

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 04-May-2016

Print date: 13-May-2016

Version: 1.0

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

1.1 Product identifier

Trade name/designation:

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

Use of the substance/mixture:

Paste for electrodes

Industrial uses

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Rheinfelden Carbon GmbH & Co KG

Bukheinstr. 2

79618 Rheinfelden

GERMANY

Telephone: +49 7623 93 211

Telefax: +49 7623 93 548

E-mail: msds@rheinfelden-carbon.eu

Website: <http://www.rheinfelden-carbon.eu>

E-mail (competent person): msds@rheinfelden-carbon.eu

1.4 Emergency phone number

24h: +49 551 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification procedure
Germ cell mutagenicity (<i>Muta. 1B</i>)	H340: May cause genetic defects.	Calculation
Carcinogenicity (<i>Carc. 1A</i>)	H350: May cause cancer.	Calculation
Reproductive toxicity (<i>Repr. 1B</i>)	H360FD: May damage fertility. May damage the unborn child.	Calculation
Respiratory or skin sensitisation (<i>Skin Sens. 1</i>)	H317: May cause an allergic skin reaction.	Calculation
Hazardous to the aquatic environment (<i>Aquatic Chronic 3</i>)	H412: Harmful to aquatic life with long lasting effects.	Calculation

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms:



GHS07

Exclamation mark



GHS08

Health hazard

Signal word: Danger

Hazard components for labelling:

Pitch, coal tar, high-temp., heat-treated; Distillates (coal tar), heavy oils

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Hazard statements for health hazards

H317	May cause an allergic skin reaction.
H340	May cause genetic defects.
H350	May cause cancer.
H360FD	May damage fertility. May damage the unborn child.

Hazard statements for environmental hazards

H412	Harmful to aquatic life with long lasting effects.
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Precautionary statements Prevention

P201	Obtain special instructions before use.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.

Precautionary statements Response

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

P405	Store locked up.
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2.3 Other hazards

Adverse human health effects and symptoms:

If dust is generated: May cause eye irritation. May cause respiratory irritation.
The melted product can cause severe burns.

SECTION 3: Composition / information on ingredients

3.2 Mixtures

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No. 1272/2008 [CLP]	Content
CAS No.: 64743-05-1 EC No.: 265-210-9	Coke, calcined	25 - 50 Wt %
CAS No.: 68187-59-7 EC No.: 269-111-1	Coal, anthracite, calcined	5 - 40 Wt %
CAS No.: 121575-60-8 EC No.: 310-162-7 REACH No.: 01-2119638193-40	Pitch, coal tar, high-temp., heat-treated Repr. 1B, Skin Sens. 1, Muta. 1B, Carc. 1B, Aquatic Chronic 4 Danger H317-H340-H350-H360FD-H413	< 25 Wt %
CAS No.: 7782-42-5 EC No.: 231-955-3 REACH No.: 01-2119486977-12	Graphite	0 - 20 Wt %
CAS No.: 90640-86-1 EC No.: 292-607-4 REACH No.: 01-2119539472-38	Distillates (coal tar), heavy oils Repr. 2, Skin Irrit. 2, Skin Sens. 1, Muta. 1B, Carc. 1B, Asp. Tox. 1, Aq ua. Chronic 3 Danger H304-H315-H317-H340-H350-H361fd-H412	< 10 Wt %
CAS No.: 50-32-8 EC No.: 200-028-5	Benzo[def]chrysene Repr. 1B, Skin Sens. 1, Muta. 1B, Carc. 1B, Aqua. Acute 1, Aqua. Chr onic 1 Danger H317-H340-H350-H360FD-H410	< 0.025 Wt %

Full text of H- and EUH-phrases: see section 16.

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SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove victim out of the danger area. Take off contaminated clothing and wash it before reuse. If unconscious place in recovery position and seek medical advice. Do not leave affected person unattended.

Following inhalation:

Provide fresh air. Get medical advice/attention.

In case of skin contact:

After contact with molten product, cool skin area rapidly with cold water. After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, consult a physician.

After eye contact:

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion:

If swallowed, rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Get immediate medical advice/attention.

Self-protection of the first aider:

No direct artificial respiration to be given by first aider.

4.2 Most important symptoms and effects, both acute and delayed

If dust is generated: May cause eye irritation. May cause respiratory irritation. May cause an allergic skin reaction. May cause cancer. May cause genetic defects. May damage fertility. May damage the unborn child.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

water spray jet, alcohol resistant foam, extinguishing powder, Carbon dioxide (CO₂)

5.2 Special hazards arising from the substance or mixture

This material is combustible, but will not ignite readily. Burning produces heavy smoke. If dust is generated: Danger of dust explosion.

Hazardous combustion products:

In case of fire may be liberated: Pyrolysis products, toxic; Carbon oxides (CO_x); Nitrogen oxides (NO_x); Sulphur oxides (SO_x)

5.3 Advice for firefighters

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

5.4 Additional information

Move undamaged containers from immediate hazard area if it can be done safely. Use water spray to keep fire-exposed containers cool.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Personal precautions:

Provide adequate ventilation. Do not breathe dust. Avoid contact with skin, eyes and clothes.

Protective equipment:

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

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6.1.2 For emergency responders

Personal protection equipment:

Personal protection equipment: see section 8

6.2 Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Collect contaminated fire extinguishing water separately.

6.3 Methods and material for containment and cleaning up

For containment:

Take up mechanically, placing in appropriate containers for disposal. Measures to prevent aerosol and dust generation: Wet clean or vacuum up solids.

For cleaning up:

Measures to prevent aerosol and dust generation: Wet clean or vacuum up solids.

Cleaning agent: Water with tenside additive.

6.4 Reference to other sections

Safe handling: see section 7.

Personal protection equipment: see section 8.

Disposal: see section 13.

6.5 Additional information

Use appropriate container to avoid environmental contamination.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures

Advices on safe handling:

Wear personal protection equipment (refer to section 8). Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with eyes and skin. Handle and open container with care. Always close containers tightly after the removal of product.

Fire prevent measures:

If dust is generated: Remove all sources of ignition. Warning! Danger of dust explosion.

Measures to prevent aerosol and dust generation:

Dust should be exhausted directly at the point of origin. Additional measures for respiratory protection: High efficiency particulate air filter (HEPA filter)

Environmental precautions:

Discharge into the environment must be avoided.

Advices on general occupational hygiene

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

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Store dry. Ensure adequate ventilation of the storage area.

Keep container tightly closed.

Hints on storage assembly:

Do not store together with: Oxidizing agent

Storage class: 6.1C - Combustible substances of acute toxicity, category 3 / hazardous substances that are toxic or produce chronic effects

7.3 Specific end use(s)

Recommendation:

Paste for electrodes.

Observe technical data sheet.

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SECTION 8: Exposure controls / Personal protection

8.1 Control parameters

8.1.1 Occupational exposure limit values

Limit value type (country)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
WEL (GB)	Graphite CAS No.: 7782-42-5	① 4 mg/m ³ ⑤ (respirable fraction)
WEL (GB)	Graphite CAS No.: 7782-42-5	① 10 mg/m ³ ⑤ (inhalable fraction)
WEL (GB)	dust, respirable fraction	① 4 mg/m ³ ⑤ Dust limit value respirable fraction
WEL (GB)	dust, inhalable fraction	① 10 mg/m ³ ⑤ Dust limit value inhalable fraction
MEL/OES (GB)	Coal dust, Anthracite	① 2 mg/m ³ ⑤ (Coal Dust, respirable fraction)

8.1.2 Biological limit values

Limit value type (country)	Substance name	Limit value	① Parameter ② Test material ③ Sample time ④ Remark
BMGV (GB)	Benzo[def]chrysene CAS No.: 50-32-8	4 µmol/mol creatinine	① 1-hydroopyrene ② urine ③ end of exposure or end of shift

8.1.3 DNEL-/PNEC-values

Substance name	PNEC value	① PNEC type
Benzo[def]chrysene CAS No.: 50-32-8	0.022 µg/l	① PNEC aquatic, marine water
Benzo[def]chrysene CAS No.: 50-32-8	0.05 µg/l	① PNEC aquatic, freshwater
Benzo[def]chrysene CAS No.: 50-32-8	0.053 mg/l	① PNEC soil, freshwater
Benzo[def]chrysene CAS No.: 50-32-8	1.8308 mg/l	① PNEC sediment, marine water
Benzo[def]chrysene CAS No.: 50-32-8	4.2 mg/l	① PNEC sediment, freshwater

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. Measures to prevent aerosol and dust generation: Provide adequate ventilation as well as local exhaust at critical locations.

8.2.2 Personal protection equipment



Eye/face protection:

Recommendation: Eye glasses with side protection (EN 166).

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Skin protection:

Tested protective gloves must be worn (EN 374).

Suitable material: NBR (Nitrile rubber), IIR (Butyl rubber)

Thickness of the glove material: $\geq 0,5$ mm

Breakthrough time (maximum wearing time): ≥ 480 min

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. 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. Breakthrough times and swelling properties of the material must be taken into consideration.

Respiratory protection:

If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. Combination filtering device (EN 14387), Filter type: A2/P3. Observe the wear time limits as specified by the manufacturer.

Other protection measures:

Wear suitable protective clothing (EN 340). In case of thermal hazard use heat-resistant synthetic fiber. Wash all protective clothing after use.

8.2.3 Environmental exposure controls

Discharge into the environment must be avoided. See section 6.2

8.3 Additional information

No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state: solid

Colour: dark grey

Odour: like Mineral oil

Safety relevant basic data

Parameter		at	Method	Remark
pH	<i>not applicable</i>			
Melting point/freezing point	<i>not determined</i>			
Freezing point	<i>not determined</i>			
Initial boiling point and boiling range	<i>not determined</i>			
Decomposition temperature	> 400 °C			coking
Flash point	<i>not applicable</i>			
Evaporation rate	<i>not applicable</i>			
Ignition temperature	> 550 °C			
Upper/lower flammability or explosive limits	<i>not determined</i>			
Vapour pressure	<i>not applicable</i>			
Vapour density	<i>not applicable</i>			
Density	1.4 - 1.6 g/cm ³	20 °C		
Bulk density	<i>not determined</i>			
Water solubility	1 mg/l	20 °C	OECD 105	
Partition coefficient: n-octanol/water	<i>not determined</i>			
Dynamic viscosity	<i>not applicable</i>			
Kinematic viscosity	<i>not applicable</i>			
Softening point	150 - 190 °C			

9.2 Other information

No data available.

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SECTION 10: Stability and reactivity

10.1 Reactivity

This material is combustible, but will not ignite readily.

10.2 Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3 Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

10.4 Conditions to avoid

If dust is generated: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5 Incompatible materials

Oxidizing agent.

10.6 Hazardous decomposition products

In case of fire may be liberated: Pyrolysis products, toxic; Carbon oxides (CO_x); Nitrogen oxides (NO_x); Sulphur oxides (SO_x)

Additional information

Burning produces heavy smoke.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity:

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

Acute dermal toxicity:

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

Acute inhalation toxicity:

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

Skin corrosion/irritation:

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

Eye damage/irritation:

Based on available data, the classification criteria are not met.
If dust is generated: May cause eye irritation.

Respiratory or skin sensitisation:

Based on available data, the classification criteria are not met.
Contains Benzo[def]chrysene. May produce an allergic reaction.

Germ cell mutagenicity:

May cause genetic defects.

Carcinogenicity:

May cause cancer.

Reproductive toxicity:

May damage fertility. May damage the unborn child.

STOT-single exposure:

Based on available data, the classification criteria are not met.
If dust is generated: May cause respiratory irritation.

STOT-repeated exposure:

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

Aspiration hazard:

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

Additional information:

No data available.

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SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

CAS No.	Substance name	Biodegradation	Remark
68187-59-7	Coal, anthracite, calcined	No	
64743-05-1	Coke, calcined	No	
7782-42-5	Graphite	No	
50-32-8	Benzo[def]chrysene	No	
121575-60-8	Pitch, coal tar, high-temp., heat-treated	No	
90640-86-1	Distillates (coal tar), heavy oils	No	

Biodegradation:

According to experiences this product is inert and not degradable.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
68187-59-7	Coal, anthracite, calcined	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
64743-05-1	Coke, calcined	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
7782-42-5	Graphite	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
50-32-8	Benzo[def]chrysene	vPvB-substance.
121575-60-8	Pitch, coal tar, high-temp., heat-treated	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
90640-86-1	Distillates (coal tar), heavy oils	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6 Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

13.1.1 Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product:

05 06 03 *	Other tars
------------	------------

*: Evidence for disposal must be provided.

Remark:

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

Waste treatment options

Appropriate disposal / Product:

Send to a hazardous waste incinerator facility under observation of official regulations. Consult the appropriate local waste disposal expert about waste disposal. For recycling, contact manufacturer.

Appropriate disposal / Package:

Completely emptied packages can be recycled.

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13.2 Additional information

Collect in closed and suitable containers for disposal. Waste for disposal is to be classified and labelled.

SECTION 14: Transport information

No dangerous good in sense of these transport regulations.

14.1 UN-No.

not relevant

14.2 UN proper shipping name

not relevant

14.3 Transport hazard class(es)

not relevant

14.4 Packing group

not relevant

14.5 Environmental hazards

not relevant

14.6 Special precautions for user

not relevant

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

not determined

SECTION 15: Regulatory information

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

15.1.1 EU legislation

Authorisations:

No data available.

Restrictions on use:

No data available.

Other EU regulations:

Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work. Observe restrictions to employment for juvenils 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.

15.1.2 National regulations

No data available.

15.2 Chemical Safety Assessment

No data available.

15.3 Additional information

No data available.

SECTION 16: Other information

16.1 Indication of changes

No data available.

16.2 Abbreviations and acronyms

See overview table at www.euphrac.eu.s

16.3 Key literature references and sources for data

No data available.

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16.4 Classification for mixtures and used evaluation method according to regulation (EC) No. 1272/2008 [CLP]

Classification according to Regulation (EC) No. 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification procedure
Germ cell mutagenicity (<i>Muta. 1B</i>)	H340: May cause genetic defects.	Calculation
Carcinogenicity (<i>Carc. 1A</i>)	H350: May cause cancer.	Calculation
Reproductive toxicity (<i>Repr. 1B</i>)	H360FD: May damage fertility. May damage the unborn child.	Calculation
Respiratory or skin sensitisation (<i>Skin Sens. 1</i>)	H317: May cause an allergic skin reaction.	Calculation
Hazardous to the aquatic environment (<i>Aquatic Chronic 3</i>)	H412: Harmful to aquatic life with long lasting effects.	Calculation

16.5 Relevant H- and EUH-phrases

Hazard statements	
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H340	May cause genetic defects.
H350	May cause cancer.
H360FD	May damage fertility. May damage the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

16.6 Training advice

No data available.

16.6 Additional information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations. 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.