not contain any substances that are assessed to be a PBT or a vPvB.		yes
3.2		mixtures: change in the listing (table)	yes
3.2		mixtures: change in the listing (table)	yes
9.1	appearance		yes
9.1	other safety parameters		yes
9.1	flammability (solid, gas): not relevant, (fluid)	flammability: non-combustible	yes
9.1	evaporation rate: not determined		yes
9.1		decomposition temperature: not relevant	yes
9.1		kinematic viscosity: not determined	yes

MethylTaq Plus 2X Master Mix

version number: GHS 2.0
replaces version of: 2020-05-04 (GHS 1)

revision: 2021-01-26

section	former entry (text/value)	actual entry (text/value)	safety-relevant
9.1		density and/or relative density	yes
9.1	vapour density: this information is not available		yes
9.1	relative density: information on this property is not available		yes
9.1	viscosity: not determined		yes
9.1	explosive properties: none		yes
9.1	oxidising properties: none		yes
9.1		particle characteristics: no data available	yes
9.2	other information: there is no additional information	other information	yes
9.2		information with regard to physical hazard classes: hazard classes acc. to GHS (physical hazards): not relevant	yes
9.2		other safety characteristics: there is no additional information	yes
11.2		information on other hazards: there is no additional information.	yes
12.6	other adverse effects: data are not available.	endocrine disrupting properties: information on this property is not available.	yes
14.1	UN number: 2810	UN number	yes
14.1		ADR/RID/ADN: 2810	yes
14.1		IMDG-Code: 2810	yes
14.1		ICAO-TI: 2810	yes
14.2	UN proper shipping name: TOXIC LIQUID, ORGANIC, N.O.S.	UN proper shipping name	yes
14.2		ADR/RID/ADN: TOXIC LIQUID, ORGANIC, N.O.S.	yes
14.2		IMDG-Code: TOXIC LIQUID, ORGANIC, N.O.S.	yes
14.2		ICAO-TI: Toxic liquid, organic, n.o.s.	yes
14.3	class: 6.1 (toxic substances)		yes
14.3		ADR/RID/ADN: 6.1	yes
14.3		IMDG-Code: 6.1	yes

MethylTaq Plus 2X Master Mix

version number: GHS 2.0
replaces version of: 2020-05-04 (GHS 1)

revision: 2021-01-26

section	former entry (text/value)	actual entry (text/value)	safety-relevant
14.3		ICAO-TI: 6.1	yes
14.4	packing group: III (substance presenting low danger)	packing group	yes
14.4		ADR/RID/ADN: III	yes
14.4		IMDG-Code: III	yes
14.4		ICAO-TI: III	yes
14.7	UN number: 2810		yes
14.7	proper shipping name: TOXIC LIQUID, ORGANIC, N.O.S.		yes
14.7	class: 6.1		yes
14.7	packing group: III		yes
14.7	UN number: 2810		yes
14.7	proper shipping name: TOXIC LIQUID, ORGANIC, N.O.S.		yes
14.7	class: 6.1		yes
14.7	packing group: III		yes
14.7	UN number: 2810		yes
14.7	proper shipping name: Toxic liquid, organic, n.o.s.		yes
14.7	class: 6.1		yes
14.7	packing group: III		yes
16		abbreviations and acronyms: change in the listing (table)	yes
16	key literature references and sources for data: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).	key literature references and sources for data: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).	yes

abbreviations and acronyms

abbr.	descriptions of used abbreviations
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	European Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STOT SE	Specific target organ toxicity - single exposure
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

list of relevant phrases (code and full text as stated in chapter 2 and 3)

code	text
H300	Fatal if swallowed.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H370	Causes damage to organs.
H371	May cause damage to organs.
H411	Toxic to aquatic life with long lasting effects.

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

100x SYBR

version number: GHS 1.0 | date of compilation: 2020-05-26

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

1.1 product identifier

trade name: **100x SYBR**

registration number (REACH): not relevant (mixture)

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

relevant identified uses: for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service: +32 4 364 20 50
this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures

description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

hazardous combustion products

nitrogen oxides (NOx)

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

hazardous combustion products: see section 5. personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	orange
odour	characteristic

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined
vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

there is no additional information.

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity

shall not be classified as acutely toxic.

skin corrosion/irritation

shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation

shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation

shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity

shall not be classified as germ cell mutagenic.

carcinogenicity

shall not be classified as carcinogenic.

reproductive toxicity

shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure

shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure

shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard

shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity

shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability

data are not available.

12.3 bioaccumulative potential

data are not available.

12.4 mobility in soil

data are not available.

12.5 results of PBT and vPvB assessment

data are not available.

12.6 other adverse effects

data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number not subject to transport regulations

14.2 UN proper shipping name not relevant

14.3 transport hazard class(es) none

14.4 packing group not assigned to a packing group

14.5 environmental hazards non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code

abbr.	descriptions of used abbreviations
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Resuspension buffer

version number: GHS 1.0 | date of compilation: 2020-05-04

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

1.1 product identifier

trade name	**Resuspension buffer**
registration number (REACH)	not relevant (mixture)
product code(s)	K09721017/K09821017

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined

vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

there is no additional information.

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity
shall not be classified as acutely toxic.

skin corrosion/irritation
shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation
shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation
shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity
shall not be classified as germ cell mutagenic.

carcinogenicity
shall not be classified as carcinogenic.

reproductive toxicity
shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure
shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure
shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard
shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity
shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability
data are not available.

12.3 bioaccumulative potential
data are not available.

12.4 mobility in soil
data are not available.

12.5 results of PBT and vPvB assessment
data are not available.

12.6 other adverse effects
data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

ChIP-seq grade water

version number: GHS 2.0
replaces version of: 2019-11-22 (GHS 1)

revision: 2019-12-23

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

1.1 product identifier

identification of the substance	**ChIP-seq grade water**
registration number (REACH)	this information is not available
CAS number	7732-18-5

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

name of substance	ChIP-seq grade water
identifiers	
CAS No	7732-18-5
molecular formula	H2O
molar mass	18.02 $^{g}/_{mol}$

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, alcohol resistant foam, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	0 °C
initial boiling point and boiling range	100 °C
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)

explosive limits	not determined
vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available

solubility(ies)

- water solubility	miscible in any proportion

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

there is no additional information.

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

classification according to GHS (1272/2008/EC, CLP)

this substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity

shall not be classified as acutely toxic.

skin corrosion/irritation

shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation

shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation

shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity

shall not be classified as germ cell mutagenic.

carcinogenicity

shall not be classified as carcinogenic.

reproductive toxicity

shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure

shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure

shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard

shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity

shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability

data are not available.

12.3 bioaccumulative potential

data are not available.

12.4 mobility in soil

data are not available.

12.5 results of PBT and vPvB assessment

data are not available.

12.6 other adverse effects

data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

waste treatment-relevant information

recycling/reclamation of other inorganic materials.

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

no Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

indication of changes (revised safety data sheet)

section	former entry (text/value)	actual entry (text/value)	safety-relevant
5.1	suitable extinguishing media: not applicable	suitable extinguishing media: water spray, alcohol resistant foam, BC-powder, carbon dioxide (CO2)	yes
5.1	unsuitable extinguishing media: not applicable	unsuitable extinguishing media: water jet	yes

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

ChIP DNA Binding Buffer

version number: GHS 1.0 date of compilation: 2020-06-08

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

1.1 product identifier

trade name	**ChIP DNA Binding Buffer**
registration number (REACH)	not relevant (mixture)
product code(s)	K07391001

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

section	hazard class	category	hazard class and category	hazard statement
3.10	acute toxicity (oral)	4	Acute Tox. 4	H302
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319

for full text of abbreviations: see SECTION 16.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word warning
- pictograms

GHS07

- hazard statements

H302	harmful if swallowed.
H315	causes skin irritation.
H319	causes serious eye irritation.

- precautionary statements

P270	do not eat, drink or smoke when using this product.
P280	wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321	specific treatment (see on this label).
P330	rinse mouth.
P332+P313	if skin irritation occurs: Get medical advice/attention.
P337+P313	if eye irritation persists: Get medical advice/attention.
P362+P364	take off contaminated clothing and wash it before reuse.
P501	dispose of contents/container to industrial combustion plant.

- hazardous ingredients for labelling Guanidinium chloride

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures

description of the mixture

name of substance	identifier	wt%	classification acc. to GHS	pictograms
Guanidinium chloride	CAS No 50-01-1 EC No 200-002-3 index No 607-148-00-0 REACH Reg. No 01-2119977063-35-xxxx	≤ 30	Acute Tox. 4 / H302 Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319	

for full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. in case of respiratory tract irritation, consult a physician. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO2)

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

hazardous combustion products: see section 5. personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

relevant DNELs of components of the mixture

name of substance	CAS No	endpoint	threshold level	protection goal, route of exposure	used in	exposure time
Guanidinium chloride	50-01-1	DNEL	3.5 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Guanidinium chloride	50-01-1	DNEL	10.5 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
Guanidinium chloride	50-01-1	DNEL	1 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	characteristic

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined
vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

see below "Conditions to avoid".

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

oxidisers

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

acute toxicity

harmful if swallowed.

GHS of the United Nations, annex 4: may be harmful if inhaled.

- acute toxicity estimate (ATE)

oral 1,855 $^{mg}/_{kg}$

acute toxicity estimate (ATE) of components of the mixture

name of substance	CAS No	exposure route	ATE
guanidinium chloride	50-01-1	oral	556.5 $^{mg}/_{kg}$
guanidinium chloride	50-01-1	inhalation: dust/mist	3.181 $^{mg}/_{l}$/4h

skin corrosion/irritation
causes skin irritation.

serious eye damage/eye irritation
causes serious eye irritation.

respiratory or skin sensitisation
shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity
shall not be classified as germ cell mutagenic.

carcinogenicity
shall not be classified as carcinogenic.

reproductive toxicity
shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure
shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure
shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard
shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity
shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability
data are not available.

12.3 bioaccumulative potential
data are not available.

12.4 mobility in soil
data are not available.

12.5 results of PBT and vPvB assessment
data are not available.

12.6 other adverse effects
data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods
sewage disposal-relevant information
do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings
completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	not assigned
14.4	**packing group**	not assigned
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR. not subject to RID.

European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN)

identifier number	9006
proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
class	9
number of cones/blue lights	0

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

list of relevant phrases (code and full text as stated in chapter 2 and 3)

code	text
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

DNA Wash Buffer

version number: GHS 1.0 | date of compilation: 2020-06-08

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

1.1 product identifier

trade name	**DNA Wash Buffer**
registration number (REACH)	not relevant (mixture)
product code(s)	K07391002

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

hazardous combustion products

nitrogen oxides (NOx)

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

hazardous combustion products: see section 5. personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	characteristic

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined

vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

there is no additional information.

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity
shall not be classified as acutely toxic.

skin corrosion/irritation
shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation
shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation
shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity
shall not be classified as germ cell mutagenic.

carcinogenicity
shall not be classified as carcinogenic.

reproductive toxicity
shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure
shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure
shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard
shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity
shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability
data are not available.

12.3 bioaccumulative potential
data are not available.

12.4 mobility in soil
data are not available.

12.5 results of PBT and vPvB assessment
data are not available.

12.6 other adverse effects
data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

diagenode
Innovating Epigenetics Solutions

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

BS Conversion Reagent

version number: GHS 1.0 date of compilation: 2020-05-04

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

1.1 product identifier

trade name	**BS Conversion Reagent**
registration number (REACH)	not relevant (mixture)
product code(s)	K09791001/K09891001

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

section	hazard class	category	hazard class and category	hazard statement
3.10	acute toxicity (oral)	4	Acute Tox. 4	H302
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318

for full text of abbreviations: see SECTION 16.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word: danger
- pictograms

GHS05, GHS07

- hazard statements

H302	harmful if swallowed.
H318	causes serious eye damage.

- precautionary statements

P270	do not eat, drink or smoke when using this product.
P280	wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	immediately call a POISON CENTER/doctor.
P330	rinse mouth.
P501	dispose of contents/container to industrial combustion plant.

- supplemental hazard information

EUH031	contact with acids liberates toxic gas.

- hazardous ingredients for labelling Disodium disulphite

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures

description of the mixture

name of substance	identifier	wt%	classification acc. to GHS	pictograms
Disodium disulphite	CAS No 7681-57-4 EC No 231-673-0 index No 016-063-00-2 REACH Reg. No 01-2119531326-45-xxxx	100	Acute Tox. 4 / H302 Eye Dam. 1 / H318	

for full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

rinse skin with water/shower.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water, foam, ABC-powder

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

hazardous combustion products

sulphur oxides (SOx)

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains, take up mechanically

advice on how to clean up a spill

take up mechanically.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

hazardous combustion products: see section 5. personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. take precautionary measures against static discharge. use only in well-ventilated areas. ground/bond container and receiving equipment.

- specific notes/details

dust deposits may accumulate on all deposition surfaces in a technical room. the product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

managing of associated risks

- explosive atmospheres

removal of dust deposits.

- ventilation requirements

use local and general ventilation.

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

occupational exposure limit values (Workplace Exposure Limits)

country	name of agent	CAS No	identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	notation	source
GB	dust		WEL		10					i	EH40/2005
GB	dust		WEL		4					r	EH40/2005
GB	disodium disulfite	7681-57-4	WEL		5						EH40/2005

notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
i	inhalable fraction
r	respirable fraction
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

relevant DNELs of components of the mixture

name of substance	CAS No	endpoint	threshold level	protection goal, route of exposure	used in	exposure time
Disodium disulphite	7681-57-4	DNEL	225 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects

relevant PNECs of components of the mixture

name of substance	CAS No	endpoint	threshold level	organism	environmental compartment	exposure time
Disodium disulphite	7681-57-4	PNEC	1 $^{mg}/_{l}$	aquatic organisms	freshwater	short-term (single instance)
Disodium disulphite	7681-57-4	PNEC	0.1 $^{mg}/_{l}$	aquatic organisms	marine water	short-term (single instance)
Disodium disulphite	7681-57-4	PNEC	75.4 $^{mg}/_{l}$	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

in the case of wanting to use the gloves again, clean them before taking off and air them well.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

particulate filter device (EN 143).

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	solid (powder)
colour	various
odour	characteristic

other safety parameters

pH (value)	not applicable
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not applicable
evaporation rate	not determined
flammability (solid, gas)	non-combustible
explosion limits of dust clouds	not determined
vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not relevant (solid matter)
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

see below "Conditions to avoid".

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

hints to prevent fire or explosion

the product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

10.5 incompatible materials

there is no additional information.

release of toxic materials with:

acids

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

acute toxicity

harmful if swallowed.

GHS of the United Nations, annex 4: may be harmful in contact with skin or if inhaled.

- acute toxicity estimate (ATE)

oral 1,420 $^{mg}/_{kg}$

acute toxicity estimate (ATE) of components of the mixture

name of substance	CAS No	exposure route	ATE
sodium metabisulfite	7681-57-4	oral	1,420 $^{mg}/_{kg}$

skin corrosion/irritation

shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation

causes serious eye damage.

respiratory or skin sensitisation

shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity

shall not be classified as germ cell mutagenic.

carcinogenicity

shall not be classified as carcinogenic.

reproductive toxicity

shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure

shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure

shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard

shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity

shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability

data are not available.

12.3 bioaccumulative potential

data are not available.

12.4 mobility in soil

data are not available.

12.5 results of PBT and vPvB assessment

data are not available.

12.6 other adverse effects

data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code

abbr.	descriptions of used abbreviations
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

list of relevant phrases (code and full text as stated in chapter 2 and 3)

code	text
H302	Harmful if swallowed.
H318	Causes serious eye damage.

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

BS Dilution Buffer

version number: GHS 1.0 date of compilation: 2020-05-04

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

1.1 product identifier

trade name	**BS Dilution Buffer**
registration number (REACH)	not relevant (mixture)
product code(s)	K09791002/K09891002

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.
uses advised against	do not use for squirting or spraying. do not use for products which come into direct contact with the skin.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service: +32 4 364 20 50
this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

section	hazard class	category	hazard class and category	hazard statement
3.2	skin corrosion/irritation	1A	Skin Corr. 1A	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318

for full text of abbreviations: see SECTION 16.

the most important adverse physicochemical, human health and environmental effects

skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word danger

- pictograms

GHS05

- hazard statements

H314	causes severe skin burns and eye damage.

- precautionary statements

P260	do not breathe dust/fume/gas/mist/vapours/spray.
P280	wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	immediately call a POISON CENTER/doctor.
P501	dispose of contents/container to industrial combustion plant.

- hazardous ingredients for labelling Sodium hydroxide

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures

description of the mixture

name of substance	identifier	wt%	classification acc. to GHS	pictograms
Sodium hydroxide	CAS No 1310-73-2 EC No 215-185-5 index No 011-002-00-6 REACH Reg. No 01-2119457892-27-xxxx	≤ 5	Skin Corr. 1A / H314 Eye Dam. 1 / H318 Aquatic Chronic 3 / H412	

for full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. in case of respiratory tract irritation, consult a physician. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

- packaging compatibilities

only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

occupational exposure limit values (Workplace Exposure Limits)

country	name of agent	CAS No	identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	notation	source
GB	sodium hydroxide	1310-73-2	WEL				2				EH40/2005

notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

relevant DNELs of components of the mixture

name of substance	CAS No	endpoint	threshold level	protection goal, route of exposure	used in	exposure time
Sodium hydroxide	1310-73-2	DNEL	1 mg/m³	human, inhalatory	worker (industry)	chronic - local effects

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined
vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available

solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

see below "Conditions to avoid".

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

there is no additional information.

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

acute toxicity

shall not be classified as acutely toxic.

skin corrosion/irritation

causes severe skin burns and eye damage.

serious eye damage/eye irritation

causes serious eye damage.

respiratory or skin sensitisation

shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity

shall not be classified as germ cell mutagenic.

carcinogenicity

shall not be classified as carcinogenic.

reproductive toxicity

shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure

shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure

shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard

shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity

shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability

data are not available.

12.3 bioaccumulative potential

data are not available.

12.4 mobility in soil

data are not available.

12.5 results of PBT and vPvB assessment

data are not available.

12.6 other adverse effects

data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

it is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	1824
14.2	**UN proper shipping name**	SODIUM HYDROXIDE SOLUTION
14.3	**transport hazard class(es)**	
	class	8 (corrosive substances)
14.4	**packing group**	II (substance presenting medium danger)
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

provisions for dangerous goods (ADR) should be complied within the premises.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

UN number	1824
proper shipping name	SODIUM HYDROXIDE SOLUTION
class	8
classification code	C5
packing group	II
danger label(s)	8

excepted quantities (EQ)	E2
limited quantities (LQ)	1 L
transport category (TC)	2
tunnel restriction code (TRC)	E
hazard identification No	80
Emergency Action Code	2R

International Maritime Dangerous Goods Code (IMDG)

UN number	1824
proper shipping name	SODIUM HYDROXIDE SOLUTION
class	8
marine pollutant	-
packing group	II
danger label(s)	8

special provisions (SP)	-

excepted quantities (EQ)	E2
limited quantities (LQ)	1 L
EmS	F-A, S-B
stowage category	A
segregation group	18 - Alkalis

International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	1824
proper shipping name	Sodium hydroxide solution
class	8
packing group	II
danger label(s)	8

special provisions (SP)	A3
excepted quantities (EQ)	E2
limited quantities (LQ)	0,5 L

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances

abbr.	descriptions of used abbreviations
EmS	Emergency Schedule
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

list of relevant phrases (code and full text as stated in chapter 2 and 3)

code	text
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H412	Harmful to aquatic life with long lasting effects.

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

BS Solubilization Buffer

version number: GHS 1.0 | date of compilation: 2020-05-04

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

1.1 product identifier

trade name	**BS Solubilization Buffer**
registration number (REACH)	not relevant (mixture)
product code(s)	K09791003/K09891003

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO2)

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

hazardous combustion products: see section 5. personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

occupational exposure limit values (Workplace Exposure Limits)

country	name of agent	CAS No	identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	notation	source
GB	glycerol	56-81-5	WEL		10					mist	EH40/2005

notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
mist	as mists
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined
vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

oxidisers

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity

shall not be classified as acutely toxic.

skin corrosion/irritation

shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation

shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation

shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity

shall not be classified as germ cell mutagenic.

carcinogenicity

shall not be classified as carcinogenic.

reproductive toxicity

shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure

shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure

shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard

shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity

shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability

data are not available.

12.3 bioaccumulative potential

data are not available.

12.4 mobility in soil

data are not available.

12.5 results of PBT and vPvB assessment

data are not available.

12.6 other adverse effects

data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

diagenode
Innovating Epigenetics Solutions

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

BS Reaction Buffer

version number: GHS 1.0 date of compilation: 2020-05-04

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

1.1 product identifier

trade name	**BS Reaction Buffer**
registration number (REACH)	not relevant (mixture)
product code(s)	K09791004/K09891004

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

section	hazard class	category	hazard class and category	hazard statement
2.6	flammable liquid	2	Flam. Liq. 2	H225
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.8D	specific target organ toxicity - single exposure (narcotic effects, drowsiness)	3	STOT SE 3	H336

for full text of abbreviations: see SECTION 16.

the most important adverse physicochemical, human health and environmental effects

the product is combustible and can be ignited by potential ignition sources.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word danger

- pictograms

GHS02, GHS07

- hazard statements

H225	highly flammable liquid and vapour.
H319	causes serious eye irritation.
H336	may cause drowsiness or dizziness.

- precautionary statements

P210	keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	avoid breathing dust/fume/gas/mist/vapours/spray.
P312	call a POISON CENTRE/doctor if you feel unwell.
P370+P378	in case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.
P403+P233	store in a well-ventilated place. Keep container tightly closed.
P403+P235	store in a well-ventilated place. Keep cool.
P501	dispose of contents/container to industrial combustion plant.

- hazardous ingredients for labelling Propan-2-ol

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures

description of the mixture

name of substance	identifier	wt%	classification acc. to GHS	pictograms
Propan-2-ol	CAS No 67-63-0 EC No 200-661-7 index No 603-117-00-0 REACH Reg. No 01-2119457558-25-xxxx	≤ 50	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336	

for full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

narcotic effects.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, alcohol resistant foam, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

in case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. solvent vapours are heavier than air and may spread along floors. places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO2)

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

hazardous combustion products: see section 5. personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. avoidance of ignition sources. keep away from sources of ignition - No smoking. take precautionary measures against static discharge. use only in well-ventilated areas. due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. ground/bond container and receiving equipment. use explosion-proof electrical/ventilating/lighting/equipment. use only non-sparking tools.

- specific notes/details

places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. vapours are heavier than air, spread along floors and form explosive mixtures with air. vapours may form explosive mixtures with air.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

managing of associated risks

- explosive atmospheres

keep container tightly closed and in a well-ventilated place. use local and general ventilation. keep cool. protect from sunlight.

- flammability hazards

keep away from sources of ignition - No smoking. keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. take precautionary measures against static discharge. protect from sunlight.

control of effects

protect against external exposure, such as

frost

- ventilation requirements

use local and general ventilation. ground/bond container and receiving equipment.

- packaging compatibilities

only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

occupational exposure limit values (Workplace Exposure Limits)

country	name of agent	CAS No	identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	notation	source
GB	propan-2-ol	67-63-0	WEL	400	999	500	1,250				EH40/2005

notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

relevant DNELs of components of the mixture

name of substance	CAS No	endpoint	threshold level	protection goal, route of exposure	used in	exposure time
Propan-2-ol	67-63-0	DNEL	500 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Propan-2-ol	67-63-0	DNEL	888 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

relevant PNECs of components of the mixture

name of substance	CAS No	endpoint	threshold level	organism	environmental compartment	exposure time
Propan-2-ol	67-63-0	PNEC	140.9 $^{mg}/_{l}$	aquatic organisms	freshwater	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	140.9 $^{mg}/_{l}$	aquatic organisms	marine water	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	2,251 $^{mg}/_{l}$	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	552 $^{mg}/_{kg}$	aquatic organisms	freshwater sediment	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	552 $^{mg}/_{kg}$	aquatic organisms	marine sediment	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	28 $^{mg}/_{kg}$	terrestrial organisms	soil	short-term (single instance)

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	characteristic

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined
vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available

solubility(ies)

- water solubility	miscible in any proportion

partition coefficient

- n-octanol/water (log KOW)	this information is not available
auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". the mixture contains reactive substance(s). risk of ignition.

if heated:

risk of ignition

10.2 chemical stability

see below "Conditions to avoid".

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

hints to prevent fire or explosion

use explosion-proof electrical/ventilating/lighting/equipment. use only non-sparking tools. take precautionary measures against static discharge.

10.5 incompatible materials

oxidisers

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

acute toxicity

shall not be classified as acutely toxic.

skin corrosion/irritation
shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation
causes serious eye irritation.

respiratory or skin sensitisation
shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity
shall not be classified as germ cell mutagenic.

carcinogenicity
shall not be classified as carcinogenic.

reproductive toxicity
shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure
may cause drowsiness or dizziness.

specific target organ toxicity - repeated exposure
shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard
shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity
shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability
data are not available.

12.3 bioaccumulative potential
data are not available.

12.4 mobility in soil
data are not available.

12.5 results of PBT and vPvB assessment
data are not available.

12.6 other adverse effects
data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods
waste treatment-relevant information
solvent reclamation/regeneration.

sewage disposal-relevant information
do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

it is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	1219
14.2	**UN proper shipping name**	ISOPROPANOL
14.3	**transport hazard class(es)**	
	class	3 (flammable liquids)
14.4	**packing group**	II (substance presenting medium danger)
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

provisions for dangerous goods (ADR) should be complied within the premises.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

UN number	1219
proper shipping name	ISOPROPANOL
class	3
classification code	F1
packing group	II
danger label(s)	3

special provisions (SP)	601
excepted quantities (EQ)	E2
limited quantities (LQ)	1 L
transport category (TC)	2
tunnel restriction code (TRC)	D/E
hazard identification No	33
Emergency Action Code	2YE

International Maritime Dangerous Goods Code (IMDG)

UN number	1219
proper shipping name	ISOPROPANOL
class	3
marine pollutant	-
packing group	II
danger label(s)	3

special provisions (SP)	-
excepted quantities (EQ)	E2
limited quantities (LQ)	1 L
EmS	F-E, S-D
stowage category	B

International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	1219
proper shipping name	Isopropanol
class	3
packing group	II
danger label(s)	3

special provisions (SP)	A180
excepted quantities (EQ)	E2
limited quantities (LQ)	1 L

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value

abbr.	descriptions of used abbreviations
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

list of relevant phrases (code and full text as stated in chapter 2 and 3)

code	text
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

diagenode
Innovating Epigenetics Solutions

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

BS Binding Buffer

version number: GHS 1.0 | date of compilation: 2020-05-04

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

1.1 product identifier

trade name	**BS Binding Buffer**
registration number (REACH)	not relevant (mixture)
product code(s)	K09791005/K09891005

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

section	hazard class	category	hazard class and category	hazard statement
3.10	acute toxicity (oral)	4	Acute Tox. 4	H302
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319

for full text of abbreviations: see SECTION 16.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word: warning
- pictograms

GHS07

- hazard statements

H302	harmful if swallowed.
H315	causes skin irritation.
H319	causes serious eye irritation.

- precautionary statements

P270	do not eat, drink or smoke when using this product.
P280	wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321	specific treatment (see on this label).
P330	rinse mouth.
P332+P313	if skin irritation occurs: Get medical advice/attention.
P337+P313	if eye irritation persists: Get medical advice/attention.
P362+P364	take off contaminated clothing and wash it before reuse.
P501	dispose of contents/container to industrial combustion plant.

- hazardous ingredients for labelling Guanidinium chloride

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures

description of the mixture

name of substance	identifier	wt%	classification acc. to GHS	pictograms
Guanidinium chloride	CAS No 50-01-1 EC No 200-002-3 index No 607-148-00-0 REACH Reg. No 01-2119977063-35-xxxx	≤ 60	Acute Tox. 4 / H302 Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319	

for full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. in case of respiratory tract irritation, consult a physician. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO2)

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

hazardous combustion products: see section 5. personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

relevant DNELs of components of the mixture

name of substance	CAS No	endpoint	threshold level	protection goal, route of exposure	used in	exposure time
Guanidinium chloride	50-01-1	DNEL	3.5 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Guanidinium chloride	50-01-1	DNEL	10.5 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
Guanidinium chloride	50-01-1	DNEL	1 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined
vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

see below "Conditions to avoid".

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

oxidisers

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

acute toxicity

harmful if swallowed.

GHS of the United Nations, annex 4: may be harmful in contact with skin or if inhaled.

- acute toxicity estimate (ATE)

oral 1,113 $^{mg}/_{kg}$

acute toxicity estimate (ATE) of components of the mixture

name of substance	CAS No	exposure route	ATE
guanidinium chloride	50-01-1	oral	556.5 $^{mg}/_{kg}$
guanidinium chloride	50-01-1	inhalation: dust/mist	3.181 $^{mg}/_{l}$/4h

skin corrosion/irritation
causes skin irritation.

serious eye damage/eye irritation
causes serious eye irritation.

respiratory or skin sensitisation
shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity
shall not be classified as germ cell mutagenic.

carcinogenicity
shall not be classified as carcinogenic.

reproductive toxicity
shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure
shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure
shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard
shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity
shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability
data are not available.

12.3 bioaccumulative potential
data are not available.

12.4 mobility in soil
data are not available.

12.5 results of PBT and vPvB assessment
data are not available.

12.6 other adverse effects
data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods
sewage disposal-relevant information
do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings
completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	not assigned
14.4	**packing group**	not assigned
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR. not subject to RID.

European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN)

identifier number	9006
proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
class	9
number of cones/blue lights	0

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

list of relevant phrases (code and full text as stated in chapter 2 and 3)

code	text
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

BS Wash Buffer (without ethanol)

version number: GHS 1.0 | date of compilation: 2020-05-04

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

1.1 product identifier

trade name	**BS Wash Buffer (without ethanol)**
registration number (REACH)	not relevant (mixture)
product code(s)	K09791006/K09891006

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

hazardous combustion products

nitrogen oxides (NOx)

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

hazardous combustion products: see section 5. personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined

vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

there is no additional information.

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity
shall not be classified as acutely toxic.

skin corrosion/irritation
shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation
shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation
shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity
shall not be classified as germ cell mutagenic.

carcinogenicity
shall not be classified as carcinogenic.

reproductive toxicity
shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure
shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure
shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard
shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity
shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability
data are not available.

12.3 bioaccumulative potential
data are not available.

12.4 mobility in soil
data are not available.

12.5 results of PBT and vPvB assessment
data are not available.

12.6 other adverse effects
data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

diagenode
Innovating Epigenetics Solutions

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

BS Desulphonation Buffer

version number: GHS 1.0 | date of compilation: 2020-05-04

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

1.1 product identifier

trade name	**BS Desulphonation Buffer**
registration number (REACH)	not relevant (mixture)
product code(s)	K09791007/K09891007

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.
uses advised against	do not use for squirting or spraying. do not use for products which come into direct contact with the skin.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service: +32 4 364 20 50
this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

section	hazard class	category	hazard class and category	hazard statement
2.6	flammable liquid	2	Flam. Liq. 2	H225
3.2	skin corrosion/irritation	1B	Skin Corr. 1B	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.8D	specific target organ toxicity - single exposure (narcotic effects, drowsiness)	3	STOT SE 3	H336

for full text of abbreviations: see SECTION 16.

the most important adverse physicochemical, human health and environmental effects

skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. the product is combustible and can be ignited by potential ignition sources.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word danger

- pictograms

GHS02, GHS05, GHS07 

- hazard statements

H225	highly flammable liquid and vapour.
H314	causes severe skin burns and eye damage.
H336	may cause drowsiness or dizziness.

- precautionary statements

P210	keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	do not breathe dust/fume/gas/mist/vapours/spray.
P280	wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	immediately call a POISON CENTER/doctor.
P370+P378	in case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.
P403+P233	store in a well-ventilated place. Keep container tightly closed.
P403+P235	store in a well-ventilated place. Keep cool.

- hazardous ingredients for labelling Propan-2-ol, Sodium hydroxide

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures

description of the mixture

name of substance	identifier	wt%	classification acc. to GHS	pictograms
Propan-2-ol	CAS No 67-63-0 EC No 200-661-7 index No 603-117-00-0 REACH Reg. No 01-2119457558-25-xxxx	≤ 30	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336	

name of substance	identifier	wt%	classification acc. to GHS	pictograms
Ethanol	CAS No 64-17-5 EC No 200-578-6 index No 603-002-00-5 REACH Reg. No 01-2119457610-43-xxxx	≤ 30	Flam. Liq. 2 / H225	
Sodium hydroxide	CAS No 1310-73-2 EC No 215-185-5 index No 011-002-00-6 REACH Reg. No 01-2119457892-27-xxxx	≤ 5	Skin Corr. 1A / H314 Eye Dam. 1 / H318 Aquatic Chronic 3 / H412	

for full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. in case of respiratory tract irritation, consult a physician. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

narcotic effects.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

in case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. solvent vapours are heavier than air and may spread along floors. places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO2)

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

hazardous combustion products: see section 5. personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. avoidance of ignition sources. keep away from sources of ignition - No smoking. take precautionary measures against static discharge. use only in well-ventilated areas. due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. ground/bond container and receiving equipment. use explosion-proof electrical/ventilating/lighting/equipment. use only non-sparking tools.

- specific notes/details

places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. vapours are heavier than air, spread along floors and form explosive mixtures with air. vapours may form explosive mixtures with air.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

managing of associated risks

- explosive atmospheres

keep container tightly closed and in a well-ventilated place. use local and general ventilation. keep cool. protect from sunlight.

- flammability hazards

keep away from sources of ignition - No smoking. keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. take precautionary measures against static discharge. protect from sunlight.

control of effects

protect against external exposure, such as

frost

- ventilation requirements

use local and general ventilation. ground/bond container and receiving equipment.

- packaging compatibilities

only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

occupational exposure limit values (Workplace Exposure Limits)

country	name of agent	CAS No	identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	notation	source
GB	sodium hydroxide	1310-73-2	WEL				2				EH40/2005
GB	ethanol	64-17-5	WEL	1,000	1,920						EH40/2005
GB	propan-2-ol	67-63-0	WEL	400	999	500	1,250				EH40/2005

notation	
Ceiling-C	ceiling value is a limit value above which exposure should not occur
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

relevant DNELs of components of the mixture

name of substance	CAS No	endpoint	threshold level	protection goal, route of exposure	used in	exposure time
Propan-2-ol	67-63-0	DNEL	500 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Propan-2-ol	67-63-0	DNEL	888 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Sodium hydroxide	1310-73-2	DNEL	1 mg/m³	human, inhalatory	worker (industry)	chronic - local effects

relevant PNECs of components of the mixture

name of substance	CAS No	endpoint	threshold level	organism	environmental compartment	exposure time
Propan-2-ol	67-63-0	PNEC	140.9 $^{mg}/_{l}$	aquatic organisms	freshwater	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	140.9 $^{mg}/_{l}$	aquatic organisms	marine water	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	2,251 $^{mg}/_{l}$	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	552 $^{mg}/_{kg}$	aquatic organisms	freshwater sediment	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	552 $^{mg}/_{kg}$	aquatic organisms	marine sediment	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	28 $^{mg}/_{kg}$	terrestrial organisms	soil	short-term (single instance)

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	characteristic

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined
vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available
auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". the mixture contains reactive substance(s). risk of ignition.

if heated:

risk of ignition

10.2 chemical stability

see below "Conditions to avoid".

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

hints to prevent fire or explosion

use explosion-proof electrical/ventilating/lighting/equipment. use only non-sparking tools. take precautionary measures against static discharge.

10.5 incompatible materials

oxidisers

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

acute toxicity

shall not be classified as acutely toxic.

skin corrosion/irritation

causes severe skin burns and eye damage.

serious eye damage/eye irritation

causes serious eye damage.

respiratory or skin sensitisation

shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity

shall not be classified as germ cell mutagenic.

carcinogenicity

shall not be classified as carcinogenic.

reproductive toxicity

shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure

may cause drowsiness or dizziness.

specific target organ toxicity - repeated exposure

shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard

shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity

shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability

data are not available.

12.3 bioaccumulative potential

data are not available.

12.4 mobility in soil

data are not available.

12.5 results of PBT and vPvB assessment

data are not available.

12.6 other adverse effects

data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

waste treatment-relevant information

solvent reclamation/regeneration.

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

it is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	1993
14.2	**UN proper shipping name**	FLAMMABLE LIQUID, N.O.S.
	technical name (hazardous ingredients)	propan-2-ol, sodium hydroxide
14.3	**transport hazard class(es)**	
	class	3 (flammable liquids)
14.4	**packing group**	II (substance presenting medium danger)
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

provisions for dangerous goods (ADR) should be complied within the premises.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

UN number	1993
proper shipping name	FLAMMABLE LIQUID, N.O.S.
class	3
classification code	F1
packing group	II
danger label(s)	3

special provisions (SP)	274, 601, 640D
excepted quantities (EQ)	E2
limited quantities (LQ)	1 L
transport category (TC)	2
tunnel restriction code (TRC)	D/E
hazard identification No	33
Emergency Action Code	3YE

International Maritime Dangerous Goods Code (IMDG)

UN number	1993
proper shipping name	FLAMMABLE LIQUID, N.O.S.
class	3
marine pollutant	-
packing group	II
danger label(s)	3

special provisions (SP)	274
excepted quantities (EQ)	E2
limited quantities (LQ)	1 L
EmS	F-E, S-E
stowage category	B

International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	1993
proper shipping name	Flammable liquid, n.o.s.
class	3
packing group	II
danger label(s)	3

special provisions (SP)	A3
excepted quantities (EQ)	E2
limited quantities (LQ)	1 L

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances

abbr.	descriptions of used abbreviations
EmS	Emergency Schedule
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

list of relevant phrases (code and full text as stated in chapter 2 and 3)

code	text
H225	Highly flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

BS Elution Buffer

version number: GHS 1.0 | date of compilation: 2020-05-04

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

1.1 product identifier

trade name	**BS Elution Buffer**
registration number (REACH)	not relevant (mixture)
product code(s)	K09791008/K09891008

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

relevant identified uses	for research use only, not for use in diagnostic or therapeutic procedures.

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

emergency information service	+32 4 364 20 50 this number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

country	name	telephone
United Kingdom	National Poisons Information Service	111

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 other hazards

results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures description of the mixture

This mixture does not contain any potentially hazardous products.

SECTION 4: First aid measures

4.1 description of first aid measures

general notes

do not leave affected person unattended. remove victim out of the danger area. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

symptoms and effects are not known to date.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, BC-powder, carbon dioxide (CO2)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

hazardous combustion products

nitrogen oxides (NOx)

5.3 advice for firefighters

in case of fire and/or explosion do not breathe fumes. co-ordinate firefighting measures to the fire surroundings. do not allow firefighting water to enter drains or water courses. collect contaminated firefighting water separately. fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 environmental precautions

keep away from drains, surface and ground water. retain contaminated washing water and dispose of it.

6.3 methods and material for containment and cleaning up

advice on how to contain a spill

covering of drains

advice on how to clean up a spill

wipe up with absorbent material (e.g. cloth, fleece). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

6.4 reference to other sections

hazardous combustion products: see section 5. personal protective equipment: see section 8. incompatible materials: see section 10. disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 precautions for safe handling

recommendations

- measures to prevent fire as well as aerosol and dust generation

use local and general ventilation. use only in well-ventilated areas.

advice on general occupational hygiene

wash hands after use. do not eat, drink and smoke in work areas. remove contaminated clothing and protective equipment before entering eating areas. never keep food or drink in the vicinity of chemicals. never place chemicals in containers that are normally used for food or drink. keep away from food, drink and animal feedingstuffs.

7.2 conditions for safe storage, including any incompatibilities

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. for special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

physical state	liquid
colour	colourless
odour	odourless

other safety parameters

pH (value)	not determined
melting point/freezing point	not determined
initial boiling point and boiling range	not determined
flash point	not determined
evaporation rate	not determined
flammability (solid, gas)	not relevant, (fluid)
explosive limits	not determined

vapour pressure	not determined
density	not determined
vapour density	this information is not available
relative density	information on this property is not available
solubility(ies)	not determined

partition coefficient

- n-octanol/water (log KOW)	this information is not available

auto-ignition temperature	not determined
viscosity	not determined
explosive properties	none
oxidising properties	none

9.2	**other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

the material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

there are no specific conditions known which have to be avoided.

10.5 incompatible materials

there is no additional information.

10.6 hazardous decomposition products

reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 information on toxicological effects

test data are not available for the complete mixture.

classification procedure

the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

classification according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity
shall not be classified as acutely toxic.

skin corrosion/irritation
shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation
shall not be classified as seriously damaging to the eye or eye irritant.

respiratory or skin sensitisation
shall not be classified as a respiratory or skin sensitiser.

germ cell mutagenicity
shall not be classified as germ cell mutagenic.

carcinogenicity
shall not be classified as carcinogenic.

reproductive toxicity
shall not be classified as a reproductive toxicant.

specific target organ toxicity - single exposure
shall not be classified as a specific target organ toxicant (single exposure).

specific target organ toxicity - repeated exposure
shall not be classified as a specific target organ toxicant (repeated exposure).

aspiration hazard
shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 toxicity
shall not be classified as hazardous to the aquatic environment.

12.2 persistence and degradability
data are not available.

12.3 bioaccumulative potential
data are not available.

12.4 mobility in soil
data are not available.

12.5 results of PBT and vPvB assessment
data are not available.

12.6 other adverse effects
data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remarks

please consider the relevant national or regional provisions. waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**transport hazard class(es)**	none
14.4	**packing group**	not assigned to a packing group
14.5	**environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user

there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code

the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

abbr.	descriptions of used abbreviations
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ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	Very Persistent and very Bioaccumulative

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

classification procedure

physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.