

**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date: 11/30/2015

Version 10

Reviewed on: 11/30/2015

**1 Identification**

· **Product identifier**

· **Product name:** Sodium perborate tetrahydrate

Sodium Perborate Tetrahydrate Q18

· **CAS Number:** 10486-00-7

· **EINECS Number:** 234-390-0

· **Index number:** 005-018-00-2

· **REACH-Registration number:** 01-2119516039-43-0002

· **Application of the substance / the preparation:** Bleaching component of washing and cleaning agents

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

**Site Althofen:**

Evonik Treibacher GmbH

Auer von Welsbach Strasse 1

9330 Althofen

AUSTRIA

Telephone: +43 (0) 4262 505-577 / +43 (0) 4262 505-290

Fax: +43 (0) 4262 505-406

· **Information department:** msdsetg@treibacher.com

· **Emergency telephone number:**

+43 (0) 4262 505-290 / +43 (0) 4262 505-291

+43 (0) 664-60505-290

CHEMTREC - USA / CA (24-h emergency number): +1 800 424 9300

+43 (0) 1 406 4343-0 (Austrian Poison Information Centre)

**2 Hazard(s) identification**

· **Classification of the substance or mixture**



GHS08 Health hazard

Repr. 1B H360 May damage fertility or the unborn child.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

STOT SE 3 H335 May cause respiratory irritation.

· **Label elements**

· **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms** GHS05, GHS07, GHS08

· **Signal word** Danger

· **Hazard statements**

H318 Causes serious eye damage.

H360 May damage fertility or the unborn child.

H335 May cause respiratory irritation.

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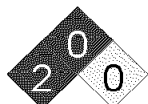
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#### · Precautionary statements

- P281 Use personal protective equipment as required.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P312 Call a POISON CENTER/doctor if you feel unwell.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P411+P235 Store at temperatures not exceeding 86°F. Keep cool.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

#### · Classification system:

#### · NFPA ratings (scale 0 - 4)



Health = 2  
 Fire = 0  
 Reactivity = 0

#### · HMIS-ratings (scale 0 - 4)



Health = \*2  
 Fire = 0  
 Reactivity = 0

#### · Other hazards Not applicable

#### · Results of PBT and vPvB assessment

#### · PBT: Not applicable.

#### · vPvB: Not applicable.

### 3 Composition/information on ingredients

#### · Chemical characterization: Substances

#### · Components:

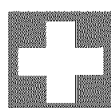
CAS: 10486-00-7	Sodium perborate tetrahydrate	≥ 96%
EINECS: 234-390-0	⚠ Repr. 1B, H360; ⚠ Eye Dam. 1, H318; ⚠ STOT SE 3, H335	
Index number: 005-018-00-2		
Reg.nr.: 01-2119516039-43-0002		

#### · Additional information:

Molecular formula:  $\text{NaBO}_3 \cdot 4\text{H}_2\text{O}$  /  $\text{NaBO}_2 \cdot \text{H}_2\text{O}_2 \cdot 3\text{H}_2\text{O}$   
 Molecular weight: 153.88 g/mol  
 Further CAS-No.: 11138-47-9  
 Further EINECS-No.: 234-390-0

### 4 First-aid measures

#### · Description of first aid measures



#### · General information:

Personal protection for the First Aider.  
 Seek medical treatment in case of complaints.

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- **After inhalation:**  
Take affected persons into fresh air and keep quiet.  
Seek medical treatment in case of complaints.
- **After skin contact:**  
Immediately rinse with water.  
If skin irritation continues, consult a doctor.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**  
If swallowed, rinse mouth with water (only if the person is conscious).  
Do not induce vomiting; immediately call for medical help.
- **Information for doctor:** Treat symptomatically.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
Water  
Foam  
Carbon dioxide
- **For safety reasons unsuitable extinguishing agents:** Organic media
- **Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
Oxygen
- **Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.
- **Additional information:**  
Remove persons from danger area.  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

\*

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective clothing.  
Avoid formation of dust.  
Avoid contact with the eyes and skin.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Avoid formation of dust.  
Send for recovery or disposal in suitable receptacles.  
Clean the affected area carefully; suitable cleaners are:  
Water  
Dispose of the collected material according to regulations.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
 The usual precautionary measures for handling chemicals should be followed.  
 Prevent formation of dust.  
 Wear protective clothing.
- **Information about protection against explosions and fires:** No special measures required.
- **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:**  
 Do not store together with alkalis (caustic solutions).  
 Do not store together with acids.  
 Store away from reducing agents.
- **Further information about storage conditions:**
- **Maximum storage temperature:** < 40 °C
- **Recommended storage temperature:** < 30 °C
- **Specific end use(s)** Bleaching component of washing and cleaning agents

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:**  
 Ensure good ventilation/exhaustion at the workplace.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
 The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

#### · DNELs

#### 10332-33-9 Sodium perborate monohydrate

Oral	LT syst. effects	0.36 mg/kg bw/day (General Population) NOAEL: 648 mg/kg bw/day (based on AF of 1800)
Dermal	LT syst. effects	36 mg/kg bw/day (General Population) LOAEL: 648 mg/kg bw/day (based on AF of 18) 101 mg/kg bw/day (Human (worker)) Assessment factor: $3 \times 1 \times 6 \times 4 \times 2,5 \times 5 = 900$ As for the dermal route 1 % absorption can be assumed, the external DNEL is about 101 mg/kg bw/day.
Inhalative	LT local effects	0.5 mg/m <sup>3</sup> (General Population) NOAEC: 2.0 mg/m <sup>3</sup> (based on AF of 4) 2 mg/m <sup>3</sup> (Human (worker)) Assuming an amount of the respirable fraction in workplace air of about 30 - 50% of the inhalable fraction (ECB, 2007), a DNEL of 2 mg/m <sup>3</sup> can be derived.
	LT syst. effects	0.5 mg/m <sup>3</sup> (General Population) NOAEC: 2.0 mg/m <sup>3</sup> (based on AF of 4) 2 mg/m <sup>3</sup> (Human (worker))

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- PNECs Not applicable
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.
- **Breathing equipment:** Use suitable respiratory protective device when high concentrations are present.
- **Recommended filter device for short term use:**  
 Filter P1  
 Filter FFP1
- **Protection of hands:**



Protective gloves

- **Material of gloves**  
 made out of PVC.  
 Rubber gloves
- **Penetration time of glove material** Value for the permeation: Level  $\geq$  240 min. (EN 374)
- **Eye protection:** Gauze goggles
- **Body protection:** Protective work clothing

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

<b>Form:</b>	Salt Crystalline free-flowing
<b>Color:</b>	White
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	Not applicable

· **pH-value (15 g/l) at 20 °C (68 °F):** 10· **Melting point/Melting range:** 338 K (at 1013 hPa)· **Boiling point/Boiling range:** Not applicable· **Flash point:** Not applicable· **Flammability (solid, gaseous):** Product is not flammable.· **Decomposition temperature:** ca. 60 °C (ca. 140 °F)· **Auto igniting:** None· **Danger of explosion:** Product does not present an explosion hazard.

#### · Explosion limits:

Lower: Not applicable

Upper: Not applicable

· **Oxidizing properties** None· **Vapor pressure:** Not applicable· **Density:** Not determined.

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· <b>Bulk density:</b>	700 - 950 kg/m <sup>3</sup>
· <b>Solubility in / Miscibility with</b> <b>Water at 20 °C (68 °F):</b>	23 g/l
· <b>Other information</b>	Typ. grain size: 95 % > 0.10 mm Active oxygen content: ca. 10 %

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** Thermal decomposition starts at 60 °C.
- **Possibility of hazardous reactions**  
Exothermic thermal decomposition.  
Reacts with reducing agents.  
Reacts with alkali (lyes).  
Reacts with acids.
- **Conditions to avoid**  
Protect from heat and direct sunlight.  
Protect from humidity and water.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.
- **Additional information:**  
Stable at ambient temperature.  
To avoid thermal decomposition do not overheat.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

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

Oral	LD50	2567 mg/kg (Rat) (OECD Guideline 401 (Acute Oral Toxicity)) Mayr W (1987)
	NOEL	< 1000 mg/kg (Rat)
Dermal	LD50	> 2000 mg/kg (Rabbit) (OECD Guideline 402 (Acute Dermal Toxicity)) Limittest
	NOAEL fetotoxicity	100 mg/kg bw/day (Rat (female)) (Prenatal Developmental Toxicity Study (OECD 414)) Bussi, 1995
	NOAEL maternal toxic	100 mg/kg bw/day (Rat (female)) (Prenatal Developmental Toxicity Study (OECD 414)) Bussi, 1995

- **on the skin:** No irritant effect.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:**  
NOEL (oral, Rat): < 1000 mg/kg (28-day-Study)  
Effects/organs affected:  
Irritation of gastric mucosa.

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- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** May impair fertility.

## 12 Ecological information

### · Toxicity

#### · Aquatic toxicity:

EC50	3.3 mg/l (Pseudokirchneriella subcapitata) (OECD Guideline 201) Solvay Duphar B.V. (1993d)
	26.8 mg/l (Desmodesmus subspicatus)
EC50/48h	11 mg/l (Daphnia magna) (OECD Guideline 202) Solvay Duphar B.V. (1993c)
LC50/96h	51 mg/l (Brachydanio rerio) (OECD Guideline 203 (Fish, Acute Toxicity Test)) Solvay Duphar B.V. (1993b)
NOEC/48 h	8 mg/l (Daphnia magna)
NOEC/96h	25 mg/l (Brachydanio rerio)

#### · Persistence and degradability

This product is unstable in water. The information concerning the elimination, also refers to the hydrolysis products.

Readily biodegradable

- **Other information:** Abiotic degradation because of hydrolysis and reduction.

#### · Behavior in environmental systems:

- **Bioaccumulative potential** Non significant accumulation in organisms

- **Mobility in soil** No further relevant information available.

#### · Additional ecological information:

- **AOX-indication:** The product does not contain organically bounded halogens (AOX-free).

- **General notes:** Water hazard class 1 (Assessment by list): slightly hazardous for water

#### · Results of PBT and vPvB assessment

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

### · Waste treatment methods

#### · Recommendation:

Must be specially treated adhering to official regulations.

Disposal must be made according to official regulations.

- **Waste disposal key:** 51540 (ÖNORM S 2100)

#### · European waste catalogue

16 03 03*	inorganic wastes containing dangerous substances
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- **Uncleaned packagings:**
- **Recommendation:**  
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information

- **UN-Number**  
· DOT, ADR,RID,ADN, ADN, IMDG, IATA Void
- **UN proper shipping name**  
· DOT, ADR,RID,ADN, ADN, IMDG, IATA Void
- **Transport hazard class(es)**  
· DOT, ADR,RID,ADN, ADN, IMDG, IATA  
· Class Void
- **Packing group**  
· DOT, ADR,RID,ADN, IMDG, IATA Void
- **Environmental hazards:** Void
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **Transport/Additional information:** Not dangerous according to the above specifications.  
Protect from heat and direct sunlight.  
Store in a cool place.
- **UN "Model Regulation":** Void

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 302 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is not listed.
- **TSCA (Toxic Substances Control Act):**  
1333-73-9 | Boric acid, sodium salt
- **Proposition 65**
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.
- **Carcinogenity categories**
- **EPA (Environmental Protection Agency)**  
10486-00-7 | Sodium perborate tetrahydrate | I (oral)
- **TLV (Threshold Limit Value established by ACGIH)** Substance is not listed.
- **MAK (German Maximum Workplace Concentration)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **Canadian substance listings:**
- **Canadian Domestic Substances List (DSL)** Substance is not listed.

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- **Canadian Ingredient Disclosure list (limit 0.1%)** Substance is not listed.
- **Canadian Ingredient Disclosure list (limit 1%)** Substance is not listed.
- **Philippines Inventory of Chemicals and Chemical Substances** Substance is listed.
- **Chinese Chemical Inventory of Existing Chemical Substances** Substance is listed.
- **Australian Inventory of Chemical Substances** Substance is listed.
- **Standard for the Uniform Scheduling of Drugs and Poisons** Substance is not listed.

<b>Existing and New Chemical List (Japan)</b>	
10486-00-7	Sodium perborate tetrahydrate

- **National regulations:**

- **Information about limitation of use:**

Employment restrictions concerning pregnant and lactating women must be observed.

- **Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

## 16 Other information

- **Relevant phrases**

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

I1360 May damage fertility or the unborn child.

- **Department issuing SDS:**

Health, Safety, Environment and Quality Management

Chemical Management

- **Date of preparation / last revision 11/30/2015 / 9**

- **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Repr. 1B: Reproductive toxicity, Hazard Category 1B

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

- **\* Data compared to the previous version altered.**