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

1.1 Product identifier

<table>
<thead>
<tr>
<th>Trade name</th>
<th>Natriumsulfat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration number (REACH)</td>
<td>01-2119519226-43-XXXX</td>
</tr>
<tr>
<td>EC number</td>
<td>231-820-9</td>
</tr>
<tr>
<td>CAS number</td>
<td>7757-82-6</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Relevant identified uses</th>
<th>Industrial use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses advised against</td>
<td>Do not use for products which come into contact with the food stuffs Do not use for private purposes (household)</td>
</tr>
</tbody>
</table>

1.3 Details of the supplier of the safety data sheet

BERGCHEMIE  J.C.Bröcking & Co. GmbH
Rudolfstrasse 14
42285 Wuppertal
Germany

Telephone: ++49 (0) 202 - 45 60 60
Telefax: ++49 (0) 202 / 44 79 32

E-mail address of competent person responsible for the SDS

sdb@csb-online.de

Please do not use this e-mail adress to ask for the latest safety data sheet. For this purpose contact BERGCHEMIE  J.C.Bröcking & Co. GmbH.

1.4 Emergency telephone number

As above or next toxicological information centre.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.
According to the results of its assessment, this substance is not a PBT or a vPvB.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)
not required

2.3 Other hazards

There is no additional information.

Results of PBT and vPvB assessment
According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>Sodium sulphate</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Identifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS No</td>
</tr>
<tr>
<td>EC No</td>
</tr>
<tr>
<td>Molecular formula</td>
</tr>
<tr>
<td>Molar mass</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes
In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation
Provide fresh air.

Following skin contact
Wash with plenty of soap and water.

Following eye contact
Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.

Following ingestion
Rinse mouth. Do not induce vomiting.
Get medical advice/attention if you feel unwell.
Natriumsulfat

Notes for the doctor
none

4.2 Most important symptoms and effects, both acute and delayed
Gastrointestinal complaints.
Nausea.

4.3 Indication of any immediate medical attention and special treatment needed
none

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
water, foam, alcohol resistant foam, fire extinguishing powder

Unsuitable extinguishing media
water jet

5.2 Special hazards arising from the substance or mixture
Hazardous decomposition products: Section 10.

Hazardous combustion products
sulphur oxides (SOx)

5.3 Advice for firefighters
In case of fire and/or explosion do not breathe fumes.
Co-ordinate firefighting measures to the fire surroundings.
Do not allow firefighting water to enter drains or water courses.
Collect contaminated firefighting water separately.
Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters
self-contained breathing apparatus (EN 133)

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Ventilate affected area.
Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders
Wear breathing apparatus if exposed to vapours/dust/spray/gases.
6.2 Environmental precautions
Keep away from drains, surface and ground water.
Retain contaminated washing water and dispose it.

6.3 Methods and material for containment and cleaning up
Advices on how to contain a spill
take up mechanically

Advices on how to clean up a spill
Take up mechanically.
Collect spillage.

Other information relating to spills and releases
Place in appropriate containers for disposal.
Ventilate affected area.

6.4 Reference to other sections
Hazardous combustion products: see section 5.
Personal protective equipment: see section 8.
Incompatible materials: see section 10.
Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Measures to prevent fire as well as aerosol and dust generation
Use local and general ventilation.

Specific notes/details
Dust deposits may accumulate on all deposition surfaces in a technical room.

Measures to protect the environment
Avoid release to the environment.

Advice on general occupational hygiene
Do not to eat, drink and smoke in work areas.
Wash hands after use.
Preventive skin protection (barrier creams/ointments) is recommended.
Remove contaminated clothing and protective equipment before entering eating areas.
Do not breathe dust.
Avoid contact with eyes.

7.2 Conditions for safe storage, including any incompatibilities
Explosive atmospheres
Not dust explosion capable.
Flammability hazards
None.

Incompatible substances or mixtures
Incompatible materials: see section 10.

Protect against external exposure, such as
heat, humidity, sunlight

Consideration of other advice
Keep away from food, drink and animal feedingstuffs.

Ventilation requirements
Provision of sufficient ventilation.

Packaging compatibilities
Keep only in original container.

7.3 Specific end use(s)
No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
No data available.

<table>
<thead>
<tr>
<th>Country</th>
<th>Name of agent</th>
<th>CAS No</th>
<th>Notation</th>
<th>Identifier</th>
<th>TWA [ppm]</th>
<th>TWA [mg/m³]</th>
<th>STEL [ppm]</th>
<th>STEL [mg/m³]</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>GB</td>
<td>dust</td>
<td></td>
<td>i</td>
<td>WEL</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td>EH40/2005</td>
</tr>
<tr>
<td>GB</td>
<td>dust</td>
<td></td>
<td>r</td>
<td>WEL</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>EH40/2005</td>
</tr>
</tbody>
</table>

Notation
i  inhalable fraction
r  respirable fraction

STEL  short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified

TWA  time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average

Human health values

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Protection goal, route of exposure</th>
<th>Used in</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNEL</td>
<td>20 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - local effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>20 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>12 mg/m³</td>
<td>human, inhalatory</td>
<td>consumer (private households)</td>
<td>chronic - local effects</td>
</tr>
</tbody>
</table>
Relevant DNELs and other threshold levels

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Protection goal, route of exposure</th>
<th>Used in</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNEL</td>
<td>12 mg/m³</td>
<td>human, inhalatory</td>
<td>consumer (private households)</td>
<td>chronic - systemic effects</td>
</tr>
</tbody>
</table>

Environmental values

Relevant PNECs and other threshold levels

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Environmental compartment</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC</td>
<td>11.09 mg/l</td>
<td>freshwater</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>1.109 mg/l</td>
<td>marine water</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>800 mg/l</td>
<td>sewage treatment plant (STP)</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>40.2 mg/kg</td>
<td>freshwater sediment</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>4.02 mg/kg</td>
<td>marine sediment</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>1.54 mg/kg</td>
<td>soil</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>17.66 mg/l</td>
<td>water</td>
<td>continuous</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Appropriate engineering controls
General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection
Wear eye/face protection.

Hand protection

<table>
<thead>
<tr>
<th>Material</th>
<th>Material thickness</th>
<th>Breakthrough times of the glove material</th>
</tr>
</thead>
<tbody>
<tr>
<td>NR: natural rubber, latex</td>
<td>≥ 0,65 mm</td>
<td>&gt;480 minutes (permeation: level 6)</td>
</tr>
<tr>
<td>CR: chloroprene (chlorobutadiene) rubber</td>
<td>≥ 0,65 mm</td>
<td>&gt;480 minutes (permeation: level 6)</td>
</tr>
<tr>
<td>NBR: acrylonitrile-butadiene rubber</td>
<td>≥ 0,11 mm</td>
<td>&gt;480 minutes (permeation: level 6)</td>
</tr>
</tbody>
</table>

Wear suitable gloves.
Chemical protection gloves are suitable, which are tested according to EN 374.
Check leak-tightness/impermeability prior to use.
In the case of wanting to use the gloves again, clean them before taking off and air them well.
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.
Respiratory protection
Particulate filter device (EN 143).
P1 (filters at least 80 % of airborne particles, colour code: White).

Environmental exposure controls
Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance
Physical state solid
Form powder, crystalline
Colour white
Odour odourless
Odour threshold these information are not available

Other safety parameters
pH (value) 5.2 - 8 (water: 50 g/l, 20 °C)
Melting point/freezing point 888 °C
Initial boiling point and boiling range these information are not available
Flash point not applicable
Evaporation rate these information are not available
Flammability (solid, gas) non-flammable
Explosion limits of dust clouds not determined
Vapour pressure these information are not available
Density 2.7 g/cm³ at 20 °C
Vapour density these information are not available
Bulk density 1,400 - 1,600 kg/m³
Relative density these information are not available

Solubility(ies)
Water solubility 410 g/l at 30 °C
**Natriumsulfat**

**Partition coefficient**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-octanol/water (log KOW)</td>
<td>-4.38</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>&gt;400 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>&gt;890 °C</td>
</tr>
</tbody>
</table>

**Viscosity**

- not relevant

**Kinematic viscosity**

- these information are not available

**Dynamic viscosity**

- these information are not available

**Explosive properties**

- not explosive

**Oxidising properties**

- shall not be classified as oxidising

---

**SECTION 10: Stability and reactivity**

10.1 **Reactivity**

This material is not reactive under normal ambient conditions.

10.2 **Chemical stability**

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 **Possibility of hazardous reactions**

No known hazardous reactions.

10.4 **Conditions to avoid**

- Humidity.

10.5 **Incompatible materials**

- There is no additional information.

10.6 **Hazardous decomposition products**

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

Hazardous combustion products: see section 5.
**SECTION 11: Toxicological information**

11.1 Information on toxicological effects

**Classification according to GHS (1272/2008/EC, CLP)**

This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

**Acute toxicity**

Shall not be classified as acutely toxic.

<table>
<thead>
<tr>
<th>Exposure route</th>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Method</th>
<th>Source</th>
</tr>
</thead>
</table>

**Skin corrosion/irritation**

Shall not be classified as corrosive/irritant to skin.

**Serious eye damage/eye irritation**

Shall not be classified as seriously damaging to the eye or eye irritant.

**Respiratory or skin sensitisation**

Shall not be classified as a respiratory or skin sensitiser.

**Germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.

**Carcinogenicity**

Shall not be classified as carcinogenic.

**Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

**Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

**Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

**Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.
Based on available data, the classification criteria are not met.

### Aquatic toxicity (acute)

Based on available data, the classification criteria are not met.

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Method</th>
<th>Source</th>
<th>Exposure time</th>
</tr>
</thead>
</table>

### Aquatic toxicity (chronic)

No data available.

### Persistence and degradability

#### Biodegradation

The study does not need to be conducted because the substance is inorganic.

#### Persistence

The study does not need to be conducted because the substance is inorganic.

### Bioaccumulative potential

Data are not available.

- **n-octanol/water (log KOW)**: -4.38 (ECHA)
- **BCF**: 0.5 (ECHA)

### Mobility in soil

Data are not available.

### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

### Other adverse effects

Data are not available.
Natriumsulfat

Endocrine disrupting potential
Not listed.

Remarks
Water hazard class - WHC (Wassergefährdungsklasse): 1 (Slightly hazardous to water)

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information
Do not empty into drains.

Waste treatment of containers/packagings
Handle contaminated packages in the same way as the substance itself.

Remarks
Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number
not subject to transport regulations

14.2 UN proper shipping name
- 

14.3 Transport hazard class(es)
Class
- 

14.4 Packing group
- 

14.5 Environmental hazards
- 

14.6 Special precautions for user
There is no additional information.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code
The cargo is not intended to be carried in bulk.
SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII
not listed

List of substances subject to authorisation (REACH, Annex XIV)
not listed

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II
not listed

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)
not listed

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)
not listed

Explosives precursors which are subject to restrictions
not listed

SECTION 16: Other information

Indication of changes (revised safety data sheet)
Indication of changes: Section 8

Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)</td>
</tr>
<tr>
<td>ADR</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</td>
</tr>
<tr>
<td>BCF</td>
<td>BioConcentration Factor</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)</td>
</tr>
<tr>
<td>CLP</td>
<td>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>DGR</td>
<td>danger</td>
</tr>
<tr>
<td>DNEL</td>
<td>Derived No-Effect Level</td>
</tr>
</tbody>
</table>
Natriumsulfat

Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC No</td>
<td>The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)</td>
</tr>
<tr>
<td>GHS</td>
<td>“Globally Harmonized System of Classification and Labelling of Chemicals” developed by the United Nations</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships (abbr. of “Marine Pollutant)</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>PNEC</td>
<td>Predicted No-Effect Concentration</td>
</tr>
<tr>
<td>ppm</td>
<td>parts per million</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>RID</td>
<td>Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)</td>
</tr>
<tr>
<td>STEL</td>
<td>short-term exposure limit</td>
</tr>
<tr>
<td>TWA</td>
<td>time-weighted average</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
<tr>
<td>WEL</td>
<td>workplace exposure limit</td>
</tr>
</tbody>
</table>

Key literature references and sources for data


Responsible for the safety data sheet

C.S.B. GmbH
Düsseldorfer Str. 113
47809 Krefeld
Telephone: ++49 (0) 2151 - 652086 - 0
Telefax: ++49 (0) 2151 - 652086 - 9
E-mail: info@csb-online.de
Website: www.csb-online.de

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.