SAFETY DATA SHEET

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.

1.3. Details of the supplier of the safety data sheet

Registered company name : Jacobi Carbons, Inc..

Address : 432 McCormick Boulevard.OH 43213.Columbus.United States.

Telephone : +1 215 546 3900. Fax : +1 215 546 9921.

msds@jacobi.net

www.jacobi.net

1.4. Emergency telephone number : +1 215 546 3900.

Association/Organisation : Jacobi Carbons, Inc..

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

GHS compliant.

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

GHS compliant.

No labelling requirements for this substance.

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.

May cause CO and CO2 emanations in the event of a fire.

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.

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.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Composition :

Identification	GHS	Note	%
CAS: 7440-44-0 EC: 931-328-0 REACH: 01-2119488894-16-0013 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 :

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.

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 :

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 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.

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.

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.

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

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
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 :
- formation of dusts
- humidity
- heating
- 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 (CO2)

SECTION 11 : TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

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

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 Species : Rat OECD Guideline 423 (Acute Oral toxicityAcute Toxic Class Method)
Inhalation route (Dusts/mist) :	LC50 > 64.4 mg/l Species : Rat 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. Species : Rabbit 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 Species : Rabbit Duration of exposure : 72 h OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Iritis :	Average score = 0.00 Species : Rabbit Duration of exposure : 72 h OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Conjunctival redness :	Average score = 0.67 Species : Rabbit Duration of exposure : 72 h

OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Conjunctival oedema : Average score = 0.33
Species : Rabbit
Duration of exposure : 72 h
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.
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.

SECTION 13 : DISPOSAL CONSIDERATIONS

The appropriate waste management of the substance and/or its container must be determined in accordance with local regulations.

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

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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.

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

The following regulations have been used:

- Globally Harmonized System of Classification and Labelling of Chemicals (GHS), review no. 5 (2013)

- Container information:

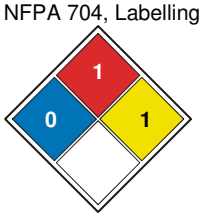
No data available.

- 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

No data available.

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.
PBT: Persistent, bioaccumulable and toxic.
vPvB : Very persistent, very bioaccumulable.