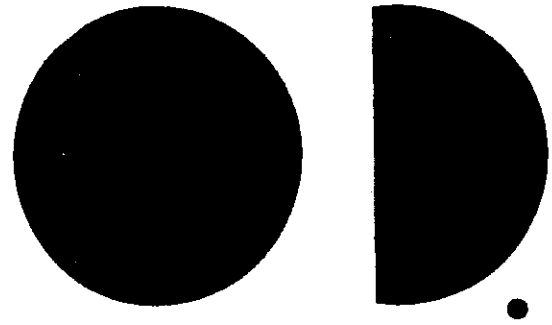
Cutaway shows structural porosity and Channeling of a typical Air Purification Sphere.

Alphasorb® 2

Made In RSA



Actual sphere size

AIR PURIFICATION SPHERES

- Perfect for small, medium and large Air Purification Systems
- Precision formulated to exacting specifications
- Easy to test for remaining life
- A must for Hi-Performance protection
- Safe...Easy to use...Cuts energy costs
- Controls corrosion...Reacts to destroy gases and vapors
- Certified UL Class 1

THE MAJOR ADVANTAGES OF ALPHASORB 2 OVER OTHER MEDIA TYPES

High performance Alphasorb 2 Media consists of activated alumina that is entirely impregnated with precise blends of dynamic – oxidant chemicals and selected bases while being formed into uniformly-sized heavy-duty spheres. Alphasorb's unique manufacturing procedures enhance porosity and each sphere is internally honeycombed with tiny channels that branch and twist throughout, to present, massive, chemically active surface area per unit weight.

TYPICAL SPECIFICATIONS

Shape:	Spherical
Size:	>5,69mm<10% 5,69 – 2,36mm 85% <2,36mm<5%
Color:	Purple
Bulk Density:	800kgs/m³ @ 15% moisture
Potassium: Permanganate:	4% by weight (dry)
Moisture Content:	20% maximum

ISO 9002
REGISTERED FIRM

COMPARISONS OF AVAILABLE MEDIA

	ALPHASORB 2	SURFACE COATED SPHERES	CHEMICAL IMPREG CARBON
Preferred Media Features Conforms to a UL CLASS-1 Rating	YES	YES	NO
Built in Color Indicator to determine available chemistry content throughout	YES	YES	NO
Non-combustible	YES	YES	NO
Active chemistry per unit weight	Very High	Very Low	High
Uniformity of flow-path through packed bed	Very Uniform	Uniform	Uniform
Extends useful life of media bed	YES	NO	YES
Adsorbed/Adsorbed Pollutants will NOT outgas	Will Not	Can	Will
Shape of Individual unit	Uniform	Uniform	Irregular
Relative Humidity Recommended usable above 90% ambient	YES	YES	NO
Easy disposal of spend media	YES	YES	NO

ALPHASORB 2 AIR PURIFICATION MEDIA

DESCRIPTION:

Alphasorb 2 Air Purification Media is manufactured by rolling together Alumina powders dry blended with proprietary chemicals together with a specially formulated solution of Potassium Permanganate (KM_nO_4) and other binders under well controlled manufacturing conditions. The product thus formed is a structurally strong sphere with a well-defined pore structure used for the oxidation of a number of contaminants found in industry. The spheres offer a low resistance to airflow due to their uniform shape and size.

The product is UL Class 1 certified, it does not support combustion or fungal or bacterial growth.

APPLICATION:

Alphasorb 2 Air Purification spheres are designed to remove/ destroy contaminants that are oxidizable such as Hydrogen Sulfide, Oxides of Sulfur, Mercaptans Aldehydes etc. Due to its non-support of combustion it is a product of choice in a number of industries where conditions/ processes produce flammable gasses and vapours such as in Petro Chemical installations, Refineries and Sewage Treatment Plants.

CHARACTERISTICS:

	TEST METHOD	VALUE
Hydrogen Sulfide Capacity gm/cc	Calgon TM-41R	0.08 min
Apparent Density gm/cc	ASTM D2854	0.08
Moisture Percent	ASTM D2867	20 Max
Ball Pan Hardness Number	ASTM D3802	80 Min
Mesh Size	ASTM D2862	4 x 8
Mean Particle Diameter	Calgon TM-9	3.8 mm
KM_nO_4 Percentage (Nominal)	AT-001	4%
Crush Strength	AT-002	2.3 Kg Min
Head Loss Per 30-cm of Bed Depth @ 0.25m/min	SABS	130 Pa
Colour	-	Purple

Different particle size diameters are available on request.

TOXICITY:

Industry studies have been carried out to determine the toxicity of KM_nO_4 impregnated aluminas. These results show that the medias thus made are non-toxic upon oral, dermal and inhalation exposure as defined under the US Federal Product Handling.

Refer to Material Data Safety Sheet for Alphasorb 2

PACKAGING:

Various forms of packaging are available:

1. Hard Plastic Air Tight Pails with two carry handles containing 0.028m^3 (1ft^3) of media.
2. Double Wall Cardboard Cartons with 80 micron plastic sleeve to protect the contents containing 25Kg (55lbs) of media.
3. Sling Bags (Supa Sacks) with plastic liner to protect the product containing up to 800 Kg (1763 lbs).
4. Other forms may be negotiated.

SHELF LIFE:

The product described herein has an indefinite shelf life in the original un-opened packaging.

SERVICES:

Alphasorb offers the purchaser the services of their in house laboratory to determine the remaining life of the active ingredients of the product from provided samples. The remaining life is expressed as percentage chemistry remaining.

Alphasorb provides equipment such as Corrosion Coupons to determine the corrosive nature of ambient air within a facility to ISA Standard S71-04-1985 with average exposure periods being 30-days.

Alphasorb also provides real time corrosion monitors that constantly reflect the corrosion rate within a facility. The machine can be direct coupled to a remote computer for information at any time. The machine is also configured to provide continuous measurement of relative humidity, temperature and pressure within the room either positive or negative.

PATENTS PENDING:
US60,406,483 ZAR03/1512

ALPHASORB BULLETIN

ALPHABLEND A MEDIA SERIES

ALPHABLEND 2 A

Alphablend 2 A is a Blend of Alphasorb 2 and Alphacarb A which are blended together on a 50/50% by volume basis.

Alphasorb 2 is an Alumina Sphere impregnated throughout with a 4% by weight of Potassium Permanganate and other base chemicals – refer to Alphasorb 2 leaflet for further information.

Alphacarb A is an extruded coal base steam activated virgin Carbon cylindrical pellet.

Due to its uniform size and shape it has a low resistance to airflow.

Refer to Alphacarb A leaflet for further information.

PRINCIPLE OF OPERATION

Intricate channels within Alphasorb 2 Air Purification Spheres extensively increase the chemical surface area for the destruction of corrosives and contaminants, including:

Highly Reactive: H_2S, SO_2, SO_3, Ethylene (Olefins), Formaldehyde, Methyl/Ethyl Mercaptans

Reactive: Chlorine • HCl • Short-chained Alcohols • Aldehydes • Light Organic Vapours • Organic Acids • Inorganic Acids

Less Active: Aromatics • Long-chained Alcohols • Ketones • Chlorinated Hydrocarbons • Paraffins • Heavy Organic Vapours • Heavy Mercaptans

Note: Alphasorb provides other Medias for specific Applications, including special blends for individual requirements, and enhanced activity Alphasorb 8.

ALPHASORB 2 MEDIA PERFORMANCE TESTS

Performance tests have been conducted by independent laboratories.

The tests were performed under conditions that empirically reflected field environments and optimum design criteria. ASTM approved analytical equipment and testing procedures were utilized, to assure unbiased, objective results.

In tests, Alphasorb 2 clearly demonstrated state-of-the-art performance characteristics in removing corrosive contaminants and odors.

OPERATIONAL EFFICIENCY

Alphasorb 2 proprietary chemical formulations and production procedures empower it to operate at high efficiency levels, to meet the design criteria and characteristics of the User's air purification system.

Rigorous usage by industries and testings by laboratories have demonstrated and authenticated the superb performance of Alphasorb 2.

After an extended period of usage in an air purification system, there is an exact and simple way to determine the active chemicals still available in the Alphasorb 2 Media...

• We conduct a standard laboratory procedure and titration test for the active chemical percent remaining.

This service is readily available from your local Alphasorb Distributor.

A rough field guide is to pull sphere samples from several areas in the bed or cells and cut them in half. Compare them to the Color Indicator Chart shown to determine the approximate activity taking place.

BUILT-IN COLOR INDICATOR

PURPLE SURFACE
Fresh, Unexposed Spheres

DARK GREY SURFACE
With purple interior...Oxidation of H2S is taking place. Less active chemistry still available.

LIGHT GREY SURFACE
With purple interior...Prolonged oxidation taking place. Less active chemistry still available.

LIGHT GREY THROUGHOUT
Active chemistry has been totally consumed.

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Manufacturers of Activated Carbon Filters / Fabricators of Perforated Metals

GC A-40
PELLETIZED ACTIVATED CARBON

GC A-40 is a virgin activated carbon. Derived from bituminous coal, it is pelletized in form. Its superior activity and surface area make it ideal for most vapor phase applications. The uniformity of its shape makes it particularly attractive in applications where low-pressure drop is a consideration.

Specifications

Particle Size - (Diameter), mm:	4.0
(Length), mm:	6.0
Mean Particle Diameter, mm:	4.7
CCL_4 Activity, 96:	70 (min)
Iodine No., mg/g:	1050 (min)
Surface Area, m^2/g:	1050 (min)
Hardness, 96:	95 (min)
Moisture, 96 (as packaged):	3 (max)
Typical Density, lbs./cu.ft.:	28-31
g/cc:	0.44-0.50

*Standard packaging is in 55 lb. vinyl bags. Other packaging is available upon request.

CAUTION!

Wet activated carbon removes oxygen from air causing a severe hazard to workers inside carbon vessels. Confined space/low oxygen procedures should be put in place before any entry is made. Such procedures should comply with all applicable Local, State and Federal guidelines.