

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS

Printing date: 08 January 2021

Revision: 08 January 2021

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

- **1.1 Product identifier**

- Trade name: **Total Bacteria Kit Component 2**

- Article number: 14650-2

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

No further relevant information available.

- **Application of the substance / the mixture:** Laboratory chemicals

- **1.3 Details of the supplier of the Safety Data Sheet**

- **Manufacturer/Supplier:**

Bentley Instruments, Inc.  
4004 Peavey Rd (Physical Plant)  
P.O. Box 150 (Mailing Address)  
Chaska, MN 55318 USA  
Tel (952) 448-7600



- **1.4 Emergency telephone number:**

ChemTel Inc.

(800) 255-3924 (North America)

(801) 1 (813)248-0585 (International)

## SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**

- **Classification according to Regulation (EC) No 1272/2008**

Eye Irrit. 2 H319 Causes serious eye irritation.

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Sens. 1 H317 May cause an allergic skin reaction.

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- **2.2 Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the Globally Harmonized System within the United States.

The product is classified and labelled according to the CLP regulation.

- **Hazard pictograms**



GHS08

- **Signal word** Danger

- **Hazard-determining components of labelling:**

subtilisin

4-formylphenylboronic acid

- **Hazard statements**

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

(Cont'd. on page 2)

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according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS

Printing date: 08 January 2021

Revision: 08 January 2021

**Trade name: Total Bacteria Kit Component 2**

(Cont'd. from page 1)

H317 May cause an allergic skin reaction.

**Precautionary statements**

- P261 Avoid breathing mist/vapours/spray.  
 P264 Wash hands thoroughly after handling.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 P280 Wear protective gloves / eye protection.  
 P285 In case of inadequate ventilation wear respiratory protection.  
 P302+P352 IF ON SKIN: Wash with plenty of water.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 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.  
 P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.  
 P363 Wash contaminated clothing before reuse.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**NFPA ratings (scale 0 - 4)**


Health = 2  
 Fire = 0  
 Reactivity = 0

**HMIS-ratings (scale 0 - 4)**


HEALTH 2 Health = \*2  
 FIRE 0 Fire = 0  
 REACTIVITY 0 Reactivity = 0

\* - Indicates a long term health hazard from repeated or prolonged exposures.

- **2.3 Other hazards** There are no other hazards not otherwise classified that have been identified.  
 · **Results of PBT and vPvB assessment**  
 · **PBT:** Not applicable.  
 · **vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures**
**Components:**

CAS: 9014-01-1 EINECS: 232-752-2 Index number: 647-012-00-8 Reg.nr.: 01-2119480434-38-XXXX	subtilisin ----- ⚠ Resp. Sens. 1, H334 ⚠ Eye Dam. 1, H318 ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335	≤ 2,5%
CAS: 87199-17-5 ELINCS: 438-670-5 Index number: 005-014-00-0	4-formylphenylboronic acid ----- ⚠ Skin Sens. 1, H317	≤ 2,5%

(Cont'd. on page 3)

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS

Printing date: 08 January 2021

Revision: 08 January 2021

**Trade name: Total Bacteria Kit Component 2**

(Cont'd. from page 2)

· **Additional information:** For the wording of the listed Hazard Statements refer to section 16.

## SECTION 4: First aid measures

### · 4.1 Description of first aid measures

#### · **After inhalation:**

Supply fresh air; consult doctor in case of complaints.  
Provide oxygen treatment if affected person has difficulty breathing.  
In case of irregular breathing or respiratory arrest provide artificial respiration.

#### · **After skin contact:**

Immediately remove any clothing soiled by the product.  
Immediately wash with water and soap and rinse thoroughly.  
If skin irritation continues, consult a doctor.

#### · **After eye contact:**

Remove contact lenses if worn.  
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.

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

Asthma attacks  
Breathing difficulty  
Allergic reactions  
Gastric or intestinal disorders.  
Causes eye irritation.  
Slight irritant effect on skin and mucous membranes.

#### · **Hazards:** Danger of impaired breathing.

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

Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.  
Treat skin and mucous membrane with antihistamine and corticoid preparations.  
In cases of irritation to the lungs, initial treatment with corticoid inhalants.  
If necessary oxygen respiration treatment.  
Later observation for pneumonia and pulmonary oedema.  
Medical supervision for at least 48 hours.

## SECTION 5: Firefighting measures

### · 5.1 Extinguishing media

#### · **Suitable extinguishing agents:**

The product is not flammable.  
Use fire extinguishing methods suitable to surrounding conditions.

#### · **For safety reasons unsuitable extinguishing agents:** None.

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

Formation of toxic gases is possible during heating or in case of fire.

(Cont'd. on page 4)

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS

Printing date: 08 January 2021

Revision: 08 January 2021

**Trade name: Total Bacteria Kit Component 2**

(Cont'd. from page 3)

- **5.3 Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.

## SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Use respiratory protective device against the effects of fumes/dust/aerosol.  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Isolate area and prevent access.
- **6.2 Environmental precautions** No special measures required.
- **6.3 Methods and material for containment and cleaning up**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Send for recovery or disposal in suitable receptacles.
- **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 splashes or spray in enclosed areas.
- **Information about fire - and explosion protection:**  
The product is not flammable.  
No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Store in cool, dry conditions in well sealed receptacles.
- **Information about storage in one common storage facility:**  
Store away from foodstuffs.  
Store away from oxidising agents.
- **Further information about storage conditions:**  
Protect from frost.  
Storage Temperatures : 32 to 77 °F / 0 to 25 °C.
- **7.3 Specific end use(s)** No further relevant information available.

(Cont'd. on page 5)

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Revision: 08 January 2021

Trade name: Total Bacteria Kit Component 2

(Cont'd. from page 4)

## SECTION 8: Exposure controls/personal protection

### · 8.1 Control parameters

#### · Ingredients with limit values that require monitoring at the workplace:

##### 9014-01-1 subtilisin

REL (USA)	Short-term value: 0,00006* mg/m <sup>3</sup> *60-min
TLV (USA)	Ceiling limit: 0,00006 mg/m <sup>3</sup> as 100% crystalline active pure enzyme

- **DNELs:** No further relevant information available.
- **PNECs:** No further relevant information available.

### · 8.2 Exposure controls

#### · Personal protective equipment:

##### · General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Do not inhale gases / fumes / aerosols.  
Avoid contact with the eyes and skin.

##### · Respiratory protection:

Use suitable respiratory protective device in case of insufficient ventilation.  
Use suitable respiratory protective device when aerosol or mist is formed.  
For spills, respiratory protection may be advisable.  
NIOSH or EN approved organic vapour respirator equipped with a dust/mist prefilter should be used.

##### · Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

##### · For the permanent contact gloves made of the following materials are suitable:

Butyl rubber, BR  
Nitrile rubber, NBR  
Natural rubber, NR  
Neoprene gloves

##### · Eye protection:



Safety glasses

- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment:**  
No further relevant information available.

(Cont'd. on page 6)

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS

Printing date: 08 January 2021

Revision: 08 January 2021

<b>Trade name: Total Bacteria Kit Component 2</b>
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· <b>Risk management measures:</b> No further relevant information available.	(Cont'd. from page 5)
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## SECTION 9: Physical and chemical properties

### · 9.1 Information on basic physical and chemical properties

#### · Appearance

Form:	Liquid
Colour:	Amber coloured

· Odour:	Characteristic
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· Odour threshold:	Not determined.
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· pH-value at 20°C (68 °F):	4.0-9.0 (to stabilize enzyme)
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· Melting point/freezing point:	Not determined.
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· Initial boiling point and boiling range:	Boiling Point Range: 212 to 221 °F / 100 to 105 °C. (Estimated)
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· Flash point:	Not applicable.
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· Flammability (solid, gas):	Not applicable.
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· Auto/Self-ignition temperature:	Not determined.
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· Decomposition temperature:	Not determined.
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· Explosive properties:	Product does not present an explosion hazard.
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#### · Explosion limits

Lower:	Not determined.
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Upper:	Not determined.
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· Oxidising properties	Non-oxidising.
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· Vapour pressure at 20°C (68 °F):	23hPa (17,3 mm Hg)
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#### · Density:

Relative density:	1.1
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Vapour density:	Not determined.
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Evaporation rate:	Not determined.
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#### · Solubility in / Miscibility with

water:	Fully miscible.
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· Partition coefficient: n-octanol/water:	Not determined.
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#### · Viscosity

Dynamic:	Not determined.
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Kinematic:	Not determined.
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· 9.2 Other information	No further relevant information available.
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(Cont'd. on page 7)

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS

Printing date: 08 January 2021

Revision: 08 January 2021

**Trade name: Total Bacteria Kit Component 2**

(Cont'd. from page 6)

## 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.  
To avoid thermal decomposition do not overheat.
- **10.3 Possibility of hazardous reactions** Reacts with strong acids and alkali.
- **10.4 Conditions to avoid**  
Excessive heat.  
Do not allow product to freeze.
- **10.5 Incompatible materials** No further relevant information available.
- **10.6 Hazardous decomposition products** Possible in traces.

## SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

### · LD/LC50 values relevant for classification:

<b>9014-01-1 subtilisin</b>		
Oral	LD50	1800 mg/kg (rat)

- **Primary irritant effect**
- **Skin corrosion/irritation:** Slight irritant effect on skin and mucous membranes.
- **Serious eye damage/irritation:**  
Causes serious eye irritation.
- **Respiratory or skin sensitisation:**  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.

### · Carcinogenic categories

#### · IARC (International Agency for Research on Cancer):

None of the ingredients are listed.
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#### · NTP (National Toxicology Program):

None of the ingredients are listed.
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#### · OSHA-Ca (Occupational Safety & Health Administration):

None of the ingredients are listed.
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### · Probable routes of exposure:

Eye contact.  
Skin contact.

- **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.

(Cont'd. on page 8)

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS

Printing date: 08 January 2021

Revision: 08 January 2021

**Trade name:** IBCm Bacto Kit Component 2

(Cont'd. from page 7)

- **Aspiration hazard:** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** The product contains materials that are harmful to the environment.
- **12.2 Persistence and degradability** Easily biodegradable
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Due to available data on eliminability/decomposition and bioaccumulation potential, a prolonged damage of the environment is unlikely.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

## SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## SECTION 14: Transport information

- |   |               |
|---|---------------|
| <ul style="list-style-type: none"> <li>· <b>14.1 UN-Number</b></li> <li>· DOT, ADR, IMDG, IATA</li> </ul>                                   | Not Regulated |
| <ul style="list-style-type: none"> <li>· <b>14.2 UN proper shipping name</b></li> <li>· DOT, ADR, IMDG, IATA</li> </ul>                     | Not Regulated |
| <ul style="list-style-type: none"> <li>· <b>14.3 Transport hazard class(es)</b></li> <li>· DOT, ADR, IMDG, IATA</li> <li>· Class</li> </ul> | Not Regulated |

(Cont'd. on page 9)



# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS

Printing date: 08 January 2021

Revision: 08 January 2021

Trade name: Total Bacteria Kit Component 2

(Cont'd. from page 8)

· **14.4 Packing group**  
· DOT, ADR, IMDG, IATA Not Regulated

· **14.5 Environmental hazards:**  
· Marine pollutant: No

· **14.6 Special precautions for user** Not applicable.

· **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**  
· United States (USA)  
· SARA

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed or exempt.

· **Proposition 65 (California):**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **Carcinogenic Categories**

· **EPA (Environmental Protection Agency)**

87199-17-5 | 4-formylphenylboronic acid | I (oral)

· **IARC (International Agency for Research on Cancer)**

None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed.

(Cont'd. on page 10)

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS

Printing date: 08 January 2021

Revision: 08 January 2021

**Trade name: Total Bacteria Kit Component 2**

(Cont'd. from page 9)

· **Canadian Domestic Substances List (DSL)**

All ingredients are listed or exempt.

· **National regulations:**

· **Water hazard class:** Water hazard class 1: slightly hazardous for water.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

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.

· **Relevant phrases**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bio-accumulable, Toxique

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· **Sources**

Website, European Chemicals Agency ([echa.europa.eu](http://echa.europa.eu))

Website, US EPA Substance Registry Services ([ofmpub.epa.gov/sor\\_internet/registry/substreg/home/overview/home.do](http://ofmpub.epa.gov/sor_internet/registry/substreg/home/overview/home.do))

Website, Chemical Abstracts Registry, American Chemical Society ([www.cas.org](http://www.cas.org))

(Cont'd. on page 11)

**Safety Data Sheet**  
according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS

Printing date: 08 January 2021

Revision: 08 January 2021

**Trade name: IBCm Bacto Kit Component 2**

(Cont'd. from page 10)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

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