



# TECHNICAL DATASHEET

## AquaSorb™ MP23

### Activated carbon for potable and industrial water treatment

AquaSorb™ MP23 is a high activity powdered activated carbon, specifically manufactured for the treatment of water for human consumption, in both municipal and industrial applications. The characteristics of this activated carbon provide a high removal efficiency against a variety of organic pollutants, especially taste and odour compounds. AquaSorb™ MP23 is available in a variety of particle size distributions to suit all downstream separation techniques. The material is compliant with international standards for activated carbon products used in this application.



#### SPECIFICATION\*

Iodine adsorption	min. 760 mg/g
Total ash content	max. 15 %
Moisture content	max. 5 %
Molasses number (EU)	max. 320

#### TYPICAL PROPERTIES\*

Surface area (BET N <sub>2</sub> )	820 m <sup>2</sup> /g
Water solubles	max. 3 %
Apparent density, aspirated	260 kg/m <sup>3</sup>
Apparent density, tapped	400 kg/m <sup>3</sup>

\* SPECIFICATIONS AND TYPICAL PROPERTIES ARE PRODUCED USING JACOBI CARBONS' TEST METHODS. THEY ARE LISTED FOR INFORMATIONAL PURPOSES ONLY AND NOT TO BE USED AS PURCHASE SPECIFICATIONS. SALES SPECIFICATIONS CAN BE OBTAINED FROM YOUR JACOBI CARBONS TECHNICAL SALES REPRESENTATIVE AND SHOULD BE REVIEWED BEFORE PLACING AN ORDER.

#### Features and Benefits

- Rapid adsorption kinetics
- High activity adsorbent
- Mesoporous product
- Highly recommended taste and odour issues
- Carefully controlled particle size
- Compliant with international standards (AWWA/EN12903)

#### Available Particle Sizes

- PAC-C d<sub>50</sub> >35µm
- PAC-S d<sub>50</sub> 15-35µm
- PAC-F d<sub>50</sub> 8-15µm

#### Supply options

- Standard PAC
- Pre-wetted carbon 'cake'
- Liquid suspension (PICAHYDROSOL® M23)
- Other supply forms considered on request

#### Standard Packaging

- 20 kg sack (44 lb)
- 400 kg bulk bag (880 lb)
- Bulk tanker
- Other packing considered on request



Polypropylene liner-free FIBCs (super sacks), two bags per pallet



## TASTE AND ODOUR REMOVAL

### Methyl-iso Borneol

Influent concentration		127ng/l
AquaSorb™ MP23 at 10mg/l dose	Effluent concentration	76ng/l
	Removal efficiency	40%
AquaSorb™ MP23 at 40mg/l dose	Effluent concentration	27ng/l
	Removal efficiency	79%

### Geosmin

Influent concentration		187ng/l
AquaSorb™ MP23 at 10mg/l dose	Effluent concentration	83ng/l
	Removal efficiency	56%
AquaSorb™ MP23 at 40mg/l dose	Effluent concentration	8ng/l
	Removal efficiency	96%

DATA OBTAINED FROM INDEPENDENT TESTING BY AUSTRALIAN WATER QUALITY CENTRE WITH PACS WERE DOSED AS A PRE-WETTED SLURRY AT 10 AND 40 MG/L INTO 2 LITRE VOLUMES OF STABILISED TAP WATER CONTAINING 100NG/L TARGET CONCENTRATIONS OF METHYL-ISOBORNEOL (MIB) AND GEOSMIN. CONTACT WAS MAINTAINED BY MIXING FOR 20 MINUTES AT 100RPM WITH A FLAT-BLADE PADDLE STIRRER. TREATED WATER WAS PARTITIONED BY FILTRATION THROUGH 1 µM PORE SIZE PAPER FILTERS AND ANALYSED FOR MIB AND GEOSMIN AGAINST THE POSITIVE SPIKED CONTROL.

## BURNING AND EXPLOSION CHARACTERISTICS

Auto-ignition temperature	400cm <sup>3</sup>	160 °C
	6400cm <sup>3</sup>	150 °C
	12800cm <sup>3</sup>	130 °C
Smolder temperature	No smoldering up to 400 °C	
Dust explosion class	St1 (weak explosion potential)	
Combustion factor	BZ3: no spread of fire	
Minimum ignition energy	>10 000 mJ (MIKE3)	
Minimum ignition energy	100 - 1000 J (VDI2263 Part 1)	
Minimum ignition temperature	>400°C	
Lower explosion limit	250g/m <sup>3</sup>	
Electrical resistivity	0.05 x 10 <sup>4</sup> Ω.m	
Explosion severity (20l sphere)	P max.	8 bar
	MRE (ΔP)	33 bar/s
	Kmax or Kst	88 bar/m/s

DATA PROVIDED IS INDICATIVE ONLY AND BASED ON THE ANALYSIS OF MATERIAL UNDER SPECIFIC CONDITIONS. THESE MAY NOT BE REPRESENTATIVE OF PREVAILING CIRCUMSTANCES DURING THE HANDLING AND USE OF THIS ACTIVATED CARBON GRADE.

## PRODUCTION CAPABILITY

Jacobi Carbons operates multiple facilities for the manufacture of activated carbons. These production plants are strategically located close to market and raw material sources. With an annual output in excess of 70 000 metric tonnes, Jacobi Carbons is able to supply product to all locations around the globe. All production units are certified according to internationally recognised standards (ISO9000 & ISO14001). Quality control is consistent throughout the group of companies and goods are always shipped in compliance with customer specifications.

## CARBON APPLICATION KNOWLEDGE

The supply of activated carbon products is supported by an industry-leading technical support service. Our in-house expertise extends over many years of practical experience in the design and utilisation of activated carbon in a variety of applications. Jacobi Carbons can assist in the design, specification and method of use of our products to achieve the optimum treatment outcome required. Our laboratory facilities support our product portfolio with a extensive library of technical data.

**NOTICE** Due to the progressive nature of the Jacobi Carbons Group and the continually improving design and performance of our products, we reserve the right to change product specifications without prior notification. The information contained in this datasheet is intended to assist a customer in the evaluation and selection of products supplied by Jacobi Carbons. The customer is responsible for determining whether products and the information contained in this document are appropriate for customer's use. Jacobi Carbons assumes no obligation or liability for the usage of the information in this datasheet, no guarantees or warranties, expressed or implied, are provided. Jacobi Carbons disclaims responsibility and the user must accept full responsibility for performance of systems based on this data.

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