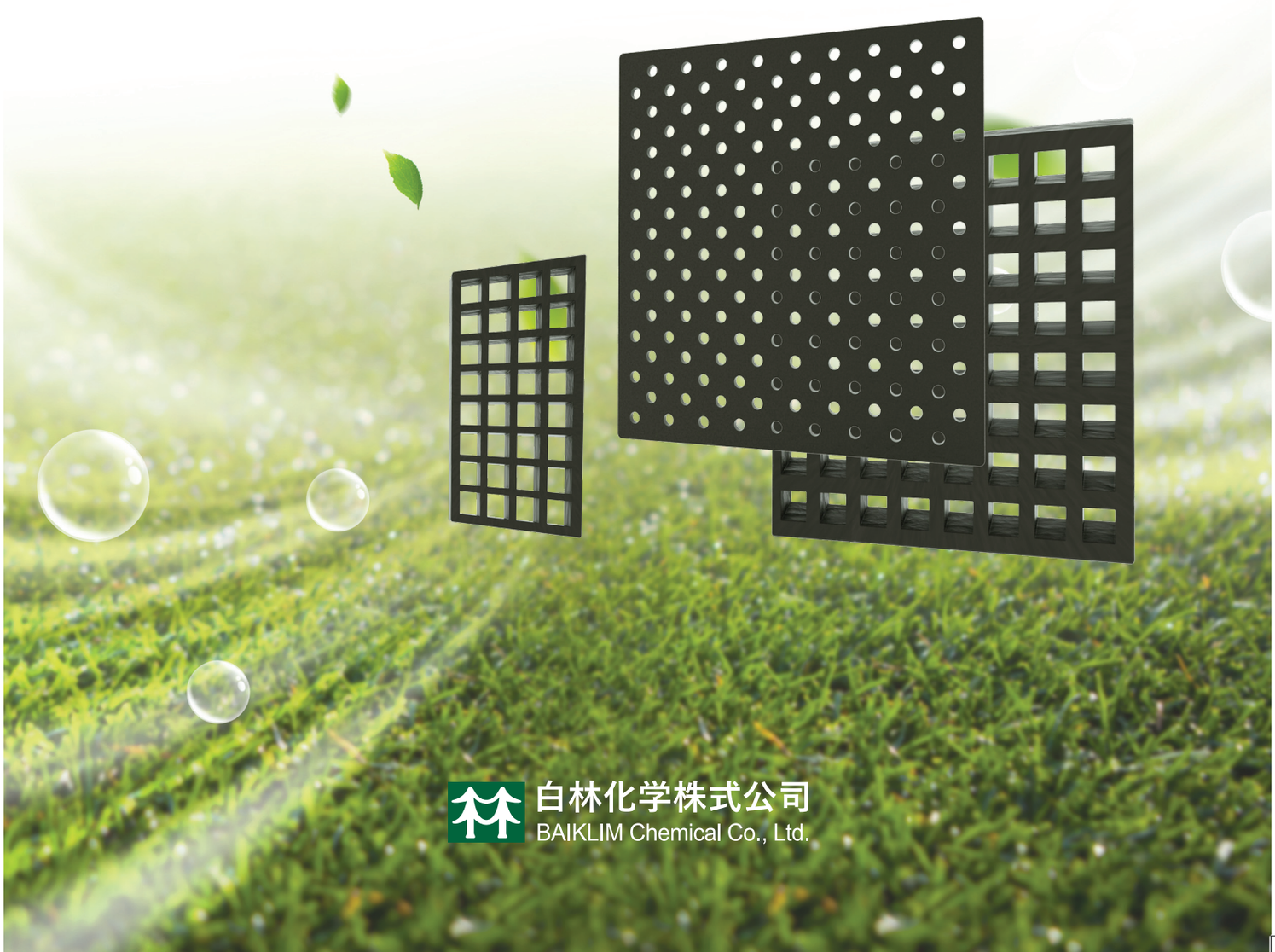
www.baiklim88.com

Specialized Filter Technology



白林化学株式公司
BAIKLIM Chemical Co., Ltd.

公司介绍 Company Introduction

公司名称 Company name

白林化学(株) BAIKLIM Chemical Co., LTD.

本司地址 Address of head office

庆尚南道 金海市 金海大路2636号路 33(安洞) 50936
33, Gimhae-daero 2636beon-gil, Gimhae-si, Gyeongsangnam-do, 50936, Rep. of KOREA

主要生产品 Main products

冰箱专用除臭过滤器, 空气净化器专用除臭过滤器, 小型空气净化器 "AIR SPA"
Deodorization Filter for refrigerator, Deodorization Filter for Air Cleaner, Mini Air Cleaner "AIRSPA"

公司沿革 Company history

1986. 08 白林产业公司创业
Establishment of BAIKLIM Industrial

1988. 08 白林化学公司名称变更及行业变更(鞋子 → 除臭剂)
Changed company name to BAIKLIM Chemical and changed business type(shoe parts → deodorant)

1989. 01 LG电子昌原冰箱企业部除臭剂
Supply of deodorant for LG Electronics Changwon refrigerator division

1990. 10 LG电子空调企业部除臭过滤器国内最初开发应用
Developed the first deodorization filter in Korea for LG Electronics air conditioner Division

1991. 12 #230低温金属公共开发应用 - 发明专利(LG电子共同)
Co-development of #230 Low Temperature Catalyst – Patent of invention (LG Electronics Joint)

1995. 10 工厂新建搬迁(现址)
Factory new construction and relocation (present location)

日本 KURARAY 技术交流, 3D除臭剂加工技术, 除臭剂加工方式及技术获得实用专利新产品创意专利
Technology cooperation with KURARAY (Japan) and technology transfer for 3D deodorant processing Patent on a new device for deodorant molding method and technology

1996. 12 #230+Pd触媒共同开发运用(LG电子, KURARAY) - 发明专利(LG电子共同)
Joint development of #230 Catalyst + Pd(LG Electronics, KURARAY) – Patent of invention (LG Electronics Joint)

1998. 08 LG电子冰箱专用净化过滤器开发应用(外装型)
Development of water filter for LG refrigerator (external type)

2000. 01 LG电子墨西哥法人, 中国法人除臭剂出口
Exports deodorant to LG Electronics Mexico, China corporation

2002. 01 LG电子印度法人, 印度呢西亚法人除臭剂出口
Exports deodorant to LG Electronics India, Indonesia corporation

2004. 01 利用维持鲜度维生素及天然抗菌剂研究开发出抗菌除臭过滤器
Development of antimicrobial deodorization filter using vitamin and natural antibacterial agent for keeping freshness of refrigerator

2011. 05 工厂增建及企业附设研究所设立
Expansion of factories and establishment of research institute

2013. 01 白林化学株式公司法人设立
Establishment of BAIKLIM Chemical Co., Ltd.

2018. 03 SERI (冰箱附件企业 集团)成员单位
Member of SERI (Supplier Ecosystem of Refrigeration Industry)

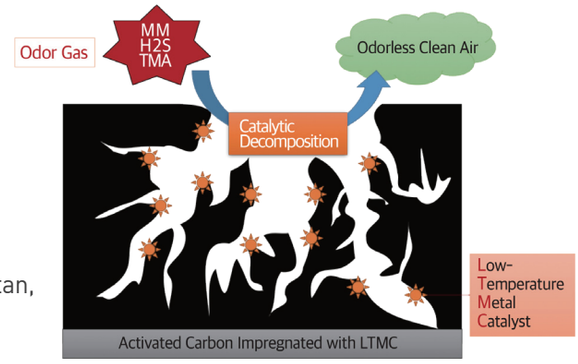
冰箱专用除臭过滤器 Deodorization Filter for Refrigerator

低温金属触媒 Low-Temperature Metal Catalyst

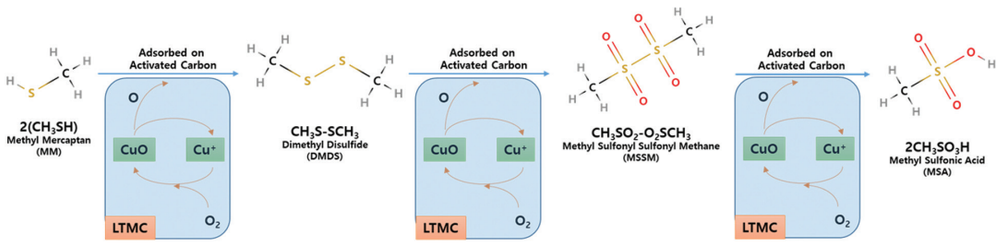
Pd (Palladium), MnO_2 (Manganese oxide), CuO(Copper oxide) 的金属触媒浸渍
Impregnated with metal catalysts such as Pd(Palladium), MnO_2(Manganese oxide), CuO(Copper oxide)

在室温或者室温以下的温度可以作用 (-20˚C~40˚C)
Activity in the low temperature region at or below room Temperature (-20˚C~40˚C)

通过触媒的氧化作用多样的恶臭物质(Methyl Mercaptan, Hydrogen Sulfide, Trimethylamine)能有效分解
Effectively decompose and remove various odor substances (Methyl Mercaptan, Hydrogen Sulfide, Trimethylamine) by oxidizing action of catalyst

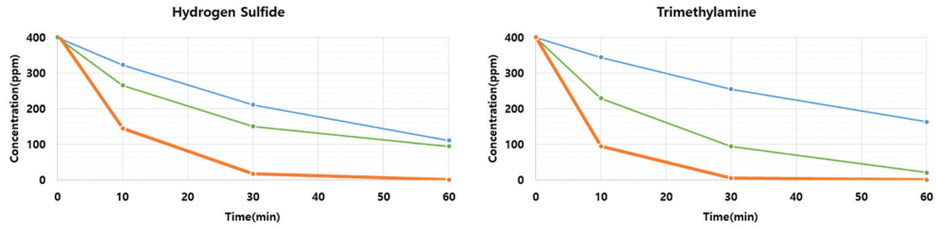


预测的触媒的分解机制 Predicted mechanism of catalytic decomposition

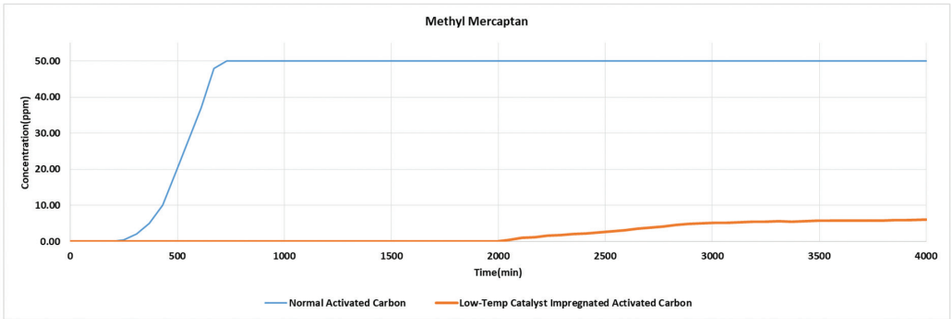


评价结果 Test Results

100L chamber 实验法 100 Liter chamber test method (H_2S Hydrogen Sulfide, TMA Trimethylamine)



U子管实验法 U-tube test method (CH_3SH Methyl Mercaptan)



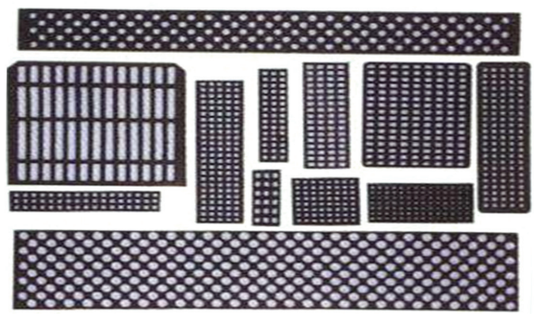
冰箱专用除臭过滤器 Deodorization Filter for Refrigerator

3D块除臭过滤器 3D Block Deodorization Filter

白林化学（株）的3D块活性炭过滤器使用与日本KURARAY共同研究开发出的低温金属触媒浸渍的活性炭制作的除臭过滤器，有以下几个特点.

3D block activated carbon filter of BAIKLIM Chemical Co., Ltd. Is a deodorization filter fabricated by using activated carbon impregnated with Low-Temperature Metal Catalyst developed jointly with KURARAY (JAPAN) and has the following Characteristics.

1. 压力损失低，吸附速度快
   Low pressure drop & fast adsorption rate
2. 耐热，耐蚀，抗菌性
   Heat resistance, corrosion resistance, antibacterial property
3. 单位面积吸收量大
   High volumetric adsorption amount
4. 在触媒的作用下产品寿命很长
   Long life due to Low-Temperature Metal Catalyst impregnation
5. 可以换成各种形态
   Easy to work with various shapes and sizes

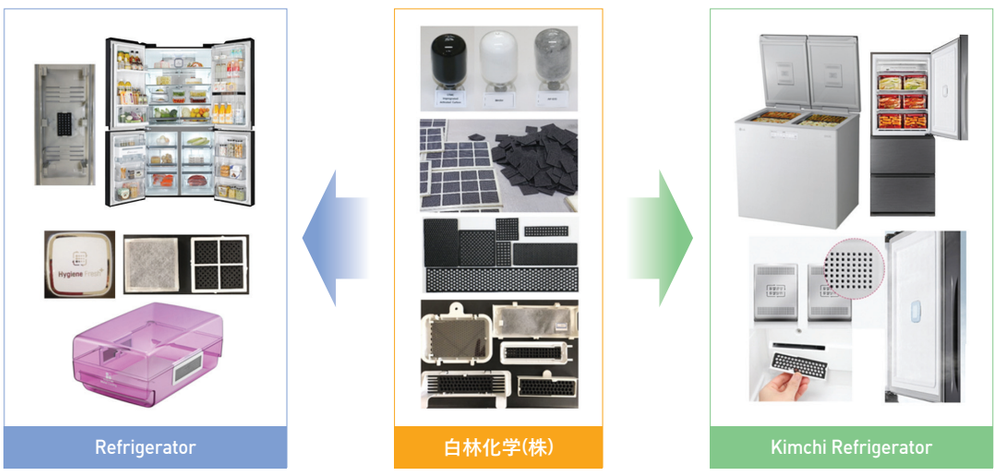


制作过程 Manufacture Process





产品运用 Application



过滤器的规格决定 Determining the Specification of the Filter

白林化学(株)的3D块活性炭过滤器通过分析在实际生活上冰箱内产生的各种各样的异味和浓度来决定除臭过滤器的规格

3D block activated carbon filter of BAIKLIM Chemical Co., Ltd. determines the deodorizing filter specification by analyzing the kind and concentration of various odor components generated in the refrigerator in real life.

1. 根据使用条件在冰箱内发出的恶臭气体的总量不同
   The total amount of odorous gas generated in the refrigerator varies according to the user's use conditions
2. 根据个人的敏感度，感觉到的气体强度都不同
   The intensity of the odor felt by consumers depends on their sensibility
3. 分析在韩国和日本消费者实际上使用的冰箱内发出的异味成分以及种类
   Analyzes the types and concentration of odor components in refrigerators used by Japanese and Korean consumers

根据冰箱容积最合适的过滤器尺寸 Optimal Filter Size by Refrigerator Capacity

冰箱容积 Refrigerator Capacity (L)		200	400	600	800	1000
恶臭物质去除总量基准(*) Estimated total amount of of odor substances to be remove	85% 以上 More than 85%	10,500 ㎣ (5g)	21,000 ㎣ (10g)	31,500 ㎣ (14g)	42,000 ㎣ (19g)	52,500 ㎣ (24g)
	95% 以上 More than 95%	14,000 ㎣ (6g)	28,000 ㎣ (13g)	42,000 ㎣ (19g)	56,000 ㎣ (26g)	70,000 ㎣ (32g)
	99% 以上 More than 99%	18,000 ㎣ (8g)	36,000 ㎣ (17g)	54,000 ㎣ (25g)	72,000 ㎣ (33g)	90,000 ㎣ (41g)

(*) 恶臭物质去除总量基准：(日) HITACHI基准，在400L冰箱内8年发出的恶臭气体总量是 54,143 ppm
Estimated total amount of odor substances to be removed: total amount of odor generated in a 400 liter class refrigerator for 8 years based on HITACHI company is 54,143 ppm(1997)

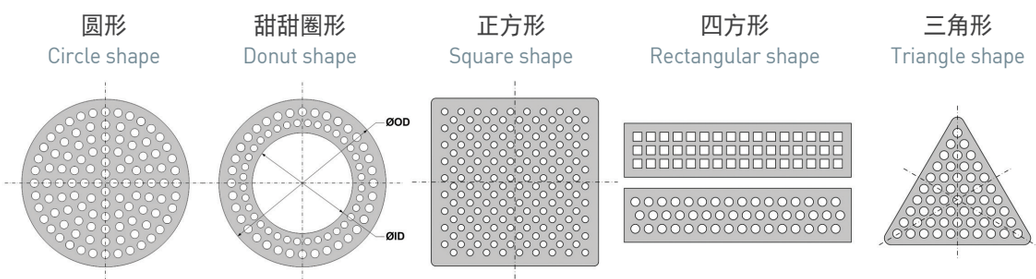
冰箱内部发出的代表异味成分 Representative odor component in refrigerator

- ▶ 甲硫醇(CH_3SH) Methylmercaptan
  : 在泡菜, 大蒜, 洋葱, 韭菜, 萝卜发出的异味 Odor from kimchi, garlic, onion, leek, radish etc.
- ▶ 三甲胺($(CH_3)_3N$) Trimethylamine
  : 在鱼类, 香肠, 大蒜, 酸萝卜发出的异味 Odor from fish, sausage, garlic, radish etc.

过滤器的各种形状 The Various Shapes of the Filter

过滤器的形状按照过滤器的尺寸，冰箱的通道等条件来设计特别是根据客户的要求可以调整尺寸以及形状

The shape of the filter is designed to have the optimum efficiency considering the size of the filter and the shape of the flow path. In particular, it can have various sizes and shapes according to customer's request.



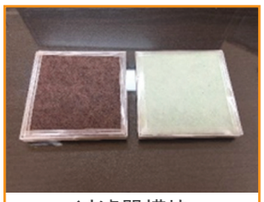
冰箱专用Hygiene过滤器 Hygiene Filter for Refrigerator

Hygiene过滤器模块 Hygiene Filter Module

Hygiene过滤器模块装配及特点 Hygiene filter module assembly and features



过滤器外壳
Filter Case



过滤器模块
Filter Module



LED 模块
LED Module



DC FAN
DC FAN

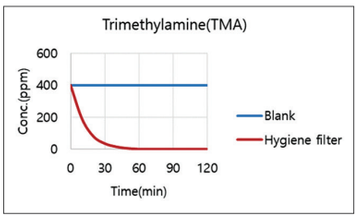


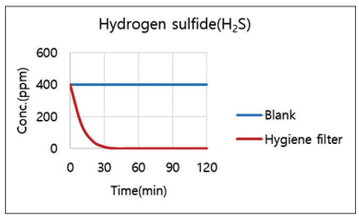
1. 去除食品异味 Removal of food odors
   硫化氢 (Hydrogen Sulfide, H_2S)
   甲硫醇 (Methyl Mercaptan, CH_3SH)
   三甲胺 (Trimethylamine, $(CH_3)_3N$)

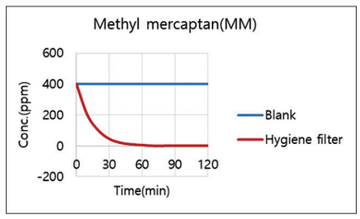
2. 通过光触媒抗菌 Removal of bacteria by photocatalyst
   大肠菌 Escherichia coli ATCC 8739
   黄色葡萄球菌 Staphylococcus aureus ATCC 6538P
   肺炎球菌 Klebsiella pneumoniae ATCC 4352
   沙门氏菌 Salmonella aertrycke NICPBP 50115
   李斯特菌 Listeria monocytogenes NICPBP 54002

评价结果 Test Results

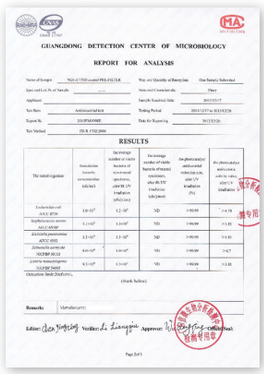
100L chamber 实验法
100 Liter chamber test method (H_2S Hydrogen Sulfide, TMA Trimethylamine, CH_3SH Methyl Mercaptan)

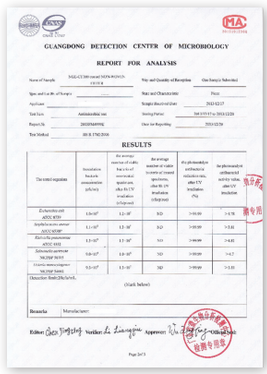






光触媒的抗菌活性及效能试验
(JIS R 1702) Test for antibacterial activity of photocatalytic products and efficacy


GUANGDONG DETECTION CENTER OF MICROBIOLOGY
REPORT FOR ANALYSIS
RESULTS

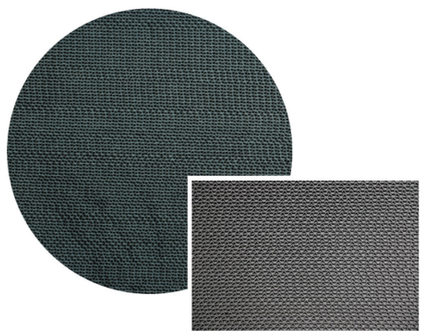

GUANGDONG DETECTION CENTER OF MICROBIOLOGY
REPORT FOR ANALYSIS
RESULTS

Corrugate 除臭过滤器 Corrugate Deodorization Filter

白林化学(株)Corrugate除臭过滤器是把纸，无纺织布做成 Corrugate形象以后，高功能的黏合剂涂在表面上，除臭效率很高，压力损失很低

Corrugate deodorization filter of BAIKLIM Chemical Co., Ltd. Has high deodorization efficiency and low pressure loss because it fabricates material such as paper or nonwoven fabric in the form of corrugate and then coating with high functional adsorbent on the surface.

1. 压力损失低，吸附速度快
   Low pressure drop & fast adsorption rate
2. 耐热，耐蚀，抗菌性
   Heat resistance, corrosion resistance, antibacterial property
3. 单位面积吸收量大
   High volumetric adsorption amount
4. 按黏合剂能去除各种恶臭
   Responds to various odors according to adsorbent
5. 出色的加工性
   Excellent processability

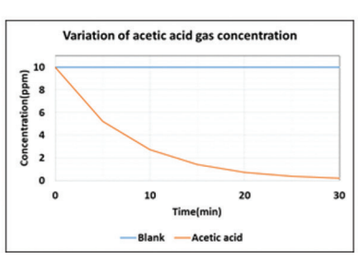


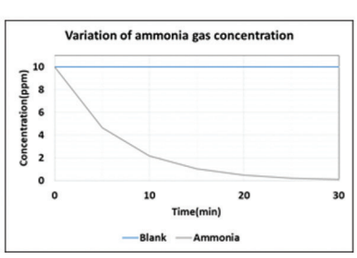
评价结果 Test Results

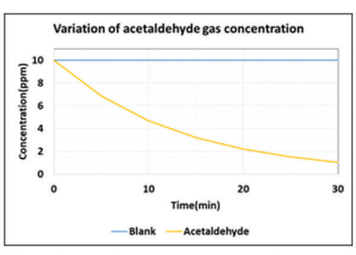
8 ㎥ chamber 实验法(韩国CA规格实验)

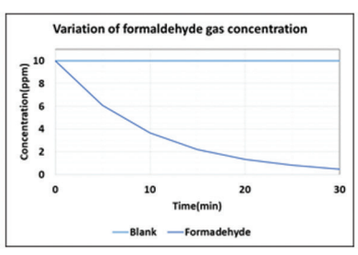
8 ㎥ chamber test method (Collective Quality Certification System for Indoor Air Cleaner in Korea)

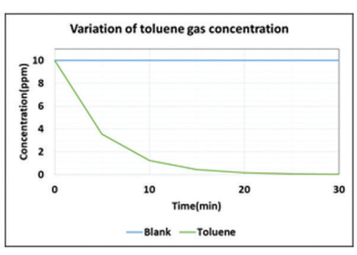
Target Gas	Initial Concentration (C_0)	Final Concentration (C_{10})	Deodorization Efficiency (%)
Blank	10	10	0
Acetic acd	10	0.2	98.0
Ammonia	10	0.1	99.0
Acetaldehyde	10	1.03	89.7
Formaldehyde	10	0.5	95.0
Toluene	10	0.02	99.8
Average			96.3











Test Method : 8m³ Chamber toxic removal test
Target gas : Acetic acid, Ammonia, Acetaldehyde, Formaldehyde, Toluene
Initial gas contentration : 10 ppm
Measuring instrument : FT-IR & GC
Filter type : Corrgate filter coated with impregnated activated carbon
Filter size : 300×465×10 mm



小型空气净化器 'AIR SPA' Mini air cleaner 'AIRSPA'

'AIRSPA' 特点 Features of 'AIRSPA'

我们白林化学的小型空气净化器AIR SPA是运用在除臭领域取得专利的技术生产的产品

The mini air cleaner 'AIRSPA' of BAIKLIM Chemical Co., LTD is a patented unique technology for deodorization of refrigerator.

1. 使用低温金属触媒浸渍的椰子树活性炭分解异味后高效除臭
   The coconut shell activated carbon impregnated with low temperature metal catalyst adsorbs and decomposes the odor and completely deodorizes it.
2. 因为使用椰子树活性炭所以可以放心使用
   Can be used with confidence by using coconut shell activated carbon.
3. 由于使用了特殊 DC FAN所以几乎没有噪音和发热
   With special DC FAN, there is little noise and no heat.
4. 除臭剂无需更换可长久使用 (除臭剂寿命7年)
   Can be used for long without deodorant replacement (Deodorant life time : 7 years).
5. 利用 "柿子" 提取物去除大肠菌, 金黄色葡萄球菌, 肺炎菌'
   Persimmon' extract antibacterial filter applied to solve Escherichia coli, Staphylococcus aureus, Klebsiella pneumoniae.
6. USB接口充电方便高效
   No need to worry about electricity due to USB charging method.
7. LG化学正品 l锂离子Battery 使用
   Use genuine Li-ion batter from LG Chem.



AIR SPA
냉장고 냄새 탈취 전용 기기

冰箱 / 鞋柜 / 衣柜 / 洗手间 / 车辆
Refrigerator / Shoe shelf / Closet / Toilet / Vehicle

'AIR SPA' 产品的过滤器组成 Filter configuration of 'AIRSPA'





除臭过滤器 (低温金属触媒)
Deodorization filter (LTMC)

抗菌过滤器 (柿子提取物)
Antibacterial Filter ('persimmon' extract)

技术研究所 R&D Institute

我们白林化学(株)技术研究所致力于除臭，抗菌方面的环保功能性新材料的研发和技术革新
通过各种空气净化器专用过滤器材料开发及性能测评保证产品的高品质

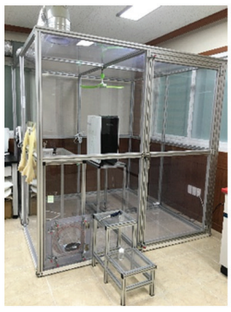
The R&D Institute of BAIKLIM Chemical Co., LTD. Focuses on the development of eco-friendly new materials and technology innovation for antibacterial and deodorization. Effective management of superior quality of products through development of filter materials for various air cleaners and performance evaluation.

研究部门 Research Area

为了室内空气质量提高研究开发出多样的空气过滤器
Development of various air filter for indoor air quality improvement

新材料开发及技术革新 Development of new materials and technological innovation

产学研共同开发 Collaborative development of industry, academy and research institute





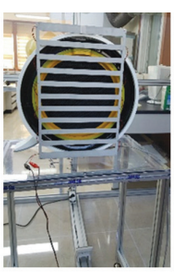


高效率的触媒材料开发 Development of catalytic material with excellent efficiency

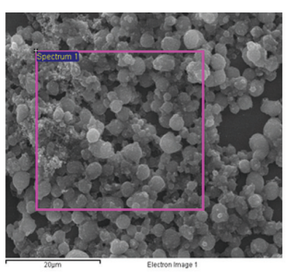
紫外线光触媒 UV photo-catalytic materials

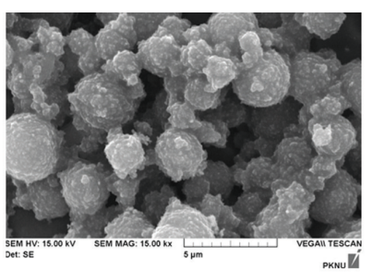
可视光线光触媒 Visible photo catalytic materials

低温金属触媒 Low temperature metal catalytic materials





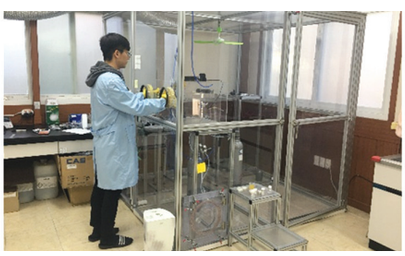




空气净化器性能评价 Air cleaner performance evaluation

韩国 CA 性能评价 Korea air cleaner performance test

中国 GB/T CADR & CCM 评价 China GB/T CADR and CCM test





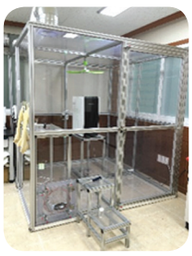
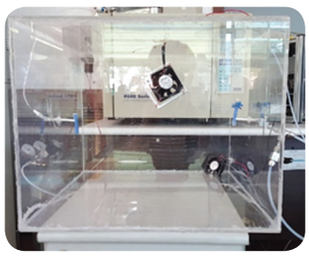


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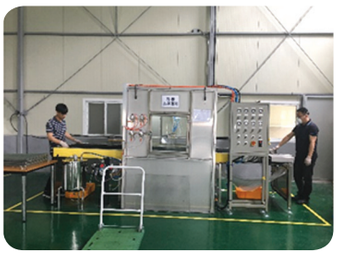
公司设备 R&D Institute

实验chamber Test chamber



样品及试制品制作 Making samples and prototypes



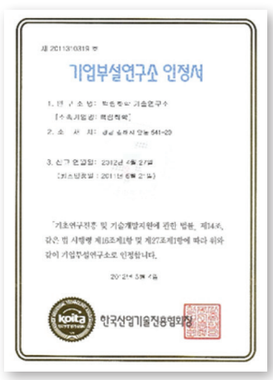




认证书以及专利 Certificates and Patents

















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