# SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 2015/830)

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

### 1.1. Product identifier

Product name : AquaSorb C Series
Product code : Activated Carbon.

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

Use as an adsorbent in industrial, professional and consumer setting.

**Use descriptor system (REACH) :**

SU3 : PROC 1, 2, 3, 4, 5, 8a, 8b, 9, 14, 15, 22
SU22 : PROC 1, 2, 3, 4, 5, 8a, 8b, 9, 15
SU21 : PC 2, 3, 29, 35, 37, 39
The annexed exposure scenarios provide a complete listing per sector.

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

Registered company name : Jacobi Carbons AG.
Address : Rheinweg 5 .CH-8200.Schaffhausen.Switzerland.
Telephone : +41 52 647 30 00. Fax : +41 52 647 30 09.
msds@jacobi.net
www.jacobi.net

### 1.4. Emergency telephone number : CH : +41 44 251 51 51.

Association/Organisation : Tox Info Suisse.
Other countries : https://echa.europa.eu/support/helpdesks

## SECTION 2 : HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

**In compliance with EC regulation No. 1272/2008 and its amendments.**

This substance does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.
This substance does not present a health hazard with the exception of possible occupational exposure thresholds (see paragraphs 3 and 8).
This substance does not present an environmental hazard. No known or foreseeable environmental damage under standard conditions of use.

### 2.2. Label elements

**In compliance with EC regulation No. 1272/2008 and its amendments.**

No labelling requirements for this substance.

### 2.3. Other hazards

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 CO2 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.

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## SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

**Composition :**

| Identification | (EC) 1272/2008 | Note | % |
|---|---|---|---|
| CAS: 7440-44-0<br>EC: 931-328-0<br>REACH: 01-2119488894-16-0013<br><br>ACTIVATED CARBON - HIGH DENSITY SKELETON (AC-HDS) | | [1] | 100% |

**Information on ingredients :**

A porous, amorphous, high surface area adsorbent material composed largely of elemental carbon.
[1] Substance for which maximum workplace exposure limits are available.

## SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.
NEVER induce swallowing by an unconscious person.

### 4.1. Description of first aid measures

**In the event of exposure by inhalation :**

Fresh air, rest.
Obtain medical attention if cough or respiratory symptoms develop.

**In the event of splashes or contact with eyes :**

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.

**In the event of splashes or contact with skin :**

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.

**In the event of swallowing :**

Give at least 1/2 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.

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## SECTION 5 : FIREFIGHTING MEASURES

### 5.1. Extinguishing media

**Suitable methods of extinction**

In the event of a fire, use :
- sprayed water or water mist
- carbon dioxide (CO2)
- foam
- powder

**Unsuitable methods of extinction**

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 or 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 (CO2)
- 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

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.

## SECTION 6 : ACCIDENTAL RELEASE MEASURES

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

Consult the safety measures listed under headings 7 and 8.

**For first aid worker**

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).

### 6.4. Reference to other sections

See also sections 2 & 8

## SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the substance is handled.

### 7.1. 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.

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**Fire prevention :**

Prevent access by unauthorised personnel.
Prevent dust generation.
Keep away from heat sources.
Immediately retrieve the product in case of spilling

**Recommended equipment and procedures :**

For personal protection, see section 8.
Observe precautions stated on label and also industrial safety regulations.
Never bring water into contact with this substance.
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.

**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

Keep away from any chemical (solvents and strong oxidisers).
Keep away from heat sources.
Store in a well-ventilated area.
Keep the container away from dampness

**Storage**

Store and keep away from any chemical (solvents and strong oxidisers).
Storage of wet activated carbon in a closed area can deplete oxygen from air.

**Packaging**

Always keep in packaging made of an identical material to the original.
Store in the closed, original packaging.

### 7.3. Specific end use(s)

No data available.

## SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

**Occupational exposure limits :**

- Non otherwise classified dusts : 10 mg/m3
- UK / WEL (Workplace exposure limits, EH40/2005, Fourth Edition 2020) :

| CAS | TWA : | STEL : | Ceiling : | Definition : | Criteria : |
|---|---|---|---|---|---|
| 7440-44-0 | 4 mg/m³ | | | | |

**Biological limits :**

/

**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/m3 |
| | |
| Exposure method: | Inhalation. |
| Potential health effects: | Long term systemic effects. |
| DNEL : | 3 mg of substance/m3 |

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| **Final use:** | **Consumers.** |
|---|---|
| Exposure method: | Inhalation. |
| Potential health effects: | Short term local effects. |
| DNEL : | 0.5 mg of substance/m3 |
| Exposure method: | Inhalation. |
| Potential health effects: | Long term systemic effects. |
| DNEL : | 0.5 mg of substance/m3 |

### 8.2. Exposure controls

**Appropriate engineering controls**

Local exhaust ventilation is recommended.

For the use of Granular Activated Carbon, no risk management measures are mandatory, but only recommended.

**Personal protection measures, such as personal protective equipment**

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.

**- Hand protection**

Wear suitable protective gloves in the event of prolonged or repeated skin contact.

**- Body 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.

**- 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 :

- P (White)

**Exposure controls linked to environmental protection**

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

**General information :**

| | |
|---|---|
| Physical state : | Solid in granules. |
| Odour: | None |
| Color: | Black |

**Important health, safety and environmental information**

| | |
|---|---|
| pH : | Not relevant. |
| pH (aqueous solution) : | 7-11 |

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| | |
|---|---|
| Boiling point/boiling range : | Not specified. |
| Flash point interval : | Not relevant. |
| Explosive properties, lower explosivity limit (%) : | NA |
| Explosive properties, upper explosivity limit (%) : | NA |
| Vapour pressure (50°C) : | Not relevant. |
| Vapour density : | NA |
| Density : | 200-700 kg/m3 |
| | Method for determining the density : |
| ASTM D2854 | |
| Miscibility : | NA |
| Water solubility : | Insoluble. 0 |
| | Method for determining the water solubility : |
| | OCDE Guideline 105 (Water solubility). |
| Partition coefficient: n-octanol/water : | NA |
| Viscosity : | NA |
| Evaporation rate : | NA |
| Melting point/melting range : | Not specified. |
| Self-ignition temperature : | Not specified. |
| Decomposition point/decomposition range : | Not specified. |

### 9.2. Other information

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.

### 10.3. Possibility of hazardous reactions

In contact with solvents and strong oxidisers.

### 10.4. Conditions to avoid

Avoid :
- humidity
- formation of dusts
- heating
- heat

Dusts can form an explosive mixture with air.

### 10.5. Incompatible materials

Keep away from :
- combustible material
- strong oxidising agents
- strong acids
- solvents

### 10.6. Hazardous decomposition products

The thermal decomposition may release/form :
- carbon monoxide (CO)
- carbon dioxide (CO2)

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## SECTION 11 : TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

No data available.

#### 11.1.1. Substances

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.

**Acute toxicity :**

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

| | |
|---|---|
| Oral route : | LD50 > 2000 mg/kg<br>Species : Rat<br>OECD Guideline 423 (Acute Oral toxicityAcute Toxic Class Method) |
| Inhalation route (Dusts/mist) : | LC50 > 64.4 mg/l<br>Species : Rat<br>OECD Guideline 403 (Acute Inhalation Toxicity) |

**Skin corrosion/skin irritation :**

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

| | |
|---|---|
| Corrosivity : | No observed effect.<br>Species : Rabbit<br>OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |

**Serious damage to eyes/eye irritation :**

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

| | |
|---|---|
| Corneal haze : | Average score = 0.00<br>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 or skin sensitisation :**

| | |
|---|---|
| - Inhalation | No information available |
| - Skin | Not sensitising. |

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

| | |
|---|---|
| Local lymph node stimulation test : | Non-Sensitiser. |

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Species : Mouse
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).

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

Mutagenesis (in vitro) : Negative.
Species : Bacteria
OECD Guideline 471 (Bacterial Reverse Mutation Assay)

Ames test (in vitro) : Negative.
With or without metabolic activation.
Species : S. typhimurium TA1535

**Carcinogenicity :**

No data available

**Reproductive toxicant :**

No data available

**Specific target organ systemic toxicity - single exposure :**

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

Oral route : C > 2000 mg/kg bodyweight
Species : Rat

## SECTION 12 : ECOLOGICAL INFORMATION

### 12.1. Toxicity

#### 12.1.1. Substances

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

No data available.

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## SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the substance and/or its container must be determined in accordance with Directive 2008/98/EC.

### 13.1. Waste treatment methods

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 product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2019 - IMDG 2018 - ICAO/IATA 2020).

### 14.1. UN number

1362

### 14.2. UN proper shipping name

UN1362=CARBON, ACTIVATED

### 14.3. Transport hazard class(es)

- 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

III

### 14.5. Environmental hazards

-

### 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 | Stowage Handling | Segregation | |
| | 4.2 | - | III | 0 | F-A, S-J | 223 925 | E1 | Category A SW1 H2 | - | |
| 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.

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

No data available.

## SECTION 15 : REGULATORY INFORMATION

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

**- Classification and labelling information included in section 2:**

The following regulations have been used:

- EU Regulation No. 1272/2008 amended by EU Regulation No. 487/2013.
- EU Regulation No. 1272/2008 amended by EU Regulation No. 758/2013.
- EU Regulation No. 1272/2008 amended by EU Regulation No. 944/2013.
- EU Regulation No. 1272/2008 amended by EU Regulation No. 605/2014.

**- Container information:**

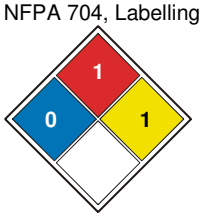
No data available.

**- Particular provisions :**

No data available.

**- Standardised American system for the identification of hazards presented by the product in view of emergency procedures (NFPA 704) :**

NFPA 704, Labelling: Health=0 Inflammability=1 Instability/Reactivity=1 Specific Risk=none




### 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

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the substance and not as a guarantee of the properties thereof.

**Abbreviations :**

DNEL : Derived No-Effect Level
STEL : Short-term exposure limit
TWA : Time Weighted Averages
TLV : Threshold Limit Value (exposure)
AEV : Average Exposure Value.
ADR : European agreement concerning the international carriage of dangerous goods by Road.
IMDG : International Maritime Dangerous Goods.
IATA : International Air Transport Association.
ICAO : International Civil Aviation Organisation
RID : Regulations concerning the International carriage of Dangerous goods by rail.
WGK : Wassergefahrdungsklasse (Water Hazard Class).

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