

BUFFER SOLUTION PH 2.00 ± 0.02

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 31/10/2017 Version: 0.0

Doc. No: SDS-908.B02/1



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

1.1. Product identifier

Product form : Mixture
Product name : BUFFER SOLUTION PH 2.00 ± 0.02 AT 20°C
Type of product : Solution

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

ISOLAB Laborgeräte GmbH
Am Dillhof 2 - 63863 Eschau / GERMANY
Tel: + 49 93 74 / 978 55-0
Fax: +49 93 74 / 978 55-29
prodsafe@isolab.de

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Germany	Giftnotruf der Charité CBF, Haus VIII (Wirtschaftgebäude), UG	Hindenburgdamm 30 12203 Berlin	+49 30 19240	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin Corr. 1A H314

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

Causes severe skin burns and eye damage.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP) :

P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
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 .
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

BUFFER SOLUTION PH 2.00 ± 0.02

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 31/10/2017 Version: 0.0

Doc. No: SDS-908.B02/1



3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
hydrochloric acid ... %	(EC-No.) 231-595-7 (EC Index-No.) 017-002-01-X	0.1 - 2.5	Skin Corr. 1B, H314 STOT SE 3, H335
Glycine (Aminoacetic acid)	(CAS-No.) 56-40-6 (EC-No.) 200-272-2	0.1 - 2.5	Not classified
sodium chloride	(CAS-No.) 7647-14-5 (EC-No.) 231-598-3	0.1 - 2.5	Not classified
mercury diiodide	(CAS-No.) 7774-29-0 (EC-No.) 231-873-8 (EC Index-No.) 080-002-00-6	< 0.1	Acute Tox. 2 (Inhalation), H330 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Oral), H300 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
potassium iodide	(CAS-No.) 7681-11-0 (EC-No.) 231-659-4	< 0.1	Not classified

Specific concentration limits:

Name	Product identifier	Specific concentration limits
hydrochloric acid ... %	(EC-No.) 231-595-7 (EC Index-No.) 017-002-01-X	(C >= 10) STOT SE 3, H335 (10 =<C < 25) Eye Irrit. 2, H319 (10 =<C < 25) Skin Irrit. 2, H315 (C >= 25) Skin Corr. 1B, H314
mercury diiodide	(CAS-No.) 7774-29-0 (EC-No.) 231-873-8 (EC Index-No.) 080-002-00-6	(C >= 0.1) STOT RE 2, H373

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Call a physician immediately.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
- First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

- Symptoms/effects after skin contact : Burns.
- Symptoms/effects after eye contact : Serious damage to eyes.
- Symptoms/effects after ingestion : Burns.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

BUFFER SOLUTION PH 2.00 ± 0.02

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 31/10/2017 Version: 0.0

Doc. No: SDS-908.B02/1



SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

hydrochloric acid ... %		
EU	Local name	Hydrogen chloride
EU	IOELV TWA (mg/m ³)	8 mg/m ³
EU	IOELV TWA (ppm)	5 ppm
EU	IOELV STEL (mg/m ³)	15 mg/m ³
EU	IOELV STEL (ppm)	10 ppm
Austria	Local name	Chlorwasserstoff
Austria	MAK (mg/m ³)	8 mg/m ³
Austria	MAK (ppm)	5 ppm
Austria	MAK Short time value (mg/m ³)	15 mg/m ³
Austria	MAK Short time value (ppm)	10 ppm
Belgium	Local name	Hydrogène (chlorure d') # Waterstofchloride
Belgium	Limit value (mg/m ³)	8 mg/m ³
Belgium	Limit value (ppm)	5 ppm
Belgium	Short time value (mg/m ³)	15 mg/m ³
Belgium	Short time value (ppm)	10 ppm
Bulgaria	Local name	Хлороводород
Bulgaria	OEL TWA (mg/m ³)	8 mg/m ³
Bulgaria	OEL TWA (ppm)	5 ppm
Bulgaria	OEL STEL (mg/m ³)	15 mg/m ³
Bulgaria	OEL STEL (ppm)	10 ppm
Bulgaria	Notes	• (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)
Croatia	Local name	Vodikov klorid
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	8 mg/m ³
Croatia	GVI (granična vrijednost izloženosti) (ppm)	5 ppm

BUFFER SOLUTION PH 2.00 ± 0.02

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 31/10/2017 Version: 0.0

Doc. No: SDS-908.B02/1



hydrochloric acid ... %		
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m ³)	15 mg/m ³
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	10 ppm
Croatia	Naznake (HR)	EU* (naznaka da se radi o tvarima za koje su utvrđene indikativne granične vrijednosti izloženosti prema Direktivi 2000/39/ EC (prva lista)); T (otrovno); C (nagrizajuće)
Czech Republic	Local name	Chlorovodík
Czech Republic	Expoziční limity (PEL) (mg/m ³)	8 mg/m ³
Czech Republic	Expoziční limity (PEL) (ppm)	5.43 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m ³)	15 mg/m ³
Czech Republic	Expoziční limity (NPK-P) (ppm)	10.19 ppm
Denmark	Local name	Hydrogenchlorid (Chlorbrinte)
Denmark	Grænseværdie (langvarig) (mg/m ³)	8 mg/m ³
Denmark	Grænseværdie (langvarig) (ppm)	5 ppm
Denmark	Anmærkninger (DK)	E (betyder, at stoffet har en EF-grænseværdi); L (markerer, at grænseværdien er en loftværdi, som ikke på noget tidspunkt må overskrides)
Estonia	Local name	Vesinikkloriid
Estonia	OEL TWA (mg/m ³)	8 mg/m ³
Estonia	OEL TWA (ppm)	5 ppm
Estonia	OEL STEL (mg/m ³)	15 mg/m ³
Estonia	OEL STEL (ppm)	10 ppm
Finland	Local name	Kloorivety, vedetön
Finland	HTP-arvo (15 min)	7.6 mg/m ³
Finland	HTP-arvo (15 min) (ppm)	5 ppm
France	Local name	Chlorure d'hydrogène (Acide chlorhydrique)
France	VLE (mg/m ³)	7.6 mg/m ³
France	VLE (ppm)	5 ppm
France	Note (FR)	Valeurs réglementaires contraignantes
Germany	Local name	Hydrogenchlorid
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	3 mg/m ³
Germany	TRGS 900 Occupational exposure limit value (ppm)	2 ppm
Germany	Remark (TRGS 900)	DFG,EU,Y
Gibraltar	Eight hours mg/m ³	8 mg/m ³
Gibraltar	Eight hours ppm	5 ppm
Gibraltar	Short-term mg/m ³	15 mg/m ³
Gibraltar	Short-term ppm	10 ppm
Gibraltar	Name of agent	Hydrogen chloride
Greece	OEL TWA (mg/m ³)	7 mg/m ³
Greece	OEL TWA (ppm)	5 ppm
Greece	OEL STEL (mg/m ³)	7 mg/m ³
Greece	OEL STEL (ppm)	5 ppm
Hungary	Local name	SÓSAV
Hungary	AK-érték	8 mg/m ³
Hungary	CK-érték	16 mg/m ³
Hungary	Megjegyzések (HU)	i, m; EU1
Ireland	Local name	Hydrogen chloride
Ireland	OEL (8 hours ref) (mg/m ³)	8 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	5 ppm

BUFFER SOLUTION PH 2.00 ± 0.02

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 31/10/2017 Version: 0.0

Doc. No: SDS-908.B02/1



hydrochloric acid ... %		
Ireland	OEL (15 min ref) (mg/m ³)	15 mg/m ³
Ireland	OEL (15 min ref) (ppm)	10 ppm
Ireland	Notes (IE)	IOELV
Italy	Local name	Acido cloridrico
Italy	OEL TWA (mg/m ³)	8 mg/m ³
Italy	OEL TWA (ppm)	5 ppm
Italy	OEL STEL (mg/m ³)	15 mg/m ³
Italy	OEL STEL (ppm)	10 ppm
Latvia	Local name	Hlorūdeņradis
Latvia	OEL TWA (mg/m ³)	8 mg/m ³
Latvia	OEL TWA (ppm)	5 ppm
Latvia	OEL STEL (mg/m ³)	15 mg/m ³
Latvia	OEL STEL (ppm)	10 ppm
Lithuania	Local name	Vandenilio chloridas
Lithuania	IPRV (mg/m ³)	8 mg/m ³
Lithuania	IPRV (ppm)	5 ppm
Lithuania	TPRV (mg/m ³)	15 mg/m ³
Lithuania	TPRV (ppm)	10 ppm
Luxembourg	Local name	Chlorure d'hydrogène
Luxembourg	OEL TWA (mg/m ³)	8 mg/m ³
Luxembourg	OEL TWA (ppm)	5 ppm
Luxembourg	OEL STEL (mg/m ³)	15 mg/m ³
Luxembourg	OEL STEL (ppm)	10 ppm
Malta	Local name	Hydrogenchloride
Malta	OEL TWA (mg/m ³)	8 mg/m ³
Malta	OEL TWA (ppm)	5 ppm
Malta	OEL STEL (mg/m ³)	15 mg/m ³
Malta	OEL STEL (ppm)	10 ppm
Netherlands	Local name	Zoutzuur
Netherlands	Grenswaarde TGG 8H (mg/m ³)	8 mg/m ³
Netherlands	Grenswaarde TGG 15MIN (mg/m ³)	15 mg/m ³
Poland	Local name	Chlorowodór
Poland	NDS (mg/m ³)	5 mg/m ³
Poland	NDSch (mg/m ³)	10 mg/m ³
Portugal	Local name	Ácido clorídrico
Portugal	OEL - Ceilings (ppm)	2 ppm
Romania	Local name	Acid clorhidric
Romania	OEL TWA (mg/m ³)	8 mg/m ³
Romania	OEL TWA (ppm)	5 ppm
Romania	OEL STEL (mg/m ³)	15 mg/m ³
Romania	OEL STEL (ppm)	10 ppm
Slovakia	Local name	Chlorovodík
Slovakia	NPHV (priemerná) (mg/m ³)	8 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	5 ppm
Slovakia	OEL STEL (mg/m ³)	15 mg/m ³
Slovakia	OEL STEL (ppm)	10 ppm
Slovenia	Local name	vodikov klorid, brezvodni (klorovodik, brezvodni)
Slovenia	OEL TWA (mg/m ³)	8 mg/m ³

BUFFER SOLUTION PH 2.00 ± 0.02

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 31/10/2017 Version: 0.0

Doc. No: SDS-908.B02/1



hydrochloric acid ... %		
Slovenia	OEL TWA (ppm)	5 ppm
Slovenia	OEL STEL (mg/m ³)	16 mg/m ³
Slovenia	OEL STEL (ppm)	10 ppm
Spain	Local name	Cloruro de hidrógeno
Spain	VLA-ED (mg/m ³)	7.6 mg/m ³
Spain	VLA-ED (ppm)	5 ppm
Spain	VLA-EC (mg/m ³)	15 mg/m ³
Spain	VLA-EC (ppm)	10 ppm
Spain	Notes	VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país).
Sweden	Local name	Saltsyra
Sweden	nivågränsvärde (NVG) (mg/m ³)	3 mg/m ³ 3 mg/m ³
Sweden	nivågränsvärde (NVG) (ppm)	2 ppm 2 ppm
Sweden	kortidsvärde (KTV) (mg/m ³)	6 mg/m ³ 6 mg/m ³
Sweden	kortidsvärde (KTV) (ppm)	4 ppm 4 ppm
United Kingdom	Local name	Hydrogen chloride
United Kingdom	WEL TWA (mg/m ³)	2 mg/m ³ gas and aerosol mists
United Kingdom	WEL TWA (ppm)	1 ppm gas and aerosol mists
United Kingdom	WEL STEL (mg/m ³)	8 mg/m ³ gas and aerosol mists
United Kingdom	WEL STEL (ppm)	5 ppm gas and aerosol mists
Iceland	Local name	Vetnisklórið (klórvetni)
Iceland	OEL (15 min ref) (mg/m ³)	8 mg/m ³
Iceland	OEL (15 min ref) (ppm)	5 ppm
Russian Federation	Local name	Гидрохлорид
Russian Federation	OEL Ceiling (mg/m ³)	5 mg/m ³
Russian Federation	Remark (RU)	2 класс опасности - высокоопасное; п (пары и/или газы); О (вещества с остронаправленным механизмом действия, требующие автоматического контроля за их содержанием в воздухе)
Norway	Local name	Hydrogenklorid (Saltsyre)
Norway	Grenseverdier (AN) (mg/m ³)	7 mg/m ³
Norway	Grenseverdier (AN) (ppm)	5 ppm
Norway	Merknader (NO)	T (Takverdi er en øyeblikksverdi som angir maksimalkonsentrasjon av et kjemikalie i pustesonen som ikke skal overskrides); E (EU har en veiledende grenseverdi for stoffet)
Switzerland	Local name	Chlorwasserstoff
Switzerland	MAK (mg/m ³)	3 mg/m ³ 3 mg/m ³
Switzerland	MAK (ppm)	2 ppm 2 ppm
Switzerland	KZGW (mg/m ³)	6 mg/m ³ 6 mg/m ³

BUFFER SOLUTION PH 2.00 ± 0.02

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 31/10/2017 Version: 0.0

Doc. No: SDS-908.B02/1



hydrochloric acid ... %		
Switzerland	KZGW (ppm)	4 ppm 4 ppm
Switzerland	Remark (CH)	SSc - OAW ^{KT AN} - DFG, NIOSH, OSHA
Turkey	Local name	Hidrojen klorür
Turkey	OEL TWA (mg/m ³)	8 mg/m ³
Turkey	OEL TWA (ppm)	5 ppm
Turkey	OEL STEL (mg/m ³)	15 mg/m ³
Turkey	OEL STEL (ppm)	10 ppm
Australia	Local name	Hydrogen chloride
USA - ACGIH	Local name	Hydrogen chloride
USA - ACGIH	ACGIH Ceiling (ppm)	2 ppm
USA - ACGIH	Remark (ACGIH)	URT irr
USA - OSHA	Local name	Hydrogen chloride
USA - OSHA	OSHA PEL (Ceiling) (mg/m ³)	7 mg/m ³
USA - OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm
Glycine (Aminoacetic acid) (56-40-6)		
Latvia	Local name	Glicīns (aminoetiķskābe)
Latvia	OEL TWA (mg/m ³)	5 mg/m ³
Russian Federation	Local name	1-Аминоэтановая кислота
Russian Federation	OEL Ceiling (mg/m ³)	5 mg/m ³
Russian Federation	Remark (RU)	3 класс опасности - опасное; а (аэрозоль)
sodium chloride (7647-14-5)		
Latvia	Local name	Nātrijahlorīds
Latvia	OEL TWA (mg/m ³)	5 mg/m ³
Lithuania	Local name	Natrio chloridas
Lithuania	IPRV (mg/m ³)	5 mg/m ³
Russian Federation	Local name	Натрий хлорид
Russian Federation	OEL Ceiling (mg/m ³)	5 mg/m ³
Russian Federation	Remark (RU)	3 класс опасности - опасное; а (аэрозоль)
mercury diiodide (7774-29-0)		
EU	IOELV TWA (mg/m ³)	0.02 mg/m ³ (Mercury, divalent inorganic compounds; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
Belgium	Limit value (mg/m ³)	2 mg/m ³ (Mercure et composés inorganiques bivalents du mercure, y compris l'oxyde de mercure et le chlorure mercurique (mesurés comme mercure) (8); Belgium; Time-weighted average exposure limit 8 h)
France	VME (mg/m ³)	0.02 mg/m ³ (Mercure et composés bivalents du mercure, y compris l'oxyde de mercure et le chlorure de mercurique; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
Netherlands	Grenswaarde TGG 8H (mg/m ³)	0.02 mg/m ³ (Kwik en tweewaardige anorganische kwikverbindingen (gemeten als kwik); Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value; als Hg)
United Kingdom	WEL TWA (mg/m ³)	0.02 mg/m ³ Mercury divalent inorganic compounds including mercuric oxide and mercuric chloride (measured as mercury); United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
USA - ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³ (Mercury, Inorganic forms, as Hg; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)

BUFFER SOLUTION PH 2.00 ± 0.02

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 31/10/2017 Version: 0.0

Doc. No: SDS-908.B02/1



potassium iodide (7681-11-0)		
Belgium	Limit value (mg/m ³)	0.1 mg/m ³ (Iode et iodures (vapeur et aérosol); Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	0.01 ppm (Iode et iodures (vapeur et aérosol); Belgium; Time-weighted average exposure limit 8 h)
USA - ACGIH	ACGIH TWA (ppm)	0.01 ppm (Iodides; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Inhalable fraction and vapor)

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Protective gloves

Eye protection:

Protective goggles

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Colour	: Colourless. According to product specification.
Odour	: characteristic.
Odour threshold	: No data available
pH	: 1.98 - 2.02 at 20 °C
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 0 °C
Freezing point	: No data available
Boiling point	: 100 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not self-igniting
Vapour pressure	: 23 hPa (at 20 °C)
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.005 g/cm ³ (20 °C)
Solubility	: Miscible with water.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

BUFFER SOLUTION PH 2.00 ± 0.02

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 31/10/2017 Version: 0.0

Doc. No: SDS-908.B02/1



SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Glycine (Aminoacetic acid) (56-40-6)	
LD50 oral rat	7930 mg/kg (Rat)
sodium chloride (7647-14-5)	
LD50 oral rat	3000 mg/kg (Rat; Experimental value; 3550 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	> 10000 mg/kg (Rabbit; Experimental value)
mercury diiodide (7774-29-0)	
LD50 oral rat	18 mg/kg (Rat)
potassium iodide (7681-11-0)	
LD50 oral rat	2779 mg/kg (Rat)
LD50 dermal rabbit	3160 mg/kg (Rabbit)

Skin corrosion/irritation : Causes severe skin burns and eye damage.

pH: 2

Serious eye damage/irritation : Serious eye damage, category 1, implicit

pH: 2

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

hydrochloric acid ... %	
LC50 fish 1	282 mg/l (LC50; 96 h; Gambusia affinis)
EC50 Daphnia 1	< 56 mg/l (EC50; 72 h; Daphnia magna)
sodium chloride (7647-14-5)	
LC50 fish 2	5840 mg/l (LC50; ASTM; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value)
Threshold limit algae 2	2430 mg/l (EC50; OECD 201: Alga, Growth Inhibition Test; 120 h; Algae; Static system; Fresh water; Experimental value)
mercury diiodide (7774-29-0)	
Threshold limit algae 1	0.16 mg/l (LC50; 18 h)

BUFFER SOLUTION PH 2.00 ± 0.02

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 31/10/2017 Version: 0.0

Doc. No: SDS-908.B02/1



potassium iodide (7681-11-0)	
LC50 fish 1	1788.85 mg/l (LC50; 96 h)
EC50 Daphnia 1	483.68 mg/l (LC50; 48 h)

12.2. Persistence and degradability

hydrochloric acid ... %	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the components available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

Glycine (Aminoacetic acid) (56-40-6)	
Persistence and degradability	Readily biodegradable in water.
BOD (% of ThOD)	0.86 (5 days; Literature study)

sodium chloride (7647-14-5)	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

mercury diiodide (7774-29-0)	
Persistence and degradability	Biodegradability: not applicable. Forming sediments in water. Biodegradability in soil: not applicable. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

potassium iodide (7681-11-0)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

12.3. Bioaccumulative potential

hydrochloric acid ... %	
Log Pow	0.25 (QSAR)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Glycine (Aminoacetic acid) (56-40-6)	
Log Pow	-3.21 (Experimental value)
Bioaccumulative potential	Bioaccumulation: not applicable.

sodium chloride (7647-14-5)	
Log Pow	-3 (Calculated)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

mercury diiodide (7774-29-0)	
Bioaccumulative potential	Bioaccumable.

potassium iodide (7681-11-0)	
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

hydrochloric acid ... %	
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

12.5. Results of PBT and vPvB assessment

No additional information available

BUFFER SOLUTION PH 2.00 ± 0.02

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 31/10/2017 Version: 0.0

Doc. No: SDS-908.B02/1



12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

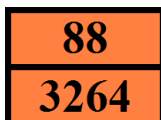
In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
3264	3264	3264	3264	3264
14.2. UN proper shipping name				
CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	Corrosive liquid, acidic, inorganic, n.o.s.	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Transport document description				
UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., 8, I, (E)	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., 8, I	UN 3264 Corrosive liquid, acidic, inorganic, n.o.s., 8, I	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., 8, I	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., 8, I
14.3. Transport hazard class(es)				
8	8	8	8	8
14.4. Packing group				
I	I	I	I	I
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : C1
Special provisions (ADR) : 274
Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P001
Mixed packing provisions (ADR) : MP8, MP17
Portable tank and bulk container instructions (ADR) : T14
Portable tank and bulk container special provisions (ADR) : TP2, TP27
Tank code (ADR) : L10BH
Vehicle for tank carriage : AT
Transport category (ADR) : 1
Special provisions for carriage - Operation (ADR) : S20
Hazard identification number (Kemler No.) : 88
Orange plates :



Tunnel restriction code (ADR) : E

BUFFER SOLUTION PH 2.00 ± 0.02

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 31/10/2017 Version: 0.0

Doc. No: SDS-908.B02/1



EAC code : 2X

APP code : B

- Transport by sea

Special provisions (IMDG) : 274
Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P001
Tank instructions (IMDG) : T14
Tank special provisions (IMDG) : TP2, TP27
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B
Stowage category (IMDG) : B
Stowage and handling (IMDG) : SW2
Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes.
MFAG-No : 154

- Air transport

PCA Excepted quantities (IATA) : E0
PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : 850
PCA max net quantity (IATA) : 0.5L
CAO packing instructions (IATA) : 854
CAO max net quantity (IATA) : 2.5L
Special provisions (IATA) : A3
ERG code (IATA) : 8L

- Inland waterway transport

Classification code (ADN) : C1
Special provisions (ADN) : 274
Limited quantities (ADN) : 0
Excepted quantities (ADN) : E0
Carriage permitted (ADN) : T
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0

- Rail transport

Classification code (RID) : C1
Special provisions (RID) : 274
Limited quantities (RID) : 0
Excepted quantities (RID) : E0
Packing instructions (RID) : P001
Mixed packing provisions (RID) : MP8, MP17
Portable tank and bulk container instructions (RID) : T14
Portable tank and bulk container special provisions (RID) : TP2, TP27
Tank codes for RID tanks (RID) : L10BH
Special provisions for RID tanks (RID) : TU38, TE22
Transport category (RID) : 1
Hazard identification number (RID) : 88

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

BUFFER SOLUTION PH 2.00 ± 0.02

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 31/10/2017 Version: 0.0

Doc. No: SDS-908.B02/1



Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 1, low hazard to waters (Classification according to VwVwS, Annex 4)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of H- and EUH-statements:	
Acute Tox. 1 (Dermal)	Acute toxicity (dermal), Category 1
Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral), Category 2

BUFFER SOLUTION PH 2.00 ± 0.02

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 31/10/2017 Version: 0.0

Doc. No: SDS-908.B02/1



Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

SDS ISOLAB

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product