

## pH 4,01 - Buffer pH 4.01 red

## Safety Data Sheet

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

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

## 1.1. Product identifier

Code: pH 4,01  
 Product name: Buffer pH 4.01 red  
 Chemical name and synonym: Buffer solution pH 4.01 Red

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

Intended use: Standard solution of process verification and control. Applies to codes 32382913, 32383073, 32383123, 51100033, 51100133, 51100233, 51101013, 51102013, 51102203, 51102213, 51102233, 51102243, 51102263, 51102283, 51300003, 51300103, EE32383073, EE32383123, EE51100033, EE51100133, EE51100233, EE51102013, EH51100033, Eh51100133

Identified Uses	Industrial	Professional	Consumer
Standard solution for the verification and quality control of pH measurement systems	✓	✓	-

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

Name: GIORGIO BORMAC srl  
 Full address: via della meccanica, 25  
 District and Country: 41012 Carpi (MO) Italia  
 Tel.: +39 059 653274  
 Fax: +39 059 653282

e-mail address of the competent person responsible for the Safety Data Sheet: sds@giorgiobormac.com

Supplier: GIORGIO BORMAC srl

## 1.4. Emergency telephone number

For urgent inquiries refer to: +44 121 507 4123

## SECTION 2. Hazards identification

## 2.1. Classification of the substance or mixture

The product is not classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP). However, since the product contains hazardous substances in concentrations such as to be declared in section no. 3, it requires a safety data sheet with appropriate information, compliant to (EU) Regulation 2020/878.

Hazard classification and indication: --

## 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms: --

Signal words: --

Hazard statements:

**EUH210** Safety data sheet available on request.  
**EUH208** Contains: 5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one  
 May produce an allergic reaction.

Precautionary statements: --

### SECTION 2. Hazards identification ... / >>

#### 2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage  $\geq$  than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration  $\geq$  0.1%.

### SECTION 3. Composition/information on ingredients

#### 3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
<b>5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one</b>		
<i>INDEX</i> 613-167-00-5	$0,00015 \leq x < 0,0014$	<b>Acute Tox. 2 H310, Acute Tox. 2 H330, Acute Tox. 3 H301, Skin Corr. 1C H314, Eye Dam. 1 H318, Skin Sens. 1A H317, Aquatic Acute 1 H400 M=100, Aquatic Chronic 1 H410 M=100, EUH071, Classification note according to Annex VI to the CLP Regulation: B</b>
<i>EC</i>		<b>Skin Corr. 1C H314: <math>\geq</math> 0,6%, Skin Irrit. 2 H315: <math>\geq</math> 0,06%, Skin Sens. 1A H317: <math>\geq</math> 0,0015%, Eye Dam. 1 H318: <math>\geq</math> 0,6%, Eye Irrit. 2 H319: <math>\geq</math> 0,06%</b>
<i>CAS</i> 55965-84-9		<b>LD50 Oral: 64 mg/kg, LD50 Dermal: 87 mg/kg, LC50 Inhalation mists/powders: 0,33 mg/l/4h</b>
<i>REACH Reg.</i> 01-2120764691-48-XXXX		

The full wording of hazard (H) phrases is given in section 16 of the sheet.

### SECTION 4. First aid measures

#### 4.1. Description of first aid measures

Not specifically necessary. Observance of good industrial hygiene is recommended.

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

Specific information on symptoms and effects caused by the product are unknown.

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

5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one  
Treat symptomatically

### SECTION 5. Firefighting measures

#### 5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

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

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one

Dangerous combustion products:

Nitrogen oxides (NOX)

Magnesium oxides

Carbon dioxide (CO2)

Carbon monoxide

Hydrochloric acid gas

#### 5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for

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health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

**SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS**

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

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

Use breathing equipment if fumes or powders are released into the air. These indications apply for both processing staff and those involved in emergency procedures.

**6.2. Environmental precautions**

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

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

Confine using earth or inert material. Collect as much material as possible and eliminate the rest using jets of water. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections**

Any information on personal protection and disposal is given in sections 8 and 13.

**SECTION 7. Handling and storage****7.1. Precautions for safe handling**

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use.

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

Keep the product in clearly labelled containers. Keep containers away from any incompatible materials, see section 10 for details.

**7.3. Specific end use(s)**

Information not available

**SECTION 8. Exposure controls/personal protection****8.1. Control parameters**

Regulatory References:

DEU Deutschland Technischen Regeln für Gefahrstoffe (TRGS 900) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte. MAK- und BAT-Werte-Liste 2020, Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Mitteilung 56

**5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one****Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
MAK	DEU	0,2		0,4		INHAL

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

**8.2. Exposure controls**

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

**HAND PROTECTION**

In the case of prolonged contact with the product, protect the hands with penetration-resistant work gloves (see standard EN 374).

Work glove material must be chosen according to the use process and the products that may form. Latex gloves may cause sensitivity reactions.

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**SECTION 8. Exposure controls/personal protection ... / >>****SKIN PROTECTION**

Wear category I professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

**EYE PROTECTION**

Wear airtight protective goggles (see standard EN 166).

**RESPIRATORY PROTECTION**

None required, unless indicated otherwise in the chemical risk assessment.

**ENVIRONMENTAL EXPOSURE CONTROLS**

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

**SECTION 9. Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Properties	Value	Information
Appearance	clear liquid	
Colour	red	
Odour	odourless	
Melting point / freezing point	not available	Reason for missing data:Not available
Initial boiling point	100 °C	
Flammability	not applicable	
Lower explosive limit	not available	Reason for missing data:Not applicable
Upper explosive limit	not available	Reason for missing data:Not applicable
Flash point	not available	Reason for missing data:Not applicable
Auto-ignition temperature	not available	Reason for missing data:Not applicable
Decomposition temperature	not available	Reason for missing data:Not applicable
pH	3,99-4,03	
Kinematic viscosity	not available	Reason for missing data:Not available
Solubility	soluble in water	
Partition coefficient: n-octanol/water	not available	Reason for missing data:Not available
Vapour pressure	not available	Reason for missing data:Not available
Density and/or relative density	1	
Relative vapour density	not available	Reason for missing data:Not available
Particle characteristics	not applicable	

**9.2. Other information****9.2.1. Information with regard to physical hazard classes**

Information not available

**9.2.2. Other safety characteristics**

VOC (Directive 2010/75/EU)	0
VOC (volatile carbon)	0
Explosive properties	not applicable
Oxidising properties	no

**SECTION 10. Stability and reactivity****10.1. Reactivity**

There are no particular risks of reaction with other substances in normal conditions of use.

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions**

No hazardous reactions are foreseeable in normal conditions of use and storage.

**10.4. Conditions to avoid**

None in particular. However the usual precautions used for chemical products should be respected.

### SECTION 10. Stability and reactivity ... / >>

#### 10.5. Incompatible materials

Information not available

#### 10.6. Hazardous decomposition products

5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one

May develop: nitric oxide, sulphur oxides, carbon oxides.

Nitrogen oxides, sulfur oxides, carbon oxides

### SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

#### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

##### Metabolism, toxicokinetics, mechanism of action and other information

5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one

Symptoms:

Gastrointestinal disturbs

Severe allergic leather reaction, bronchial spasm and anaphylactic shock

Seriously corrosive and necrotizing the tissues

Outburst

Enfiata corosion of the mucous membranes

Annexed view

Nausea

Itchy

Dermatitis

Local irritation

Risks:

It can cause an allergic skin reaction

Causes serious eye injuries

Causes serious burns

##### Information on likely routes of exposure

5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one

Inhalation, contact with eyes, contact with the skin, engineer

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

Information not available

##### Interactive effects

Information not available

##### ACUTE TOXICITY

ATE (Inhalation) of the mixture:

Not classified (no significant component)

ATE (Oral) of the mixture:

Not classified (no significant component)

ATE (Dermal) of the mixture:

Not classified (no significant component)

5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one

LD50 (Dermal):

87 mg/kg STA coniglio Metodo: coniglio

LD50 (Oral):

64 mg/kg STA ratto Metodo: calcolo

LC50 (Inhalation mists/powders):

0,33 mg/l/4h STA ratto Atmosfera: polvere/nebbia. Metodo: calcolo.

##### SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

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### SECTION 11. Toxicological information ... / >>

5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one  
Corrosive for the rabbit.  
Corrosivo, category 1C -when exposure reactions between 1 and 4 hours and observation times up to 14 days

#### SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one  
It can cause irreversible damage to the eyes - rabbit.

#### RESPIRATORY OR SKIN SENSITISATION

May produce an allergic reaction.

Contains:

5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one

#### Skin sensitization

5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one  
The product is a sensitivity of the skin, subcategory 1A.

#### GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

#### CARCINOGENICITY

Does not meet the classification criteria for this hazard class

5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one  
Animal testing did not reveal any carcinogenic effects

#### REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one  
It does not contain ingredients included in the list of toxic products for reproduction

#### STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

#### STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

#### ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

### 11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

### SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

#### 12.1. Toxicity

5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one  
LC50 - for Fish 0,19 mg/l/96h Oncorhynchus mykiss (Trota iridea)  
EC50 - for Crustacea 0,16 mg/l/48h Daphnia magna  
EC50 - for Algae / Aquatic Plants 0,027 mg/l/72h Pseudokirkirchneriella subcapitata

### SECTION 12. Ecological information ... / >>

#### 12.2. Persistence and degradability

5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one  
Not immediately biodegradable.  
Biodegradation: 30%  
Exposure time: 28 D  
Method: Guidelines 301 B for the OECD test

5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one  
NOT rapidly degradable Biodegradazione: 30%

#### 12.3. Bioaccumulative potential

Information not available

#### 12.4. Mobility in soil

Information not available

#### 12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage  $\geq$  than 0,1%.

#### 12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

#### 12.7. Other adverse effects

Information not available

### SECTION 13. Disposal considerations

#### 13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.  
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.  
CONTAMINATED PACKAGING  
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

### SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

#### 14.1. UN number or ID number

not applicable

#### 14.2. UN proper shipping name

not applicable

#### 14.3. Transport hazard class(es)

not applicable

#### 14.4. Packing group

not applicable

#### 14.5. Environmental hazards

not applicable

**pH 4,01 - Buffer pH 4.01 red****SECTION 14. Transport information ... / >>****14.6. Special precautions for user**

not applicable

**14.7. Maritime transport in bulk according to IMO instruments**

Information not relevant

**SECTION 15. Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**Seveso Category - Directive 2012/18/EU: NoneRestrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006Contained substance

Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

not applicable

Substances in Candidate List (Art. 59 REACH)On the basis of available data, the product does not contain any SVHC in percentage  $\geq$  than 0,1%.Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Information not available

**15.2. Chemical safety assessment**

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

**SECTION 16. Other information**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

<b>Acute Tox. 2</b>	Acute toxicity, category 2
<b>Acute Tox. 3</b>	Acute toxicity, category 3
<b>Skin Corr. 1C</b>	Skin corrosion, category 1C
<b>Skin Sens. 1A</b>	Skin sensitization, category 1A
<b>Aquatic Acute 1</b>	Hazardous to the aquatic environment, acute toxicity, category 1
<b>Aquatic Chronic 1</b>	Hazardous to the aquatic environment, chronic toxicity, category 1
<b>H310</b>	Fatal in contact with skin.
<b>H330</b>	Fatal if inhaled.
<b>H301</b>	Toxic if swallowed.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H317</b>	May cause an allergic skin reaction.
<b>H400</b>	Very toxic to aquatic life.
<b>H410</b>	Very toxic to aquatic life with long lasting effects.
<b>EUH071</b>	Corrosive to the respiratory tract.
<b>EUH210</b>	Safety data sheet available on request.

**LEGEND:**

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number



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### SECTION 16. Other information ... / >>

- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

#### GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
  2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
  3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
  4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
  5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
  6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
  7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
  8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
  9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
  10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
  11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
  12. Regulation (EU) 2016/1179 (IX Atp. CLP)
  13. Regulation (EU) 2017/776 (X Atp. CLP)
  14. Regulation (EU) 2018/669 (XI Atp. CLP)
  15. Regulation (EU) 2019/521 (XII Atp. CLP)
  16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
  17. Regulation (EU) 2019/1148
  18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
  19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
  20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
  21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
  22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
- The Merck Index. - 10th Edition
  - Handling Chemical Safety
  - INRS - Fiche Toxicologique (toxicological sheet)
  - Patty - Industrial Hygiene and Toxicology
  - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
  - IFA GESTIS website
  - ECHA website
  - Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

#### Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

### SECTION 16. Other information ... / >>

#### CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

03 / 08.