

## SAFETY DATA SHEET

(IN COMPLIANCE WITH REGULATION (EC) 1907/2006 / REGULATION (EC) 1272/2008 /REGULATION (EC) 453/2010)

### 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

#### 1.1 Product identifier

Product name: Fluidity One reagent cartridge.

Product number: 1001-90005

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

For use in the Fluidity One instrument.

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

Fluidic Analytics  
Unit A The Paddocks Business Centre  
Cherry Hinton Road  
Cambridge CB1 8DH  
United Kingdom

Telephone number: +44 (0) 1223 560 432

E-mail of competent person for the safety data sheet: help@fluidic.com

#### 1.4 Emergency telephone number

+44 (0) 1223 560 432

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

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

Skin irritation (Category 2), H315

Serious eye damage (Category 1), H318

Reproductive toxicity (Category 1B), H360FD

For the full text of the H-Statements mentioned in this section, see Section 16

#### 2.2 Label elements

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

Pictograms:



Signal word: **Danger**

Hazard statements:

H315

Causes skin irritation

H318

Causes serious eye damage

H360FD

May damage fertility. May damage the unborn child.

Precautionary statements:

P234

Keep only in original container.

P302 + P350

IF ON SKIN: gently wash with soap and water.

FLUIDITY ONE REAGENT CARTRIDGE SAFETY DATA SHEET		
ISSUE 3	14 November 2018	PAGE 1 OF 9

## SAFETY DATA SHEET

(IN COMPLIANCE WITH REGULATION (EC) 1907/2006 / REGULATION (EC) 1272/2008 /REGULATION (EC) 453/2010)

P305 + P351 + P338 IF IN EYES: rinse continuously with water for several minutes.  
 Remove contact lenses if present and easy to do – continue rinsing.  
 P308 + P313 If exposed or concerned: Get medical advice/attention.

### 2.3 Other hazards

None.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

	CAS number	EINECS number	%	Classification according to Regulation EC 1278/2008 (CLP)
<b>Cell 1:</b>				
Water	7732-18-5	215-185-5	100	

	CAS number	EINECS number	%	Classification according to Regulation EC 1278/2008 (CLP)
<b>Cell 2: Reagent</b>				
Boric acid	10043-35-3	233-139-2	1 - 3	Repr. 1B; H360FD
Potassium hydroxide	1310-58-3	215-181-3	2 - 3	Acute Tox. 4; H302 Skin Corr. 1A; H314 Eye Dam. 1; H318 Met. Corr. 1; H290

All other components are below the concentration limits for which a substance shall be listed as a substance in a mixture. Remaining components are commercially sensitive; however, other components are present at insufficient concentration for their hazards to reach the threshold for inclusion in classification and labelling.

	CAS number	EINECS number	%	Classification according to Regulation EC 1278/2008 (CLP)
<b>Cell 3: Reagent</b>				
Boric acid	10043-35-3	233-139-2	1 - 3	Repr. 1B; H360FD
Potassium hydroxide	1310-58-3	215-181-3	2 - 3	Acute Tox. 4; H302 Skin Corr. 1A; H314 Eye Dam. 1; H318 Met. Corr. 1; H290

All components are below the concentration limits for which a substance shall be listed as a substance in a mixture. Components are commercially sensitive; however, components are present at insufficient concentration for their hazards, where present, to reach the threshold for inclusion in classification and labelling.

	CAS number	EINECS number	%	Classification according to Regulation EC 1278/2008 (CLP)
<b>Cell 4: Empty on supply</b>				
Cell 4: Contains reaction products and waste on use.				As absolute worst case. Repr. 1B; H360FD Eye Irrit. 2; H319

### 4. FIRST AID MEASURES

FLUIDITY ONE REAGENT CARTRIDGE SAFETY DATA SHEET		
ISSUE 3	14 November 2018	PAGE 2 OF 9

## SAFETY DATA SHEET

(IN COMPLIANCE WITH REGULATION (EC) 1907/2006 / REGULATION (EC) 1272/2008 /REGULATION (EC) 453/2010)

### 4.1 Description of first aid measures

#### General advice

If signs or symptoms develop, consult a physician. Show this safety data sheet to the doctor in attendance.

#### *Inhalation:*

Inhalation exposure is highly unlikely, if it occurs, move person into fresh air.

#### *In case of skin contact:*

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water.

#### *In case of eye contact:*

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if effects persist.

#### *If swallowed:*

Do NOT induce vomiting. Never give anything by mouth to unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

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

None indicated.

## 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

None indicated.

### 5.3 Advice for fire-fighters

Wear self-contained breathing apparatus for fire-fighting if necessary.

## 6. ACCIDENTAL RELEASE MEASURES

The product is a cartridge which, if intact, will prevent any exposure to persons. The following precautions relate to damaged or leaking cartridges.

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so.

### 6.3 Methods and material for containment and cleaning up

Spills can be mopped up with tissues or diluted with water on surfaces. Place damaged cartridge and mopping tissue in suitable, closed containers for disposal.

FLUIDITY ONE REAGENT CARTRIDGE SAFETY DATA SHEET		
ISSUE 3	14 November 2018	PAGE 3 OF 9

## SAFETY DATA SHEET

(IN COMPLIANCE WITH REGULATION (EC) 1907/2006 / REGULATION (EC) 1272/2008 /REGULATION (EC) 453/2010)

### 6.4 Reference to other sections

See sections 8 and 13.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Ensure cartridge is intact; do not use damaged cartridges.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Ensure container tightly closed in a dry and well-ventilated place.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Components with workplace control parameters:

Component	CAS number	Exposure route/parameter	Value	
Potassium hydroxide	1310-58-3	STEL (Short Term Exposure Limit) Inhalation	2 mg/m <sup>3</sup>	UK WEL (Workplace exposure limit)

Derived No Effect Level (DNEL):

Component	CAS number	Application area	Health effect	Value
Caustic potash; potassium hydroxide	1310-58-3	Workers Consumers	Long-term local effects	1 mg/m <sup>3</sup>

### 8.2 Exposure controls

#### 8.2.1 Appropriate engineering controls

None required.

#### 8.2.2 Personal protective equipment

Use of the intact cartridge requires no specific PPE.  
The following is for handling of leaking or damaged cartridges.

*Eye protection:*

## SAFETY DATA SHEET

(IN COMPLIANCE WITH REGULATION (EC) 1907/2006 / REGULATION (EC) 1272/2008 /REGULATION (EC) 453/2010)

Safety glasses with side shields conforming to EN 166.

*Skin protection:*  
Nitrile gloves.

*Respiratory protection:*  
None indicated.

8.2.3 *Environmental exposure controls*  
See Section 6.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 **Information on basic physical and chemical properties**  
(of specific constituents as pure substances)

<b>Boric acid</b> <b>10043-35-3</b>	<b>Potassium hydroxide</b> <b>1310-58-3</b>
<i>Appearance</i>	
Form : powder	Form : Solid
<i>Odour</i>	
No data available.	No data available.
<i>Odour threshold</i>	
No data available.	No data available.
<i>pH</i>	
5.1 at 1.8 g/litre at 25°C	13.5
<i>Melting point</i>	
160°C	361°C
<i>Boiling point</i>	
300°C	1320°C
<i>Flash point</i>	
No data available.	No data available.
<i>Evaporation rate</i>	
No data available.	No data available.
<i>Flammability</i>	
No data available.	No data available.
<i>Vapour pressure</i>	
3.5 hPa at 20°C	1 hPa at 714°C or 719°C
<i>Vapour density</i>	
No data available.	No data available.

## SAFETY DATA SHEET

(IN COMPLIANCE WITH REGULATION (EC) 1907/2006 / REGULATION (EC) 1272/2008 /REGULATION (EC) 453/2010)

<i>Relative density</i>	
1.44 g/cm <sup>3</sup>	2.044 g/cm <sup>3</sup>
<i>Water solubility</i>	
63.5 g/litre at 30°C	1.120 g/litre soluble.
<i>Partition coefficient n octanol/water</i>	
No data available.	No data available.
<i>Autoignition temperature</i>	
No data available.	No data available.
<i>Decomposition temperature</i>	
No data available.	No data available.
<i>Viscosity</i>	
No data available.	No data available.
<i>Explosive properties</i>	
No data available.	No data available.
<i>Oxidizing properties</i>	
No data available.	No data available.

**9.2 Other information**  
 No other information.

**10. STABILITY AND REACTIVITY**  
 (of reagent mixtures)

**10.1 Reactivity**  
 No data available.

**10.2 Chemical stability**  
 Chemically stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**  
 No data available.

**10.4 Conditions to avoid**  
 Not relevant.

**10.5 Incompatible materials**  
 No particular incompatibility.

**10.6 Hazardous decomposition products**  
 No data available.

## SAFETY DATA SHEET

(IN COMPLIANCE WITH REGULATION (EC) 1907/2006 / REGULATION (EC) 1272/2008 /REGULATION (EC) 453/2010)

### 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

*Acute toxicity:*

For potassium hydroxide, the rat oral LD<sub>50</sub> is 333 mg/kg body weight.  
 For boric acid, the rat oral LD<sub>50</sub> is 2660 mg/kg body weight.

*Skin corrosion/irritation:*

For potassium hydroxide, skin-rabbit: severe skin irritation in 24h test.

*Serious eye damage/irritation:*

For potassium hydroxide, eyes- rabbit: corrosive to eyes in OECD test guideline 405.

*Respiratory or skin sensitisation:*

No data available.

*Germ cell mutagenicity:*

*In vitro* mammalian cell (mouse lymphoma cells) gene-mutation test negative for potassium hydroxide.

*Carcinogenicity:*

No data available.

*Reproductive toxicity:*

For boric acid: presumed human reproductive toxicant based on reduced foetal growth in a range of mammalian species in laboratory tests.

*STOT-single exposure:*

No data available.

*STOT-repeated exposure:*

No data available.

*Aspiration hazard:*

Not relevant.

### 12. ECOLOGICAL INFORMATION

#### 12.1 Toxicity

For potassium hydroxide: fish 96h LC<sub>50</sub> *Gambusia affinis* Mosquito fish 80 mg/litre.

For boric acid: fish 96h LC<sub>50</sub> *Ptychocheilus lucius* Colorado squawfish 279 mg/litre  
 fish 96h LC<sub>50</sub> *Onchorhynchus kisutch* Coho salmon 78.1 mg/litre

For boric acid: Daphnid 48h EC<sub>50</sub> *Daphnia magna* 133 mg/litre.  
 Daphnid 21d EC<sub>50</sub> *Daphnia magna* 53.2 mg/litre.

#### 12.2 Persistence and degradability

No data available.

#### 12.3 Bioaccumulative potential

No data available.

#### 12.4 Mobility in soil

No data available.

FLUIDITY ONE REAGENT CARTRIDGE SAFETY DATA SHEET		
ISSUE 3	14 November 2018	PAGE 7 OF 9

## SAFETY DATA SHEET

(IN COMPLIANCE WITH REGULATION (EC) 1907/2006 / REGULATION (EC) 1272/2008 /REGULATION (EC) 453/2010)

### 12.5 Results of PBT and vPvB assessment

Not PBT or vPvB.

### 12.6 Other adverse effects

No specific adverse effects known.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Dispose of intact cartridge via a licensed chemical disposal company.

## 14. TRANSPORT INFORMATION

(for the product as cartridge)

### 14.1 UN number

Not relevant.

### 14.2 UN proper shipping name

Not dangerous goods.

### 14.3 Transport hazard class(es)

Not classified.

### 14.4 Packing group

Not relevant.

### 14.5 Environmental hazards

Not relevant.

### 14.6 Special precautions for user

No special precautions.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant.

## 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

This product contains small amounts of boric acid (CAS# 10043-35-3) which is on the Candidate List of Substances of Very High Concern for Authorisation under REACH regarding 'Toxic for reproduction' classification.

### 15.2 Chemical safety assessment

For this product, no chemical safety assessment was carried out.

## 16. OTHER INFORMATION

FLUIDITY ONE REAGENT CARTRIDGE SAFETY DATA SHEET		
ISSUE 3	14 November 2018	PAGE 8 OF 9



## SAFETY DATA SHEET

(IN COMPLIANCE WITH REGULATION (EC) 1907/2006 / REGULATION (EC) 1272/2008 /REGULATION (EC) 453/2010)

### Full text of H-Statements referred to under sections 2 and 3

H290	May be corrosive to metals; Metal corrosion (Category 1)
H302	Harmful if swallowed; Acute toxicity (oral) (Category 4)
H314	Causes severe skin burns and eye damage; Skin corrosion (Category 1A)
H315	Causes skin irritation; Skin irritation (Category 2)
H318	Causes serious eye damage; Serious eye damage (Category 1)
H319	Causes serious eye irritation; Eye irritation (Category 2)
H360FD	May damage fertility or the unborn child; Reproductive toxicity (Category 1B)

### Third party materials:

Insofar as materials not manufactured or supplied by Fluidic Analytics are used in conjunction with, or instead of Fluidic Analytics materials, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of Fluid Analytics products in conjunction with materials from another supplier.

### Liability:

Such information is, to the best of Fluidic Analytics' knowledge and belief, accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy the suitability and completeness of such information for a particular use.

### Training:

Workers must be trained in the proper use and handling of this product as required under applicable regulations.