# Material Safety Data Sheet

According to (EC) No 1907/2006 (REACH) and 1272/2008 (CLP)

## CARBO ACTIVATUS



Publication: 11/09/2022
Revision: 26/12/2024
Version: 01

MAGIS PHARMA

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product identifier

| | |
|---|---|
| Product name: | Charcoal, activated<br>Carbo activatus<br>Actieve kool<br>Charbon activé<br>Aktivkohle |
| N° CAS: | 7440-44-0 |
| N° EC: | 931-328-0 |

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

| | |
|---|---|
| Identified uses: | Active Pharmaceutical Ingredient or Excipient. |

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

| | |
|---|---|
| Company: | Magis-Pharma NV<br>Neerlandweg 24<br>2610 Wilrijk<br>Belgium |
| Telephone: | (+32) (0)3 457 11 76 |
| Email: | info@magis-pharma.be |
| Web page: | www.magis-pharma.be |

### 1.4 Emergency telephone number

| | | |
|---|---|---|
| Public utility foundation: | Belgisch Antigifcentrum | Centre Antipoisons Belge |
| Telephone: | (+32) (0)70 245 245 | (Service 24/7) |
| Web page: | www.antigifcentrum.be | www.centreantipoisons.be |

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1 Classification of the substance/mixture

**Classification according to (EC) n° 1272/2008**

Not available.

### 2.2 Label elements

**Labelling according to (EC) n° 1272/2008**

Hazard pictogram(s):

Signal word(s): Attention

Hazard statements:

| | |
|---|---|
| EUH018 | In use may form flammable/explosive vapour-air mixture. |
| EUH044 | Risk of explosion if heated under confinement. |

Precautionary statements: Not applicable.

| | |
|---|---|
| Additional applicable label elements: | Not applicable. |

### 2.3 Other hazards

In the event of dust formed by mechanical action (sanding, sawing, etc..), this dust may cause irritation by inhalation and contact with eyes.

In use, may form flammable/explosive dust-air mixture.

The substance does not fulfil the PBT or vPvP criteria in accordance with annexe XIII of the REACH regulations EC 1907/2006.

May cause CO and $CO_2$ emanations in the event of a fire.

According to the ECHA Guidance on chemical safety assessment, Chapter R11, section R11.1.2.1: "The PBT and vPvB criteria of Annex XIII to the Regulation do not apply to inorganic substances". As Activated Carbon - HDS type is to be considered as an inorganic substance, the PBT assessment is not applicable.

Wet Activated Carbon depletes oxygen from air and, therefore, dangerously low levels of oxygen may be encountered. Whenever workers enter a vessel containing activated carbon, the oxygen content should be determined and work procedures for potentially low oxygen areas should be followed.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

| | |
|---|---|
| Product name: | Charcoal, activated |
| IUPAC name: | Carbon |
| Synonyms: | Acticarbone<br>Activated carbon |
| N° CAS: | 7440-44-0 |
| N° EC: | 931-328-0 |
| Molecular Formula: | C |
| Content: | 100% |

Obtained from vegetable matter by suitable carbonization processes intended to confer a high adsorption power.

Information on ingredients: A porous, amorphous, high surface area adsorbent material composed largely of elemental carbon. Substance for which maximum workplace exposure limits are available.

### 3.2 Mixtures

Not applicable.

## SECTION 4: FIRST AID MEASURES

### 4.1 Description of first aid measures

| | |
|---|---|
| General notes: | As a general rule, in case of doubt or if symptoms persist, always call a doctor. NEVER induce swallowing by an unconscious person. |
| After inhalation: | If breathing is irregular or has stopped, effect mouth-to-mouth resuscitation and call a doctor. Fresh air, rest. Obtain medical attention if cough or respiratory symptoms develop. |
| After skin contact: | |

| | |
|---|---|
| After eye contact: | Watch out for any remaining product between skin and clothing, watches, shoes, etc. Rince with water and soap. Remove contaminated clothes. Obtain medical attention if irritation becomes apparent. |
| After ingestion: | Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open. If there is any redness, pain or visual impairment, consult an ophthalmologist. |
| | Do not give the patient anything orally. In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water and consult a doctor. Seek medical attention immediately, showing the label. Give at least ½ L of water to drink. Obtain mediacl attention if gastrintestinal symptoms develop. Do not induce vomiting. |

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

When large amounts are ingested orally, congestion may occur.

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

Specific and immediate treatment: N/A.

Information for the doctor: Medications efficiency can be reduced by the adsorbing power of the activated carbon.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1 Extinguishing media

| | |
|---|---|
| Suitable extinguishing media: | In the event of a fire, use sprayed water or water mist, carbon dioxide ($CO_2$), foam, powder. Prevent the effluent of fire-fighting measures from entering drains or waterways. |
| Unsuitable extinguishing media: | In the event of a fire, do not use water jet in the closed areas, in order to avoid the water contamination. |

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

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed: Carbon monoxide (CO), carbon dioxide ($CO_2$), other decomposition products for the saturated activated carbon.

After a fire, smoldering hotspots within the activated carbon may be present for a long time.

Activated Carbon which has been allowed to smolder for a long time in a confined space may accumulate carbon monoxide above its lower explosion limit.

### 5.3 Advice for firefighters

| | |
|---|---|
| Surrounding fires: | Not available. |
| Protection against fire: | Due to the toxicity of the gas emitted on thermal decomposition of the products, fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus. |
| Hazardous combustion products: | Not available. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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

**For non-emergency personnel**

Consult the safety measures listed under headings 7 and 8.

**For emergency responders**

First aid workers will be equipped with suitable personal protective equipment (See section 8).

### 6.2 Environmental precautions

Prevent any material from entering drains or waterways.

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

Retrieve the product by mechanical means (sweeping/vacuuming): do not generate dust.

### 6.4 Reference to other sections

See also sections 2 & 8.

## SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for safe handling

| | |
|---|---|
| Precautions for safe handling: | Always wash hands after handling. Prevent dust generation. Apply good working practices and engineering procedures during discharge. See the exposure controls and personal protection measures in the section 8. |
| Personal protection: | For personal protection, see section 8. Observe precautions stated on label and also industrial safety regulations. Ensure containment and adequate ventilation. Whenever workers enter a vessel containing activated carbon, the oxygen content should be determined and work procedures for potentially low oxygen areas should be followed. |
| Technical protective measures: | Fire prevention: Prevent access by unauthorised personnel. Prevent dust generation. Keep away from heat sources. Immediately retrieve the product in case of spilling. |
| Handling: | Prohibited equipment and procedures: No smoking, eating or drinking in areas where the substance is used. |

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

| | |
|---|---|
| Storage: | In an airtight container. Always keep in packaging made of an identical material to the original. Store in the closed, original packaging. Storage of wet activated carbon in a closed area can deplete oxygen from air. |
| Conditions for safe storage, including any incompatibilities: | Store in a well-ventilated area. |
| Storage – away from: | Keep away from any chemical (solvents and strong oxidisers). Keep away from heat sources. Keep the container away from dampness. |

### 7.3 Specific end use(s)

Active Pharmaceutical Ingredient or Excipient

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

**Occupational exposure limits:**

Non otherwise classified dusts: 10 mg/m$^3$

- UK / WEL (Workplace exposure limits, EH40/2005, 2007):

| CAS | TWA |
|---|---|
| 7440-44-0 | 4 mg/m$^3$ |

**Derived no effect level (DNEL) or derived minimum effect level (DMEL):**

ACTIVATED CARBON - HIGH DENSITY SKELETON (AC-HDS) (CAS: 7440-44-0)

| | |
|---|---|
| Final use: | Workers |
| Exposure method: | Inhalation |
| Potential health effects: | Short term local effects |
| DNEL: | 3 mg of substance/m$^3$ |
| | |
| Exposure method: | Inhalation |
| Potential health effects: | Long term systemic effects |
| DNEL: | 3 mg of substance/m$^3$ |
| | |
| Final use: | Consumers |
| Exposure method: | Inhalation |
| Potential health effects: | Short term local effects |
| DNEL: | 0.5 mg of substance/m$^3$ |
| | |
| Exposure method: | Inhalation |
| Potential health effects: | Long term systemic effects |
| DNEL: | 0.5 mg of substance/m$^3$ |

### 8.2 Exposure controls

**Appropriate engineering control**

A local exhaust ventilation is required (minimum efficiency 90%).

**Individual protection measures**

Use personal protective equipment that is clean and has been properly maintained. Store personal protective equipment in a clean place, away from the work area. Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

| | |
|---|---|
| Eye/face protection: | Avoid contact with eyes. Before handling powders or dust emission, wear mask goggles in accordance with standard EN166. |
| Skin protection: | Work clothing worn by personnel shall be laundered regularly. After contact with the product, all parts of the body that have been soiled must be washed. |
| Hand protection: | Wear suitable protective gloves in the event of prolonged or repeated skin contact. |
| Respiratory protection: | Avoid breathing dust. |

| | |
|---|---|
| | Type of FFP mask: Wear a disposable half-mask dust filter in accordance with standard EN149.Category: FFP2. Particle filter according to standard EN143: P2 (White). |
| Thermal hazards: | Not determined. |

**Environmental exposure control**

Local exhaust ventilation to remove material at source. Contained storage. Regulated waste disposal.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| Appearance: | Black, light powder free from grittiness. |
| Odour: | None. |
| Odour threshold: | Not available. |
| pH: | 7 – 11 (aqueous solution) |
| Melting/freezing point: | Not available. |
| Initial boiling point: | Not available. |
| Boiling range: | Not available. |
| Flash point: | Not available. |
| Evaporation rate: | Not available. |
| Flammability (solid/gas): | Not available. |
| Upper/lower flammability or explosive limits: | Lower explosive limit: 60 g/m$^3$ |
| Vapour pressure: | Not available. |
| Vapour density: | 300-600 kg/m$^3$ (Method for determining the density: ASTM D2854) |
| Relative density: | Not available. |
| Solubility: | Practically insoluble in all usual solvents. |
| Solubility in water: | Practically insoluble in all usual solvents. |
| Partition coefficient (n-octanol/water): | Not available. |
| Auto-ignition temperature: | Not available. |
| Decomposition temperature: | Not available. |
| Viscosity: | Not available. |
| Explosive properties: | Explosible. |
| Oxidising properties: | Not available. |

### 9.2 Other information

| | |
|---|---|
| Minimum ignition temperature of a dust cloud: | 680°C<br>Method: EN50281/VDI2263 - dust cloud in contact with a hot surface (Godbert-Greenwald) |

| | |
|---|---|
| Inflammation of a trail: | No inflammation.<br>Method: A10 test (Directive 92/69/EEC) |
| Minimum ignition energy of a dust cloud: | > 1200 mJ |
| Maxium explosion pressure (Pmax): | 6 bar |
| Maximum rate of explosion pressure rise (dp/dt max): | 160 bar/s |
| Kmax / Kst: | 43 bar.m.s-1 |
| Dust explosion class: | St 1 |

Physical and chemical properties of the saturated activated carbon may be different from the virgin material.

## SECTION 10: STABILITY AND REACTIVITY

### 10.1 Reactivity

This product shows no reactivity under the specified conditions of storage, shipment and use.

### 10.2 Chemical stability

This substance is stable under the recommended handling and storage conditions in section 7.

This substance is not classified as an explosive but can nevertheless in practice present explosive properties when heated in a sufficiently confined atmosphere.

### 10.3 Possibility of hazardous reactions

In contact with solvents and strong oxidisers.

### 10.4 Conditions to avoid

Avoid heating, heat, formation of dusts, humidity. May decompose under the effect of heat. Dusts can form an explosive mixture with air.

### 10.5 Incompatible materials

Keep away from strong oxidising agents, strong acids, flammable material, solvents.

### 10.6 Hazardous decomposition products

The thermal decomposition may release/form: carbon monoxide (CO), carbon dioxide ($CO_2$).

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

| | | |
|---|---|---|
| | Oral route: | $LD_{50}$ > 2000 mg/kg<br>Species: Rat<br>OECD Guideline 423 (Acute Oral Toxicity Class Method) |
| | Inhalation route (Dusts/mist): | $LC_{50}$ > 64.4 mg/l<br>Species: Rat<br>OECD Guideline 403 (Acute Inhalation Toxicity) |
| Skin corrosion/irritation: | Corrosivity: | No observed effect.<br>Species: Rabbit<br>OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Serious eye damage/irritation: | Corneal haze: | Average score = 0.00 |

| | | |
|---|---|---|
| | | Species: Rabbit<br>Duration of exposure: 72 h<br>OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| | Iritis: | Average score = 0.00<br>Species: Rabbit<br>Duration of exposure: 72 h<br>OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| | Conjunctival redness: | Average score = 0.67<br>Species: Rabbit<br>Duration of exposure: 72 h<br>OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| | Conjunctival oedema: | Average score = 0.33<br>Species: Rabbit<br>Duration of exposure: 72 h<br>OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| Respiratory/skin sensitisation: | Skin: | Not sensitising. |
| | Inhalation: | Not available. |
| | Local lymph node stimulation test: | Non-Sensitiser.<br>Species: Mouse<br>OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| Germ cell mutagenicity: | All the key studies indicate that the substance does not show any genotoxic potential. Therefore, it can be concluded that the substance is not mutagenic and does not need to be classified for mutagenicity according to the criteria outlined in Annex I of 1272/2008/EC (CLP /EU GHS) and Annex VI of 67/548/EEC (DSD/DPD). | |
| | Mutagenesis (in vitro): | Negative.<br>Species: Bacteria<br>OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| | Ames test (in vitro): | Negative.<br>With or without metabolic activation.<br>Species: *S. typhimurium* TA1535 |
| Carcinogenicity: | Not available. | |
| Reproductive toxicity: | Not available. | |
| Summary of evaluation of the CMR properties: | Not available. | |
| STOT-single exposure: | Oral route: | C > 2000 mg/kg bodyweight<br>Species: Rat |
| STOT-repeated exposure: | Not available. | |
| Aspiration Hazard: | Not available. | |

| | |
|---|---|
| Other: | Based on the physical and chemical properties of activated carbons, the absence of effects on toxicological studies and the therapeutic use of activated carbons as adsorbing agents for the treatment of acute poisoning and acute diarrhoea, it can be expected that Activated Carbon is not absorbed via the oral, dermal and inhalation routes. |

### 11.2 Additional information on potential adverse human health effects and symptoms

| | |
|---|---|
| Eye contact: | In the event of dust formed by mechanical action (sanding, sawing, etc..), this dust may cause irritation by contact with eyes. |
| Skin contact: | Not available. |
| Inhalation: | In the event of dust formed by mechanical action (sanding, sawing, etc..), this dust may cause irritation by inhalation.<br>eyes. |
| Ingestion: | Not available. |
| Aspiration: | Not available. |

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1 Toxicity

As Activated Carbon is insoluble in water, no toxicity is expected.

### 12.2 Persistence and degradability

Activated Carbon - HDS type is a refractory materail and not amenable to break down by any natural chemical or enzymatic processes.

AC - HDS cannot be rendered into a soluble form capable of being absorbed.

Therefore it cannot find its way to any cell site where it could be conceivably be biodegraded.

### 12.3 Bioaccumulative potential

The substance has a very low potential to bioaccumulate in aquatic species (e.g. fish), i.e. a BCF < 10.

The substance has no log Kow, the substance size will impede passing membranes (particles with size > 0.5µm) and is not soluble in water. The bioaccumulation study is thus infeasible.

### 12.4 Mobility in soil

No data available, as the substance is insoluble.

### 12.5 Results of PBT and vPvB assessment

According to the ECHA Guidance on chemical safety assessment, Chapter R11, section R11.1.2.1: "The PBT and vPvB criteria of Annex XIII to the Regulation do not apply to inorganic substances". As Activated Carbon - HDS type is to be considered as an inorganic substance, the PBT assessment is not applicable.

### 12.6 Other adverse effects

Large quantities of Activated Carbon of HDS type in water may cause a pH increase.

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Proper waste management of the substance and/or its container must be determined in accordance with Directive 2008/98/EC. Do not pour into drains or waterways.

**Waste**: Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals. Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company. Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

**Soiled packaging**: Empty container completely. Keep label(s) on container. Give to a certified disposal contractor.

## SECTION 14: TRANSPORT INFORMATION

**Transport information according to ADR/RID/IMDG/ICAO/IATA**

### 14.1 UN Number

ADR/ RID(Land),IMDG(Sea), IATA/ICAO (Air) : 1362

### 14.2 UN proper shipping name

ADR/ RID(Land),IMDG(Sea), IATA/ICAO (Air) : UN1362=CARBON, ACTIVATED

### 14.3 Transport hazard class(es)

ADR/ RID(Land),IMDG(Sea), IATA/ICAO (Air) :

**Classification**: 4.2

**Exemption**:

ADR/RID: special provision 646

IMDG: special provision 925

> Steam activated carbon

IATA: special provision A3

> Does not meet the defined criteria, after having been submitted to the 4.2 test (UN Manual of Tests and Criteria (§ 33.3.1.3.3))

### 14.4 Packing group

ADR/ RID(Land),IMDG(Sea), IATA/ICAO (Air) : III

### 14.5 Environmental hazards

ADR/ RID(Land),IMDG(Sea), IATA/ICAO (Air) : Not classified.

### 14.6 Special precautions for user

| ADR/RID | Class | Code | Pack gr. | Label | Ident. | LQ | Provis. | EQ | Cat. | Tunnel |
|---|---|---|---|---|---|---|---|---|---|---|
| | 4.2 | S2 | III | 4.2 | 40 | 0 | 646 | E1 | 4 | E |

| IMDG | Class | 2° label | Pack gr. | LQ | EMS | Provis. | EQ |
|---|---|---|---|---|---|---|---|
| | 4.2 | - | III | 0 | F-A,S-J | 223 925 | E1 |

| IATA | Class | 2° label | Pack gr. | Passager | Passager | Cargo | Cargo | Note | EQ |
|---|---|---|---|---|---|---|---|---|---|
| | 4.2 | - | III | 472 | 0.5 kg | 472 | 0.5 kg | A3 | E1 |
| | 4.2 | - | III | Forbidden | Forbidden | - | - | A3 | E1 |

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

### 14.7 Transport in bulk according to annex II of Marpol and the IBC Code

Not available.

### 14.8 Additional transport information

Not available.

## SECTION 15: REGULATORY INFORMATION

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

Hazard symbol:

Risk phrases: R18 In use, may form flammable/explosive vapour-air mixture.
R44 Risk of explosion if heated under confinement.

Safety phrases: Not applicable.

### 15.2 Chemical safety assessment

A chemical safety assessment according to the rules stipulated in REACH directive has been performed. The appendices provide an overview of the risk management measures as based on this assessment.

## SECTION 16: OTHER INFORMATION

### 16.1 Changes since the previous version

Not applicable.

### 16.2 Abbreviations and acronyms used

| | |
|---|---|
| ADR: | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| CAS: | Chemical Abstracts Service (division of the American Chemical Society) |
| EC (number): | European Community (number) |
| IATA: | International Air Transport Association |
| ICAO: | International Civil Aviation Organization |
| IMDG: | International Maritime Code for Dangerous Goods |
| IUPAC: | International Union of Pure and Applied Chemistry |
| PBT: | Persistent, Bioaccumulative and Toxic substance |
| RID: | Regulations Concerning the International Transport of Dangerous Goods by Rail |
| STOT: | Specific Target Organ Toxicity |
| UN (number): | United Nations (number) |
| vPvB: | very Persistent and very Bioaccumalative |

### 16.3 Key literature references/sources for data

European Chemicals Agency.
https://www.echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database/

### 16.4 Method of classification in case of mixture

Not applicable.

### 16.5 Relevant Hazard statements and/or precautionary statements

For information on hazard and/or precautionary statements refer to section 2 up to and including section 15.

### 16.6 Training advisement

Not available

### 16.7 Notice for user(s)

The information provided in this MSDS has been established in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015, amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council, on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94, as well as Council Directive 76/769/EEC and Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC of the Commission.

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### 16.8 Department issuing MSDS


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