

# safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



**Sulphur ≥99,5 %, ground**

article number: **9304**  
Version: **1.0 en**

date of compilation: 2017-02-09

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

### 1.1 Product identifier

Identification of the substance	<b>Sulphur</b>
Article number	9304
Registration number (REACH)	01-2119487295-27
Index No	016-094-00-1
EC number	231-722-6
CAS number	7704-34-9

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

**Identified uses:** laboratory chemical

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

Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet : Department Health, Safety and Environment

**e-mail (competent person)** : [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

### 1.4 Emergency telephone number

Emergency information service **Poison Centre Munich: +49/(0)89 19240**

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

Classification acc. to GHS			
Section	Hazard class	Hazard class and category	Hazard statement
3.2	skin corrosion/irritation	(Skin Irrit. 2)	H315

#### Remarks

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

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## 2.2 Label elements

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

**Signal word**

**Warning**

**Pictograms**



**Hazard statements**

H315 Causes skin irritation.

**Precautionary statements**

**Precautionary statements - prevention**

P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Precautionary statements - response**

P302+P352 IF ON SKIN: Wash with plenty of water.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P362+P364 Take off contaminated clothing and wash it before reuse.

**Labelling of packages where the contents do not exceed 125 ml**

Signal word: **Warning**

Symbol(s)



## 2.3 Other hazards

There is no additional information.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	Sulphur
Index No	016-094-00-1
Registration number (REACH)	01-2119487295-27
EC number	231-722-6
CAS number	7704-34-9
Molecular formula	S
Molar mass	32,06 g/mol

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

Rinse skin with water/shower. In case of skin irritation, consult a physician.

#### Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Gastrointestinal complaints, Nausea, Irritation, Dyspnoea

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

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings  
water spray, foam, dry extinguishing powder, carbon dioxide (CO<sub>2</sub>), sand

#### Unsuitable extinguishing media

water jet

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

Danger of dust explosion. Combustible.

#### Hazardous combustion products

In case of fire may be liberated: sulphur oxides (SO<sub>x</sub>)

### 5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

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## SECTION 6: Accidental release measures

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

#### For non-emergency personnel

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. Do not breathe dust. Avoid contact with skin, eyes and clothes. Avoidance of ignition sources.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

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

#### Advices on how to contain a spill

Covering of drains.

#### Advices on how to clean up a spill

Take up mechanically. Control of dust.

#### 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

Provision of sufficient ventilation.

#### • Measures to prevent fire as well as aerosol and dust generation



Keep away from sources of ignition - No smoking.

#### • Handling of incompatible substances or mixtures

#### • Keep away from

oxidisers

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

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

Store in a dry place. Keep container tightly closed.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice

#### • Ventilation requirements

Use local and general ventilation.

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- **Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 - 25 °C.

## 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

#### Occupational exposure limit values (Workplace Exposure Limits)

Data are not available.

### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)



#### Eye/face protection

Use safety goggle with side protection.

#### Skin protection

- **hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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.

- **type of material**

NBR (Nitrile rubber)

- **material thickness**

>0,11 mm

- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

#### Respiratory protection

Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

#### Environmental exposure controls

Keep away from drains, surface and ground water.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	solid
Colour	yellow
Odour	characteristic
Odour threshold	No data available

#### Other physical and chemical parameters

pH (value)	This information is not available.
Melting point/freezing point	113 - 119 °C
Initial boiling point and boiling range	444 - 447 °C
Flash point	188 °C 218 °C (open cup) (closed cup)
Evaporation rate	no data available
Flammability (solid, gas)	Non-flammable
<u>Explosive limits</u>	
• lower explosion limit (LEL)	0,17 vol%
• upper explosion limit (UEL)	6,83 vol%
Explosion limits of dust clouds	these information are not available
Vapour pressure	This information is not available.
Density	2,07 g/cm <sup>3</sup> at 20 °C
Vapour density	This information is not available.
Bulk density	450 - 600 kg/m <sup>3</sup>
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	<1 mg/l at 20 °C
<u>Partition coefficient</u>	
n-octanol/water (log KOW)	This information is not available.
Auto-ignition temperature	235 °C
Decomposition temperature	>250 °C
Viscosity	not relevant (solid matter)
Explosive properties	Shall not be classified as explosive
Oxidising properties	none

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## 9.2 Other information

Temperature class (EU, acc. to ATEX)

T3 (Maximum permissible surface temperature on the equipment: 200°C)

## 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

Risk of ignition: Carbide, Iron, Alkaline earth metal, Fluorine, Nickel, Carbon disulfide, Selenium,  
Danger of explosion: Alkali metals, Ammonia (NH<sub>3</sub>), Bromates, Chlorates, Ether, Potassium, Sodium, Nitrites, Perchlorates, Permanganates, Peroxides, Phosphorus, Strong oxidiser,  
Exothermic reaction with: Boron, Bromine, Chlorine, Copper, Metal powder, Phosphorus oxides (e.g. P<sub>2</sub>O<sub>5</sub>), Hydrogen, Tin

### 10.4 Conditions to avoid

Decomposition takes place from temperatures above: >250 °C.

### 10.5 Incompatible materials

copper, Steel

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Shall not be classified as acutely toxic.

Exposure route	Endpoint	Value	Species
oral	LD50	>2.000 mg/kg	rat
dermal	LD50	>2.000 mg/kg	rabbit
inhalation: dust/mist	LC50	>5,4 mg/l/4h	rat

#### 11.1.3. Chronic toxicity

1.6

Exposure route	Endpoint	Value	Species
oral	NOEC	1.000 mg/kg	rat
dermal	NOEC	1.000 mg/kg	rat

#### Skin corrosion/irritation

Causes skin irritation.

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### 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.

### Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor 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.

### Symptoms related to the physical, chemical and toxicological characteristics

#### • If swallowed

diarrhoea

#### • If in eyes

data are not available

#### • If inhaled

data are not available

#### • If on skin

causes skin irritation

### Other information

None

## SECTION 12: Ecological information

### 12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

#### Aquatic toxicity (acute)

Endpoint	Value	Species	Exposure time
LC50	866 mg/l	zebra fish (Danio rerio)	96 h

### 12.2 Process of degradability

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

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

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## 12.5 Results of PBT and vPvB assessment

Data are not available.

## 12.6 Other adverse effects

Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste. 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

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

14.1	UN number	<b>1350</b>
14.2	UN proper shipping name	<b>SULPHUR</b>
	Hazardous ingredients	Sulphur
14.3	Transport hazard class(es)	
	Class	4.1 (flammable solids)
14.4	Packing group	III (substance presenting low danger)
14.5	Environmental hazards	none (non-environmentally hazardous acc. to the dangerous goods regulations)
14.6	<b>Special precautions for user</b>	
	Provisions for dangerous goods (ADR) should be complied within the premises.	
14.7	<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	
	The cargo is not intended to be carried in bulk.	
14.8	<b>Information for each of the UN Model Regulations</b>	
	<b>• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)</b>	
	UN number	1350
	Proper shipping name	SULPHUR
	Particulars in the transport document	UN1350, SULPHUR, 4.1, III, (E)
	Class	4.1
	Classification code	F3
	Packing group	III
	Danger label(s)	4.1

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Special provisions (SP)	242
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
Transport category (TC)	3
Tunnel restriction code (TRC)	E
Hazard identification No	40
<b>Emergency Action Code</b>	1Z
<b>• International Maritime Dangerous Goods Code (IMDG)</b>	
UN number	1350
Proper shipping name	SULPHUR
Particulars in the shipper's declaration	UN1350, SULPHUR, 4.1, III
Class	4.1
Packing group	III
Danger label(s)	4.1



Special provisions (SP)	242, 967
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
EmS	F-A, S-G
Stowage category	A
<b>• International Civil Aviation Organization (ICAO-IATA/DGR)</b>	
UN number	1350
Proper shipping name	Sulphur
Particulars in the shipper's declaration	UN1350, Sulphur, 4.1, III
Class	4.1
Packing group	III
	4.1

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Special provisions (SP)	A105
Excepted quantities (EQ)	E1
Limited quantities (LQ)	10 kg

## 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)

- **Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)**

Not listed.

- **Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)**

Not listed.

- **Regulation 850/2004/EC on persistent organic pollutants (POP)**

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

#### **National inventories**

Substance is listed in the following national inventories:

- EINECS/ELINCS/NLP (Europe)
- REACH (Europe)

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

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## SECTION 16: Other information

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	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)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	very Persistent and very Bioaccumulative

### Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H315	causes skin irritation

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## Disclaimer

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