Safety data sheet
according to UK REACH (SI 2020/1577) as amended

Printing date 17.03.2025 Version number 1 Revision: 17.03.2025

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

· **1.1 Product identifier**

· **Trade name: 10X Maleic Acid/Sodium Chloride Buffer**

· **Product Code:** 20-7510
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
· **Product category** PC21 Laboratory chemicals
· **Application of the substance / the mixture** Laboratory chemicals
· **Uses advised against** Any use not specified above.

· **1.3 Details of the supplier of the safety data sheet**
· **Supplier:**
Severn Biotech Ltd.
Unit 2,
Park Lane,
Kidderminster,
Worcestershire.
DY11 6TJ
UK
Tel: 0044 1562 825286
Fax: 0044 1562 825284
email: info@severnbiotech.com

· **Further information obtainable from:** Product safety department.
· **1.4 Emergency telephone number:**
Members of the public seeking specific information on poisons should contact:
In England and Wales: NHS 111 - dial 111
In Scotland: NHS 24 - dial 111

* SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to GB-CLP**
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.

· **2.2 Label elements**
· **Labelling according to GB-CLP** The product is classified and labelled according to the GB CLP regulation.
· **Hazard pictograms**

GHS07

· **Signal word** Warning

· **Hazard-determining components of labelling:**
Maleic acid
· **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.

(Contd. on page 2)

Safety data sheet
according to UK REACH (SI 2020/1577) as amended

Printing date 17.03.2025 Version number 1 Revision: 17.03.2025

Trade name: 10X Maleic Acid/Sodium Chloride Buffer

(Contd. of page 1)

· **Precautionary statements**

P261	Avoid breathing mist/vapours/spray.
P280	Wear protective gloves.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P501	Dispose of contents/container in accordance with local regulations.

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

*
SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· **Description:** An aqueous solution of the substances listed below with multifunctional additives.

· **Dangerous components:**		
CAS: 110-16-7 EINECS: 203-742-5 Index number: 607-095-00-3 Reg.nr.: 01-2119488705-25-XXXX	Maleic acid Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335 Specific concentration limit: Skin Sens. 1; H317: C ≥ 0.1 %	10 – < 20%
CAS: 7647-14-5 EINECS: 231-598-3 Reg.nr.: 01-2119494219-28-XXXX	Sodium chloride substance with a Community workplace exposure limit	2.5 – 10%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

*
SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:**
Supply fresh air; consult doctor in case of complaints.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
· **Information for doctor:** Treat symptomatically and supportively.
· **4.2 Most important symptoms and effects, both acute and delayed** Allergic reactions

(Contd. on page 3)

Safety data sheet
according to UK REACH (SI 2020/1577) as amended

Printing date 17.03.2025 Version number 1 Revision: 17.03.2025

Trade name: 10X Maleic Acid/Sodium Chloride Buffer

(Contd. of page 2)

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

*
SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Chlorine compounds
· **5.3 Advice for firefighters**
· **Protective equipment:**
Wear fully protective suit.
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
· **Additional information**
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

*
SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
· **6.2 Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Do not allow to penetrate the ground/soil.
· **6.3 Methods and material for containment and cleaning up:**
Contain and collect spillage with non-combustible, absorbent material e.g.sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.
Ensure adequate ventilation.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.
Safety showers and eye wash facilities should be available at the work area.
· **Information about fire - and explosion protection:** No special measures required.

(Contd. on page 4)

Safety data sheet
according to UK REACH (SI 2020/1577) as amended

Printing date 17.03.2025 Version number 1 Revision: 17.03.2025

Trade name: 10X Maleic Acid/Sodium Chloride Buffer

(Contd. of page 3)

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Prevent any seepage into the ground.
· **Information about storage in one common storage facility:** Store away from oxidising agents.
· **Further information about storage conditions:**
Protect from frost.
Store in cool, dry conditions in well sealed receptacles.
· **Storage class:** 12
· **7.3 Specific end use(s)** No further relevant information available.

*
SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
CAS: 7647-14-5 Sodium chloride	
RESPIRABLE DUST	Long-term value: 4 mg/m³
TOTAL INHALABLE DUST	Long-term value: 10 mg/m³

· **DNELs**		
CAS: 110-16-7 Maleic acid		
Inhalative	Long-term systemic effects	3 mg/m³ (worker)
	Short-term systemic effects	3 mg/m³ (worker)
	Long-term local effects	3 mg/m³ (worker)
	Short-term local effects	3 mg/m³ (worker)
CAS: 7647-14-5 Sodium chloride		
Oral	Long-term systemic effects	126.65 mg/kg bw/day (general population)
	Short-term systemic effects	126.65 mg/kg bw/day (general population)
Dermal	Long-term systemic effects	126.65 mg/kg bw/day (general population)
		295.52 mg/kg bw/day (worker)
	Short-term systemic effects	126.65 mg/kg bw/day (general population)
		295.52 mg/kg bw/day (worker)
Inhalative	Long-term systemic effects	443.28 mg/m³ (general population)
		2,068.62 mg/m³ (worker)
	Short-term systemic effects	443.28 mg/m³ (general population)
		2,068.62 mg/m³ (worker)

· **PNECs**	
CAS: 110-16-7 Maleic acid	
Freshwater	100 µg/L
Freshwater - Intermittent releases	428.1 µg/L
Marine water	10 µg/L
Sewage Treatment Plant	44.6 mg/L
Sediment (freshwater)	334 µg/kg
Sediment (marine water)	33.4 µg/kg
Soil	41.5 µg/kg

(Contd. on page 5)

Safety data sheet
according to UK REACH (SI 2020/1577) as amended

Printing date 17.03.2025 Version number 1 Revision: 17.03.2025

Trade name: 10X Maleic Acid/Sodium Chloride Buffer

(Contd. of page 4)

CAS: 7647-14-5 Sodium chloride	
Freshwater	5 mg/L
Sewage Treatment Plant	500 mg/L
Soil	4.86 mg/kg

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

· **8.2 Exposure controls**
· **Appropriate engineering controls** No further data; see section 7.
· **Individual protection measures, such as personal protective equipment**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Wash hands before breaks and at the end of work.
Do not eat, drink, smoke or sniff while working.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
Ensure that eyewash stations and safety showers are close to the workstation location.
Depending on the degree of exposure, periodic medical examination is suggested.
· **Respiratory protection:** Not required.
· **Hand protection**

Protective gloves.
Use gloves tested and approved under appropriate government standards such as NIOSH (US) or EN374 (EU).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye/face protection**

Safety glasses with side-shields conforming to EN166.
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

· **Body protection:**

Impervious protective clothing

· **Environmental exposure controls** Do not allow to enter drains, sewers or watercourses.
· **Risk management measures** The operators shall be instructed adequately.

(Contd. on page 6)

Safety data sheet
according to UK REACH (SI 2020/1577) as amended

Printing date 17.03.2025 Version number 1 Revision: 17.03.2025

Trade name: 10X Maleic Acid/Sodium Chloride Buffer

(Contd. of page 5)

*
SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Physical state**	Liquid
· **Colour:**	Clear
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	Undetermined.
· **Boiling point or initial boiling point and boiling range**	100 °C
· **Flammability**	Not applicable.
· **Lower and upper explosion limit**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Flash point:**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **pH at 20 °C**	7.5
· **Viscosity:**	
· **Kinematic viscosity**	Not determined.
· **Dynamic:**	Not determined.
· **Solubility**	
· **water:**	Fully miscible.
· **Partition coefficient n-octanol/water (log value)**	Not determined.
· **Vapour pressure:**	Not determined.
· **Density and/or relative density**	
· **Density at 20 °C:**	1.05 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.

· **9.2 Other information**	
· **Appearance:**	
· **Form:**	Liquid
· **Important information on protection of health and environment, and on safety.**	
· **Ignition temperature:**	Product is not self-igniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Solvent content:**	
· **VOC (EC)**	0.00 %
· **Change in condition**	
· **Evaporation rate**	Not determined.

· **Information with regard to physical hazard classes**	
· **Explosives**	Void
· **Flammable gases**	Void
· **Aerosols**	Void
· **Oxidising gases**	Void
· **Gases under pressure**	Void
· **Flammable liquids**	Void
· **Flammable solids**	Void
· **Self-reactive substances and mixtures**	Void
· **Pyrophoric liquids**	Void
· **Pyrophoric solids**	Void

(Contd. on page 7)

Safety data sheet
according to UK REACH (SI 2020/1577) as amended

Printing date 17.03.2025 Version number 1 Revision: 17.03.2025

Trade name: 10X Maleic Acid/Sodium Chloride Buffer

(Contd. of page 6)

· **Self-heating substances and mixtures**	Void
· **Substances and mixtures, which emit flammable gases in contact with water**	Void
· **Oxidising liquids**	Void
· **Oxidising solids**	Void
· **Organic peroxides**	Void
· **Corrosive to metals**	Void
· **Desensitised explosives**	Void

* SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** Heat and static discharge.
· **10.5 Incompatible materials:** Strong acids and oxidising agents
· **10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Chlorine compounds

* SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**		
ATE (Acute Toxicity Estimates)		
Dermal	LD50	15,116 mg/kg (rabbit)

CAS: 110-16-7 Maleic acid		
Oral	LD50	2,870 mg/kg (rat)
Dermal	LD50	1,560 mg/kg (rabbit)
CAS: 7647-14-5 Sodium chloride		
Oral	LD50	> 2,000 mg/kg (rat)

· **Primary irritant effect:**
· **Skin corrosion/irritation**
Causes skin irritation.
· **Serious eye damage/irritation**
Causes serious eye irritation.
· **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.

(Contd. on page 8)

Safety data sheet
according to UK REACH (SI 2020/1577) as amended

Printing date 17.03.2025 Version number 1 Revision: 17.03.2025

Trade name: 10X Maleic Acid/Sodium Chloride Buffer

(Contd. of page 7)

· **Subacute to chronic toxicity:** Prolonged or repeated skin contact may irritate and cause dermatitis.
· **Additional toxicological information:** Repeated or prolonged skin contact may induce sensitisation.
· **11.2 Information on other hazards**

· **Endocrine disrupting properties**
None of the ingredients are listed.

* SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**	
CAS: 110-16-7 Maleic acid	
EC50 (96 h)	42.81 mg/l (Bacteria)
CAS: 7647-14-5 Sodium chloride	
EC50 (96 h)	> 4,000 mg/l (Bacteria) 5,840 mg/l (fsh)

· **12.2 Persistence and degradability** biodegradable
· **12.3 Bioaccumulative potential** Product is not expected to bioaccumulate.
· **12.4 Mobility in soil** No further relevant information available.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects**
· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

* SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Recommended Hierarchy of Controls:
- Minimise waste;
- Reuse if not contaminated;
- Recycle, if possible; or
- Safe disposal (if all else fails).

Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Contact waste processors for recycling information.
Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

· **Uncleaned packaging:**
· **Recommendation:**
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
Disposal must be made according to official regulations.
Containers, even those that are “empty,” may contain residues that can develop flammable and/or hazardous vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

(Contd. on page 9)

Safety data sheet
according to UK REACH (SI 2020/1577) as amended

Printing date 17.03.2025 Version number 1 Revision: 17.03.2025

Trade name: 10X Maleic Acid/Sodium Chloride Buffer

(Contd. of page 8)

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

SECTION 14: Transport information

· **14.1 UN number or ID number**	Void
· **ADR/RID/ADN, ADN, IMDG, IATA**	Not applicable
· **14.2 UN proper shipping name**	Void
· **ADR/RID/ADN, ADN, IMDG, IATA**	Not applicable
· **14.3 Transport hazard class(es)**	Void
· **ADR/RID/ADN, ADN, IMDG, IATA**	
· **Class**	Not applicable
· **14.4 Packing group**	Void
· **ADR/RID/ADN, IMDG, IATA**	Not applicable
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	No
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	Not dangerous according to the above specifications.
· **UN "Model Regulation":**	Not applicable

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Poisons Act**

· **Regulated explosives precursors**
None of the ingredients are listed.

· **Regulated poisons**
None of the ingredients are listed.

· **Reportable explosives precursors**
None of the ingredients are listed.

· **Reportable poisons**
None of the ingredients are listed.

· **Control Of Major Accident Hazards Regulations 2015 (COMAH)**
· **Named dangerous substances - ANNEX I** None of the ingredients are listed.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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

(Contd. on page 10)

Safety data sheet
according to UK REACH (SI 2020/1577) as amended

(Contd. of page 9)

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Relevant phrases**
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

· **Training hints**
This product should only be handled by workers who have received sufficient training in the safe handling and use of chemical products.

· **Department issuing SDS:** Product safety department.

· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
ATE: Acute toxicity estimate values
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· *** Data compared to the previous version altered.**