

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Puffer 4

Revision date: 12.05.2022

Product code: 28978

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

#### 1.1. Product identifier

Puffer 4

UFI: 6W7K-023M-W00R-FKRR

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

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

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Regulation (EC) No 1272/2008

Skin Irrit. 2; H315

Eye Irrit. 2; H319

Repr. 1B; H360FD

Full text of hazard statements: see SECTION 16.

#### 2.2. Label elements

##### Regulation (EC) No 1272/2008

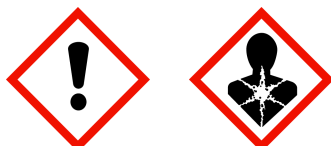
##### Hazard components for labelling

borax decahydrate

boric acid

Signal word: Danger

##### Pictograms:



##### Hazard statements

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H360FD

May damage fertility. May damage the unborn child.

##### Precautionary statements

P201

Obtain special instructions before use.

P280

Wear protective gloves and eye/face protection.

P302+P352

IF ON SKIN: Wash with plenty of water.

P305+P351+P338

IF IN EYES: Rinse cautiously 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.

##### Special labelling of certain mixtures

Restricted to professional users.

#### 2.3. Other hazards

No information available.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

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### Hazardous components

CAS No	Chemical name	Quantity		
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
6381-92-6	EDTA Na 2			1 - < 5 %
	205-358-3		01-2119486775-20	
	Acute Tox. 4, STOT RE 2; H332 H373			
1303-96-4	borax decahydrate			1 - < 5 %
	215-540-4		01-2119490790-32	
	Repr. 1B, Eye Irrit. 2; H360FD H319			
10043-35-3	boric acid			< 1 %
	233-139-2	005-007-00-2	01-2119486683-25	
	Repr. 1B; H360FD			
1310-73-2	sodium hydroxide			< 1 %
	215-185-5	011-002-00-6	01-2119457892-27	
	Met. Corr. 1, Skin Corr. 1A; H290 H314			

Full text of H and EUH statements: see section 16.

### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
6381-92-6	205-358-3	EDTA Na 2	1 - < 5 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); oral: LD50 = 2800 mg/kg		
1303-96-4	215-540-4	borax decahydrate	1 - < 5 %
	inhalation: LC50 = > 2,04 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2500 mg/kg		
10043-35-3	233-139-2	boric acid	< 1 %
	inhalation: LC50 = > 2,12 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 3450 mg/kg		
1310-73-2	215-185-5	sodium hydroxide	< 1 %
	Skin Corr. 1A; H314: >= 5 - 100 Skin Corr. 1B; H314: >= 2 - < 5 Skin Irrit. 2; H315: >= 0,5 - < 2 Eye Irrit. 2; H319: >= 0,5 - < 2		

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### After contact with skin

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

#### After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

#### After ingestion

Rinse mouth immediately and drink plenty of water.

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

No information available.

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

Treat symptomatically.

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### SECTION 5: Firefighting measures

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

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

Non-flammable.

#### **5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

#### **Additional information**

Suppress gases/vapours/mists with water spray jet.

### SECTION 6: Accidental release measures

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

##### **General advice**

Corrosive to metals.

##### **For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Do not breathe dust/fume/gas/mist/vapours/spray.

##### **For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

#### **6.2. Environmental precautions**

No special environmental measures are necessary. Clean contaminated articles and floor according to the environmental legislation.

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

##### **For containment**

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

##### **For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

##### **Other information**

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

#### **6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

### SECTION 7: Handling and storage

#### **7.1. Precautions for safe handling**

##### **Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe

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gas/fumes/vapour/spray.

### Advice on protection against fire and explosion

No special fire protection measures are necessary.

### Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

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

### Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations. Unsuitable container/equipment material: Metal.

### Hints on joint storage

No special measures are necessary.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
1303-96-4	Borate compounds inorganic: Borate (tetra) sodium decahydrate	-	2		TWA (8 h)	
10043-35-3	Borate compounds inorganic: boric acid	-	2		TWA (8 h)	
1310-73-2	Sodium hydroxide	-	2		STEL (15 min)	

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### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
6381-92-6	EDTA Na 2			
Worker DNEL, long-term		inhalation	local	1,5 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	3 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	local	0,6 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	local	1,2 mg/m <sup>3</sup>
Consumer DNEL, long-term		oral	systemic	25 mg/kg bw/day
1303-96-4	borax decahydrate			
Worker DNEL, long-term		inhalation	systemic	6,7 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	316,4 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	3,4 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	159,5 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,79 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	0,79 mg/kg bw/day
10043-35-3	boric acid			
Worker DNEL, long-term		inhalation	systemic	8,3 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	392 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	4,15 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	196 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,98 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	0,98 mg/kg bw/day
1310-73-2	sodium hydroxide			
Worker DNEL, long-term		inhalation	local	1 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	local	1 mg/m <sup>3</sup>

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### PNEC values

CAS No	Substance	Value
Environmental compartment		
6381-92-6	EDTA Na 2	
Freshwater		2,2 mg/l
Freshwater (intermittent releases)		1,2 mg/l
Marine water		0,22 mg/l
Micro-organisms in sewage treatment plants (STP)		43 mg/l
1303-96-4	borax decahydrate	
Freshwater		2,9 mg/l
Freshwater (intermittent releases)		13,7 mg/l
Marine water		2,9 mg/l
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		5,7 mg/kg
10043-35-3	boric acid	
Freshwater		2,9 mg/l
Freshwater (intermittent releases)		13,7 mg/l
Marine water		2,9 mg/l
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		5,7 mg/kg

### 8.2. Exposure controls

#### Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

#### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Suitable eye protection: goggles.

##### Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

##### Skin protection

Wear suitable protective clothing.

##### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

## SECTION 9: Physical and chemical properties

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

Physical state: Liquid  
Colour: pink

#### Changes in the physical state

Melting point/freezing point: not determined  
Boiling point or initial boiling point and boiling range: ?

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Flash point: ?

### Flammability

Solid/liquid: not applicable

Gas: not applicable

Lower explosion limits: not determined

Upper explosion limits: not determined

### Self-ignition temperature

Solid: not applicable

Gas: not applicable

Decomposition temperature: not determined

pH-Value: not determined

### Solubility in other solvents

not determined

Partition coefficient n-octanol/water: not determined

Vapour pressure:  
(at 50 °C) <=1100 hPa

Density: 1,10050 g/cm<sup>3</sup>

Relative vapour density: not determined

## 9.2. Other information

### Information with regard to physical hazard classes

Oxidizing properties

Not oxidising.

### Other safety characteristics

Solid content: not determined

Evaporation rate: not determined

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Corrosive to metals.

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

No known hazardous reactions.

### 10.4. Conditions to avoid

none

### 10.5. Incompatible materials

Keep away from: Metal.

### 10.6. Hazardous decomposition products

No known hazardous decomposition products.

## SECTION 11: Toxicological information

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

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### Acute toxicity

CAS No	Chemical name					
	Exposure route	Dose	Species	Source	Method	
6381-92-6	EDTA Na 2					
	oral	LD50 mg/kg	2800	Rat	Study report (1973)	BASF-TEST: In principle, the methods des
	inhalation vapour	ATE	11 mg/l			
	inhalation dust/mist	ATE	1,5 mg/l			
1303-96-4	borax decahydrate					
	oral	LD50 mg/kg	> 2500	Rat	Study report (1996)	OECD Guideline 401
	dermal	LD50 mg/kg	> 2000	Rabbit	Study report (1985)	other: This study was carried out to com
	inhalation (4 h) dust/mist	LC50 mg/l	> 2,04	Rat	Study report (1994)	OECD Guideline 403
10043-35-3	boric acid					
	oral	LD50 mg/kg	3450	Rat	Toxicology and Applied Pharmacology 23:	other: No data
	dermal	LD50 mg/kg	> 2000	Rabbit	Study report (1982)	other: FIFRA
	inhalation (4 h) dust/mist	LC50 mg/l	> 2,12	Rat	Study report (1997)	OECD Guideline 403

## SECTION 12: Ecological information

### 12.1. Toxicity

The product is not: Ecotoxic.



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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
6381-92-6	EDTA Na 2					
	Acute fish toxicity	LC50 41 mg/l	96 h	Lepomis macrochirus	Bull. Environm. Contam. Toxicol. 24: 543	The static water acute toxicity tests fo
	Acute algae toxicity	ErC50 > 100 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (2001)	OECD Guideline 201
	Acute crustacea toxicity	EC50 140 mg/l	48 h	Daphnia magna	Study report (1989)	other: DIN 38412, part 11
	Fish toxicity	NOEC >= 25,7 mg/l	35 d	Danio rerio	Study report (2001)	OECD Guideline 210
	Crustacea toxicity	NOEC 25 mg/l	21 d	Daphnia magna	Study report (1998)	other: EEC Guideline XI/681/86, Draft 4:
1303-96-4	borax decahydrate					
	Acute fish toxicity	LC50 79,7 mg/l	96 h	Pimephales promelas	Study report (2010)	other: ASTM E729-95 Standard Guide for C
	Acute algae toxicity	ErC50 66 mg/l	72 h	Phaeodactylum tricornutum	Study report (2011)	ISO 10253
	Acute crustacea toxicity	EC50 102 mg/l	48 h	Ceriodaphnia dubia	Study report (2010)	other: ASTM E729-95 Standard Guide for C
	Fish toxicity	NOEC 6,4 mg/l	34 d	Danio rerio	Study report (2000)	OECD Guideline 210
	Algae toxicity	NOEC 17,5 mg/l	3 d	Pseudokirchneriella subcapitata	Study report (2000)	OECD Guideline 201
	Crustacea toxicity	NOEC 10,8 mg/l	21 d	Daphnia magna	Study report (2000)	OECD Guideline 211
	Acute bacteria toxicity	(EC50 > 10000 mg/l)	3 h	activated sludge of a predominantly domestic sewage	Study report (2001)	OECD Guideline 209
10043-35-3	boric acid					
	Acute fish toxicity	LC50 79,7 mg/l	96 h	Pimephales promelas	Study report (2010)	other: ASTM E729-95 Standard Guide for C
	Acute algae toxicity	ErC50 66 mg/l	72 h	Phaeodactylum tricornutum	Study report (2011)	ISO 10253
	Acute crustacea toxicity	EC50 109 mg/l	48 h	Ceriodaphnia dubia	Study report (2010)	other: ASTM E729-95 Standard Guide for C
	Fish toxicity	NOEC 11,2 mg/l	32 d	Pimephales promelas	Study report (2010)	other: ASTM E1241-05 Standard Guide for
	Algae toxicity	NOEC 17,5 mg/l	3 d	Pseudokirchneriella subcapitata	Study report (2000)	OECD Guideline 201
	Crustacea toxicity	NOEC 25,9 mg/l	42 d	other aquatic crustacea: Hyalella azteca	Study report (2010)	other: US EPA 2000 Methods for assessing
	Acute bacteria toxicity	(EC50 > 10000 mg/l)	3 h	activated sludge of a predominantly domestic sewage	Study report (2001)	OECD Guideline 209

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1310-73-2	sodium hydroxide						
	Acute crustacea toxicity	EC50 mg/l	40,4	48 h	Ceriodaphnia sp.	Ecotoxicology and Environmental Safety,4	other: acute 48-h immobilization test ac

### 12.2. Persistence and degradability

The product has not been tested.

### 12.3. Bioaccumulative potential

The product has not been tested.

### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
6381-92-6	EDTA Na 2	-4,3
1303-96-4	borax decahydrate	-1,53
10043-35-3	boric acid	-1,09

### BCF

CAS No	Chemical name	BCF	Species	Source
6381-92-6	EDTA Na 2	ca. 1,8	Lepomis macrochirus	Proc. 3rd. Ann. Symp
1303-96-4	borax decahydrate	0,558	Oncorhynchus nerka	Water Research Vol.
10043-35-3	boric acid	0,558	Oncorhynchus nerka	Water Research Vol.

### 12.4. Mobility in soil

The product has not been tested.

### 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

The product has not been tested.

### 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

### 12.7. Other adverse effects

No information available.

### Further information

Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal recommendations

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

#### Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled.

## SECTION 14: Transport information

### Land transport (ADR/RID)

#### 14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

#### 14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

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

No dangerous good in sense of this transport regulation.

#### 14.4. Packing group:

No dangerous good in sense of this transport regulation.

### 14.6. Special precautions for user

No information available.

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

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not applicable

### SECTION 15: Regulatory information

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

##### EU regulatory information

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):  
borax decahydrate; boric acid

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 30, Entry 75

##### National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water hazard class (D):

1 - slightly hazardous to water

#### 15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

### SECTION 16: Other information

#### Changes

This data sheet contains changes from the previous version in section(s): 2, 15.

#### Abbreviations and acronyms

ADR: Accord européen sur le transport 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 Harmonized 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

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

#### Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Repr. 1B; H360FD	Calculation method

#### Relevant H and EUH statements (number and full text)

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H360FD May damage fertility. May damage the unborn child.  
H373 May cause damage to organs through prolonged or repeated exposure.

#### Further Information

The above information describes exclusively the safety requirements of the product and is based on our

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present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*