

SHINAGAWA GENERAL



Products Catalog

Introduction

We are a company that produces and sells adsorbents in Japan.

Our adsorbents, brand name “SEKADO” are made from “**allophane**”.

Allophane is a naturally occurring clay mineral that is mined in Japan only.

It is adsorption member excellent in adsorption capacity.

Its moisture absorption performance is equal to or more than that of a silica gel.

And adsorption performance of porous adsorbent is more than that of activated carbon.

We would provide an odor absorbing and moisture absorbing adsorbent concurrently having excellent odor absorbing performance against the VOC(volatile organic compound).



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Features



Allophane

Adsorbent



Deodorizing Agent



Ozone Decomposing Agent



Company Profile

Company Name

Shinagawa General CO.,LTD.

Established

August 1938

President

Norio Kojima

Headquarters

"88 Higashikatakami, Bizen, Okayama,
705-0022, Japan

Tel. + 81 (869) - 64 - 3701

Fax + 81 (869) - 64 - 3320

Capital

36 million yen

Businesses

Production and sale of adsorbent

Offices

Chemical Div.

Tokyo Office (Tokyo)

West Japan Office(Okayama)

Moka Factory (Tochigi)

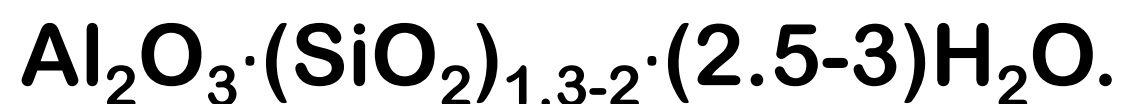


About “Allophane”



Allophane is an amorphous to poorly crystalline hydrous aluminium silicate clay mineraloid.

Its chemical formula is



Since it has short-range atomic order, it is a mineraloid, rather than a mineral, and can be identified by its distinctive infrared spectrum and its X-ray diffraction pattern.

It was first described in 1816 in Gräfenthal, Thuringia, Germany.

Allophane is a weathering or hydrothermal alteration product of volcanic glass and feldspars and sometimes has a composition similar to kaolinite.

It typically forms under mildly acidic to neutral pH 5-7.

Its structure has been debated, but it is similar to clay minerals and is composed of curved alumina octahedral and silica tetrahedral layers.

Transmission electron micrographs show that it is generally made up of aggregates of hollow spherules 3-5 nm in diameter.

The total size of the areas “allophane” is very large (400-900 square meters per 1gram).

Products Catalog I

Adsorbent

To provide deodorizing or a humidity controlling.

Also has volatile organic compound (VOC) adsorption function.

With regard to the VOC adsorption function, see attachment “PRODUCTS CATALOG 2 - Deodorizing Agent(Chapter 05)”.

Composition analysis	Al ₂ O ₃	SiO ₂	Fe ₂ O ₃	CaO	Other
	43.2	50	3.6	1.1	2.1

Relative humidity	RH20%	RH40%	RH60%	RH80%
Moisture absorption rate	13.2	16.7	23.3	30.1

SEKADO K-3

“K-3” is molded article not using a binder. And it is very hard tablet.

This product has many uses, Air dryer, Porous adsorbent and VOC adsorbing filter, etc.



Product sizes and other information of "K-3"	
Weight (g)	0.150 g ± 0.015
Diameter (mm)	5.75 mm ± 0.10
Height (mm)	5.25 mm ± 0.15
Bulk Density	0.70 - 0.85 kg/L
Packing Style	CAN / 15 kilograms (Sealing wax)

Products Catalog 1-2

Adsorbent

SEKADO P-1

“P-1” is an adsorbent as a powder body.

which complies with various user's needs.

This products, flexible in structure will meet the demands of various uses.



A particle size of “P-1” is set as 2 to 75 μm , and is set at less than 200 mesh.

To provide a gas adsorbent which enables effective gas phase adsorption of substances in various molecular sizes.

This product has many uses,

Porous adsorbent mixed in paint, VOC adsorbing filter, etc.

Product sizes and other information of "P-1"	
Shape	Fine powder
Grain size (μm)	2 - 75 μm (more than 95%)
Bulk density	Ca. 0.43 kg / L
Packing Style	Kraft paper BAG / 20 kilograms

Products Catalog 2

Deodorizing Agent

SEKADO KW

“KW” is an adsorbent as a granular body.

Having excellent deodorization performance as gas-phase purifier element.

To provide a gas adsorbent which enables effective gas phase adsorption of substances in various molecular sizes.

This product has many uses,
Porous adsorbent and VOC adsorbing filter, etc.



Product sizes and other information of "KW"	
Shape	Granular
Grain Length (mm)	0.5 - 5 mm
Bulk Density	0.43 - 0.53 kg/L
Packing Style	Kraft paper BAG / 20 kilograms

Products Catalog 2-2

Deodorizing Agent

Deodorization Performance

(Performance of adsorbing VOC gases)

VOC	GAS ADSORPTION AMOUNT (ppm)	
	Allophane(PLAIN) 1g (Granular)	Allophane(80%) + Activated Carbon(20%) 1g (Granular)
Ammonia 500ppm		
10min later	380	360
1h later	495 <	490
3h later	No detection	495 <
Acetic Acid 100ppm		
10min later	70	56
1h later	99	98
3h later	99 <	99 <
Hydrogen Sulfide 100ppm		
10min later	40	20
1h later	86	50
3h later	98	74
Trimethylamine 70ppm		
10min later	55	50
1h later	69 <	69 <
3h later	No detection	No detection
Methyl Mercaptan 100ppm		
10min later	20	32
1h later	71	70
3h later	97	91
Formaldehyde 100ppm		
10min later	30	30
1h later	90	84
3h later	90.4	87
Isovaleric Acid 40ppm		
10min later	16	16
1h later	38.6	38.6
3h later	39 <	39 <
Acetaldehyde 100ppm		
10min later	54	48
1h later	57	55
3h later	30	51

Products Catalog 3

Ozone Decomposing Agent

SEKADO KR

“KR” is an ozone decomposing agent molded article, composed of an active carbon/allophane mixture.

To provide ozone decomposing agent having high decomposing performance in comparison with only use conventional activated carbon.



A main component “Alumina, Silica alumina” is preferable as the carrier of ozone decomposing agent.

It has been used as insulation against heat and fire as a heat insulating material.

And allophane is catalytic role to promote effective use of activated carbon.

Composition analysis	Al ₂ O ₃	SiO ₂	Activated Carbon
		35-40 %	39-42 %

Product sizes and other information of "KR"	
Weight (g)	0.150 g ± 0.02
Diameter (mm)	5.85 mm ± 0.10
Height (mm)	6.0 mm ± 0.5
Bulk Density	0.63 - 0.67 kg/L
Packing Style	CAN / 12 kilograms (Sealing wax)