

## SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,  
Labelling And Safety Data Sheet Of Hazardous Chemicals)  
Regulations 2013 (CLASS 2013)

Revision Date 29.08.2018

Version 1.4

---

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

#### 1.1 Product identifier

Catalogue No. 106308  
Product name di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

REACH Registration Number A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No. 1303-96-4

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

Identified uses Reagent for analysis  
For additional information on uses please refer to the Merck Chemicals portal ([www.merckgroup.com](http://www.merckgroup.com)).

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

Company Merck KGaA \* 64271 Darmstadt \*Germany\* Telefon:+49 6151 72-0  
Responsible Department LS-QHC \* e-mail: [prodsafe@merckgroup.com](mailto:prodsafe@merckgroup.com)  
Regional representation Merck Sdn. Bhd. (Co. No: 178145), No. 4, Jalan U1/26, Section U1,  
Hicom Glenmarie Industrial Park, 40150 Shah Alam, Selangor. Tel:  
03-74943688 Fax: 03-74910850

1.4 Emergency telephone number **Customer Call Centre: + 62 0800 140 1253 (Toll Free)**

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,  
Labelling And Safety Data Sheet Of Hazardous Chemicals)  
Regulations 2013 (CLASS 2013)

Catalogue No. 106308  
Product name di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to CLASS regulations 2013

Eye irritation, Category 2, H319

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 CLASS regulations 2013

##### *Hazard pictograms*



##### *Signal word*

Danger

##### *Hazard statements*

H360FD May damage fertility. May damage the unborn child.

H319 Causes serious eye irritation.

##### *Precautionary statements*

###### Prevention

P201 Obtain special instructions before use.

###### Response

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.

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification, Labelling And Safety Data Sheet Of Hazardous Chemicals) Regulations 2013 (CLASS 2013)

Catalogue No. 106308  
Product name di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

Restricted to professional users.

## Reduced labelling ( $\leq 125$ ml)

*Hazard pictograms*



*Signal word*

Danger

*Hazard statements*

H360FD May damage fertility. May damage the unborn child.

*Precautionary statements*

P201 Obtain special instructions before use.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Contains: disodium tetraborate decahydrate

CAS-No. 1303-96-4

## 2.3 Other hazards

None known.

---

## SECTION 3. Composition/information on ingredients

### 3.1 Substance

Formula	$\text{Na}_2\text{B}_4\text{O}_7 \cdot 10 \text{H}_2\text{O}$	$\text{B}_4\text{Na}_2\text{O}_7 \cdot 10\text{H}_2\text{O}$ (Hill)
EC-No.	215-540-4	
Molar mass	381.32 g/mol	

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,  
Labelling And Safety Data Sheet Of Hazardous Chemicals)  
Regulations 2013 (CLASS 2013)

Catalogue No. 106308  
Product name di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

## Hazardous components according to CLASS regulations 2013

*Chemical name (Concentration)*

CAS-No. Registration number Classification

disodium tetraborate decahydrate (<= 100 % )

*PBT/vPvB: Not applicable for inorganic substances*

1303-96-4 \*)

Eye irritation, Category 2, H319

Reproductive toxicity, Category 1B, H360FD

\*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

### 3.2 Mixture

Not applicable

---

## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air. Call in physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/  
shower. Consult a physician.

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

After swallowing: immediately make victim drink water (two glasses at most). Consult a  
physician.

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

irritant effects

The following applies to boron compounds in general: resorption is followed by nausea and  
vomiting, agitation, spasms, CNS disorders, cardiovascular disorders.

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification, Labelling And Safety Data Sheet Of Hazardous Chemicals) Regulations 2013 (CLASS 2013)

Catalogue No.	106308
Product name	di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

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

No information available.

---

### SECTION 5. Firefighting measures

#### 5.1 Extinguishing media

##### *Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

##### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

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

Not combustible.

Ambient fire may liberate hazardous vapours.

#### 5.3 Advice for firefighters

##### *Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

##### *Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

---

### SECTION 6. Accidental release measures

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

#### 6.2 Environmental precautions

Do not empty into drains.

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,  
Labelling And Safety Data Sheet Of Hazardous Chemicals)  
Regulations 2013 (CLASS 2013)

Catalogue No.	106308
Product name	di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

## 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

## 6.4 Reference to other sections

Indications about waste treatment see section 13.

---

## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

#### *Advice on safe handling*

Work under hood. Do not inhale substance/mixture.

Observe label precautions.

#### *Hygiene measures*

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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

#### *Storage conditions*

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Recommended storage temperature see product label.

### 7.3 Specific end use(s)

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

---

## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification, Labelling And Safety Data Sheet Of Hazardous Chemicals) Regulations 2013 (CLASS 2013)

Catalogue No. 106308  
Product name di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

## *disodium tetraborate decahydrate (1303-96-4)*

MY OEL Time Weighted Average 5 mg/m<sup>3</sup>  
(TWA):  
Time Weighted Average 1 mg/m<sup>3</sup>  
(TWA):

## 8.2 Exposure controls

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

### Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

#### *Eye/face protection*

Safety glasses

#### *Hand protection*

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 480 min

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,  
Labelling And Safety Data Sheet Of Hazardous Chemicals)  
Regulations 2013 (CLASS 2013)

Catalogue No. 106308  
Product name di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet(>,<) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

#### *Other protective equipment*

protective clothing

#### *Respiratory protection*

required when dusts are generated.

Recommended Filter type: Filter P 3 (acc. to DIN 3181) for solid and liquid particles of toxic and very toxic substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

#### **Environmental exposure controls**

Do not empty into drains.

---

## **SECTION 9. Physical and chemical properties**

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

Form	crystals
Colour	white
Odour	odourless

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,  
Labelling And Safety Data Sheet Of Hazardous Chemicals)  
Regulations 2013 (CLASS 2013)

Catalogue No.	106308
Product name	di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

Odour Threshold	Not applicable
pH	9.2 at 47 g/l 20 °C
Melting point	75 °C Elimination of water of crystallisation
Boiling point	No information available.
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapour pressure	0.213 hPa at 20 °C
Relative vapour density	No information available.
Density	1.72 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,  
Labelling And Safety Data Sheet Of Hazardous Chemicals)  
Regulations 2013 (CLASS 2013)

Catalogue No.	106308
Product name	di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

Water solubility	49.74 g/l at 20 °C
Partition coefficient: n- octanol/water	Not applicable
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

Ignition temperature	not combustible
Bulk density	ca.750 kg/m <sup>3</sup>

---

## SECTION 10. Stability and reactivity

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

releases water of crystallisation when heated.

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

strong oxidising agents, Acids, metallic salts

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,  
Labelling And Safety Data Sheet Of Hazardous Chemicals)  
Regulations 2013 (CLASS 2013)

Catalogue No.	106308
Product name	di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

## 10.4 Conditions to avoid

Strong heating.

## 10.5 Incompatible materials

no information available

## 10.6 Hazardous decomposition products

no information available

---

## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### *Acute oral toxicity*

LD50 Rat: > 2,500 mg/kg

OECD Test Guideline 401

The value is given in analogy to the following substances: disodium tetraborate

#### *Acute inhalation toxicity*

LC50 Rat: > 2.04 mg/l; 4 h ; dust/mist

OECD Test Guideline 403

The value is given in analogy to the following substances: disodium tetraborate pentahydrate

Symptoms: Possible damages:, mucosal irritations, Irritation symptoms in the respiratory tract.

#### *Acute dermal toxicity*

LD50 Rabbit: > 2,000 mg/kg

(ECHA) The value is given in analogy to the following substances: disodium tetraborate pentahydrate

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,  
Labelling And Safety Data Sheet Of Hazardous Chemicals)  
Regulations 2013 (CLASS 2013)

Catalogue No.	106308
Product name	di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

## *Skin irritation*

Rabbit

Result: No irritation

(ECHA) The value is given in analogy to the following substances: disodium tetraborate pentahydrate

## *Eye irritation*

Rabbit

Result: Causes serious eye irritation.

OECD Test Guideline 405

Causes serious eye irritation.

## *Sensitisation*

Buehler Test Guinea pig

Result: negative

Method: OECD Test Guideline 406

The value is given in analogy to the following substances: disodium tetraborate pentahydrate

## *Germ cell mutagenicity*

This information is not available.

## *Carcinogenicity*

This information is not available.

## *Reproductive toxicity*

This information is not available.

## *Teratogenicity*

This information is not available.

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,  
Labelling And Safety Data Sheet Of Hazardous Chemicals)  
Regulations 2013 (CLASS 2013)

Catalogue No. 106308  
Product name di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

## *CMR effects*

Teratogenicity:

May damage the unborn child.

Reproductive toxicity:

May damage fertility.

## *Specific target organ toxicity - single exposure*

This information is not available.

## *Specific target organ toxicity - repeated exposure*

This information is not available.

## *Aspiration hazard*

This information is not available.

## **11.2 Further information**

Absorption via:

Gastrointestinal tract, Mucous membranes

The following applies to boron compounds in general: resorption is followed by nausea and vomiting, agitation, spasms, CNS disorders, cardiovascular disorders.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

---

## **SECTION 12. Ecological information**

### **12.1 Toxicity**

#### *Toxicity to fish*

LC50 Carassius auratus (goldfish): 630 mg/l; 72 h

(IUCLID)

#### *Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): 1,085 - 1,402 mg/l; 48 h

(IUCLID)

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,  
Labelling And Safety Data Sheet Of Hazardous Chemicals)  
Regulations 2013 (CLASS 2013)

Catalogue No. 106308  
Product name di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

## *Toxicity to algae*

IC50 *Desmodesmus subspicatus* (green algae): 158 mg/l; 96 h  
(anhydrous substance) (IUCLID)

## *Toxicity to bacteria*

EC0 *Pseudomonas putida*: 15.8 mg/l; 16 h  
(anhydrous substance) (IUCLID)

## **12.2 Persistence and degradability**

### *Biodegradability*

The methods for determining the biological degradability are not applicable to inorganic substances.

## **12.3 Bioaccumulative potential**

### *Partition coefficient: n-octanol/water*

Not applicable

## **12.4 Mobility in soil**

No information available.

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

PBT/vPvB: Not applicable for inorganic substances

## **12.6 Other adverse effects**

### *Additional ecological information*

Herbicide

Discharge into the environment must be avoided.

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,  
Labelling And Safety Data Sheet Of Hazardous Chemicals)  
Regulations 2013 (CLASS 2013)

Catalogue No. 106308  
Product name di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

---

## SECTION 13. Disposal considerations

### *Waste treatment methods*

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

According to Quality Environment Regulation (Scheduled Waste) 2005, waste need to be sent to designated premise for recycle, treatment or disposal. Please contact Kualiti Alam for waste classification and correct disposal method.

---

## SECTION 14. Transport information

### Land transport (ADR/RID)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

### Sea transport (IMDG)

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification, Labelling And Safety Data Sheet Of Hazardous Chemicals) Regulations 2013 (CLASS 2013)

Catalogue No. 106308  
Product name di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

**14.1 - 14.6** Not classified as dangerous in the meaning of transport regulations.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
Not relevant

---

## SECTION 15. Regulatory information

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

All national and local regulations, including Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013, if applicable to the use, should be observed.

#### *National legislation*

Storage class 6.1 D

### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

---

## SECTION 16. Other information

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

H319 Causes serious eye irritation.  
H360FD May damage fertility. May damage the unborn child.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

#### *Hazard pictograms*



#### *Signal word*

# SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,  
Labelling And Safety Data Sheet Of Hazardous Chemicals)  
Regulations 2013 (CLASS 2013)

Catalogue No.	106308
Product name	di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

---

Danger

### *Hazard statements*

H319 Causes serious eye irritation.  
H360 May damage fertility or the unborn child.

### *Precautionary statements*

Prevention

P201 Obtain special instructions before use.

Response

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.

Further information

Restricted to professional users.

Contains: disodium tetraborate decahydrate

### **Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

### **Regional representation**

Merck Sdn. Bhd. (Co. No: 178145), No. 4, Jalan U1/26, Section U1, Hicom Glenmarie Industrial Park, 40150 Shah Alam, Selangor. Tel: 03-74943688 Fax: 03-74910850

---

*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*