

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY

Product Identification: Purakol® GridBLOK

Product Synonyms: GridBLOK®-PKL

Use of the preparation: This product is intended for use in gas-phase air filtration.

Company Identification:

Purafil, Inc.
2654 Weaver Way
Doraville, GA 30340 / USA

Company Contact Numbers:

Telephone: (770) 662-8545
Facsimile: (770) 263-6922

2. COMPOSITION

Common Chemical Name	Synonyms	CAS Number	Wt %	EC Number	EU Classification
carbon	activated carbon	7440-44-0	<70	231-153-3	
bentonite clay			<20		
water	dihydrogen oxide	7732-18-5	<15	231-791-2	

Composition Comments: For the full text of R phrases mentioned in this section, see Section 16.

3. HAZARDS IDENTIFICATION

Most Important Hazards:

- If crushed or handled extensively, dust may evolve and can be irritating to the eyes, skin, and respiratory tract.
- Concentrations of dust in the air can form an explosive dust/air mixture.
- Confined space entry. Appropriate safety precautions should be taken when entering any confined space. Entering containers or media vessels/tanks housing activated carbon for inspection, maintenance, etc. may constitute a confined space entry. In confined spaces, activated carbon may remove oxygen from the air causing severe hazards for workers entering such spaces. Before and during the entrance of a confined space all local, state, and federal regulations should be followed.

Adverse Human Health Effects:

- The following medical conditions may be aggravated by exposure to the product:
asthma, chronic lung disease, and skin rashes.

Emergency Overview:

Inhalation: Move to fresh air. If breathing difficulty occurs or persists, seek medical attention.
Skin Contact: Wash area with soap and water. If irritation persists, seek medical attention.
Eye Contact: Flush with large quantities of water. Seek medical attention.
Ingestion: Seek medical attention.

Other Information:

This media is classified by the manufacturer for health effects according to EU Directive 1999/45/EC with Xi; R36/37/38.

4. FIRST-AID MEASURES

First aid measures should be taken as indicated below for the following routes of exposure.

- Inhalation:** Move to fresh air. If breathing difficulty occurs or persists, seek medical attention.
Skin Contact: Wash area with soap and water.
Eye Contact: Flush with large quantities of water. Seek medical attention.
Ingestion: Seek medical attention.

Notes to Physician:

Product is expected to be non-toxic and only an eye irritant in the powder form. Treatment is recommended to be symptomatic and supportive.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

If involved in a fire, flood with plenty of water.

Specific Hazards:

- High airborne concentrations of dust may pose an explosion hazard
- Carbon monoxide may be generated in the event of a fire

Protection of Firefighters:

Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Protective clothing appropriate for the environment should be worn. Goggles or safety glasses with side shields, NIOSH approved dust masks, rubber or plastic gloves, and full cover clothing covering arms and legs are recommended.

Environmental Precautions: none known

Methods for Cleaning Up:

Clean up using dry procedures (broom, shovel, etc.); avoid dusting.

Recovery:

Product may be recovered for use if it has not come in contact with liquid, changed color, or been exposed to significant amounts of gaseous contaminants.

Disposal:

See section 13. DISPOSAL CONSIDERATIONS.

7. HANDLING AND STORAGE

Handling:

Use air conveying (vacuum) for bulk removal. If manual handling is used for transfer (from vessel, slingbags, boxes, or pails), use mechanical ventilation or other measures to remove airborne dust.

Prevention of User Exposure: See Section 8

Prevention of Fire and Explosion:

Contact with strong oxidizers may result in fire.

Precautions for Safe Handling:

- Confined space entry. Appropriate safety precautions should be taken when entering any confined space. Entering containers or media vessels/tanks housing activated carbon for inspection, maintenance, etc. may constitute a confined space entry. In confined spaces, activated carbon may remove oxygen from the air causing severe hazards for workers entering such spaces. Before and during the entrance of a confined space all local, state, and federal regulations should be followed.
- Avoid crushing the product to keep dusting to a minimum. As described under Handling above, mechanical ventilation or other measures may be needed to remove airborne dust.

- Protect from water and exposure to contaminated air (gaseous, particulate, and aerosol contaminated), otherwise the product may be rendered useless.

Storage:

General good storage practices should be followed.

Suitable Conditions:

Store in a cool, dry area and keep in original, closed containers.

Incompatible Products:

- Product should be kept protected from water and exposure to contaminated air (gaseous, particulate, and aerosol contaminated), otherwise the product may be rendered useless."
- Contact with strong oxidizers such as ozone, liquid oxygen, chlorine, permanganates, peroxides, etc. may result in fire.

Recommended Packaging Materials:

- Corrugated boxes of 350 lb, double wall quality, with 4 mm plastic liners.
- Injection molded, polystyrene pails and lids including a neoprene seal.

Not Suitable Packaging Materials:

Porous materials allowing contact with water, air, and the contaminants contained therein.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values:

Inert or Nuisance Dust	5 mg/m ³ respirable fraction	OSHA PEL
	15 mg/m ³ total dust	OSHA PEL

Exposure Controls:

Minimize eye and skin contact by using appropriate protective equipment. Use local or general room ventilation to control airborne dust that may be generated.

Respiratory Protection:	NIOSH approved dust mask
Hand Protection:	Rubber or plastic gloves
Eye Protection:	Goggles or safety glasses with side shields
Skin and Body Protection:	Full cover clothing covering arms and legs.

Hygiene Measures: Do not inhale dust and avoid contact with eyes.

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Physical state:	solid
Form:	monolithic honeycomb matrix
Odor:	no significant odor
Color:	black

Health, Safety, Environmental Information

pH:	not applicable
Boiling point:	not applicable
Flash point:	not applicable
Flammability:	combustible solid
Explosive properties:	no danger of explosion under normal conditions, concentrations of dust in the air can form an explosive dust/air mixture
Oxidizing properties:	not an oxidizer
Vapor pressure:	not applicable
Bulk density:	0.44 g/cc (27.5 lb/ft ³)
Solubility:	insoluble
Partition coefficient:	not applicable
Viscosity:	not applicable
Vapor density:	not applicable

Evaporation rate: not applicable

10. STABILITY AND REACTIVITY

Stability:

Stable under normal conditions

Conditions to Avoid:

Heat & ignition sources

Materials to Avoid:

Strong oxidizers - Contact with strong oxidizers may result in fire.

Hazardous Decomposition Products:

Carbon monoxide may be generated in the event of a fire

Intended Use and Foreseeable Misuse:

Intended use is for air purification from gaseous contaminants. The product is not intended to remove dangerous particulates or biological contaminants. The product is not intended to purify water.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: Not tested

Local Effects: See section 3. HAZARDS IDENTIFICATION, Adverse Human Health Effects.

Sensitization:

Primary skin irritation and corrosivity (rabbits): expected to be non-irritant^[1], not tested

Eye irritation (rabbits): expected to be irritant^[1], not tested

Primary Route of Entry: inhalation, ingestion, skin contact, eye contact

12. ECOLOGICAL INFORMATION

Not determined.

13. DISPOSAL CONSIDERATIONS

Waste From Residues:

Spent media that has removed toxic chemicals should be examined for specific hazards. Local regulations should always be consulted and followed.

Contaminated Packaging: Not relevant

14. TRANSPORT INFORMATION

International Regulations:

The activated carbon that makes up the media is produced by a steam activation process. Because of this the media is not subject to the provisions of the International Dangerous Goods Code (IMDG) or the labeling and packaging requirements of International Maritime Organization (IMO) Class 4.2.

Proper Shipping Name: NMFC 40560 Activated Carbon, Purifying

15. REGULATORY INFORMATION

Regulations:

This section contains information specifically applicable to the chemical product relative to the following regulations. Local regulations should always be consulted and followed.

SARA Title III (Superfund Amendments and Reauthorization Act)

Section 302 Extremely Hazardous Substances (40CFR355):

not listed

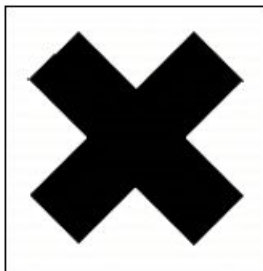
Section 312 Hazard Categories (40CFR370.2):

Only expected as Acute (eye irritant), see Section 11 TOXICOLOGICAL INFORMATION

Section 313 Reportable Ingredients (40CFR372):

none listed

EU Classifications & Labeling



Xi – Irritant

Risk Phrases:

R36/37/38: Irritating to eyes, respiratory system and skin

Safety Phrases:

S3: Keep in a cool place.

S8: Keep container dry.

S24/25: Avoid contact with skin and eyes.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28: After contact with skin, wash immediately with plenty of soap and water.

S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

S63: In case of accident by inhalation: remove casualty to fresh air and keep at rest.

16. OTHER INFORMATION

Ingredient R(isk) Phrase Definitions:

none

Disclaimer:

The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones, which exist. Purafil, Inc. makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. Effects can be aggravated by other materials and/or this material may aggravate or add to the effects of other materials. The user has sole responsibility to determine the suitability of the material for any use and the manner of use contemplated

^[1] According to methods described in US Government Document 29CFR1910.1200.

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY

Product Identification: Chlorosorb® GridBLOK

Product Synonyms: GridBLOK®-CHB

Use of the preparation: This product is intended for use in gas-phase air filtration.

Company Identification:

Purafil, Inc.
2654 Weaver Way
Doraville, GA 30340 / USA

Company Contact Numbers:

Telephone: (770) 662-8545
Facsimile: (770) 263-6922

2. COMPOSITION

Common Chemical Name	Synonyms	CAS Number	Wt %	EC Number	EU Classification
carbon	activated carbon	7440-44-0	<70	231-153-3	
bentonite clay			<20		
sodium thiosulfate		7772-98-7	<10	231-867-5	
potassium carbonate		584-08-7	<10		
water	dihydrogen oxide	7732-18-5	<15	231-791-2	

Composition Comments: For the full text of R phrases mentioned in this section, see Section 16.

3. HAZARDS IDENTIFICATION

Most Important Hazards:

- If crushed or handled extensively, dust may evolve and can be irritating to the eyes, skin, and respiratory tract.
- Concentrations of dust in the air can form an explosive dust/air mixture.
- Confined space entry. Appropriate safety precautions should be taken when entering any confined space. Entering containers or media vessels/tanks housing activated carbon for inspection, maintenance, etc. may constitute a confined space entry. In confined spaces, activated carbon may remove oxygen from the air causing severe hazards for workers entering such spaces. Before and during the entrance of a confined space all local, state, and federal regulations should be followed.

Adverse Human Health Effects:

- The following medical conditions may be aggravated by exposure to the product:
asthma, chronic lung disease, and skin rashes.

Emergency Overview:

Inhalation: Move to fresh air. If breathing difficulty occurs or persists, seek medical attention.
Skin Contact: Wash area with soap and water. If irritation persists, seek medical attention.
Eye Contact: Flush with large quantities of water. Seek medical attention.
Ingestion: Seek medical attention.

Other Information:

This media is classified by the manufacturer for health effects according to EU Directive 1999/45/EC with Xi; R36/37/38.

4. FIRST-AID MEASURES

First aid measures should be taken as indicated below for the following routes of exposure.

- Inhalation:** Move to fresh air. If breathing difficulty occurs or persists, seek medical attention.
Skin Contact: Wash area with soap and water.
Eye Contact: Flush with large quantities of water. Seek medical attention.
Ingestion: Seek medical attention.

Notes to Physician:

Product is expected to be non-toxic and only an eye irritant in the powder form. Treatment is recommended to be symptomatic and supportive.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

If involved in a fire, flood with plenty of water.

Specific Hazards:

- High airborne concentrations of dust may pose an explosion hazard
- Carbon monoxide and oxides of sulfur may be generated in the event of a fire

Protection of Firefighters:

Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Protective clothing appropriate for the environment should be worn. Goggles or safety glasses with side shields, NIOSH approved dust masks, rubber or plastic gloves, and full cover clothing covering arms and legs are recommended.

Environmental Precautions: none known

Methods for Cleaning Up:

Clean up using dry procedures (broom, shovel, etc.); avoid dusting.

Recovery:

Product may be recovered for use if it has not come in contact with liquid, changed color, or been exposed to significant amounts of gaseous contaminants.

Disposal:

See section 13. DISPOSAL CONSIDERATIONS.

7. HANDLING AND STORAGE

Handling:

Use air conveying (vacuum) for bulk removal. If manual handling is used for transfer (from vessel, slingbags, boxes, or pails), use mechanical ventilation or other measures to remove airborne dust.

Prevention of User Exposure: See Section 8

Prevention of Fire and Explosion:

Contact with strong oxidizers may result in fire.

Precautions for Safe Handling:

- Confined space entry. Appropriate safety precautions should be taken when entering any confined space. Entering containers or media vessels/tanks housing activated carbon for inspection, maintenance, etc. may constitute a confined space entry. In confined spaces, activated carbon may remove oxygen from the air causing severe hazards for workers entering such spaces. Before and during the entrance of a confined space all local, state, and federal regulations should be followed.
- Avoid crushing the product to keep dusting to a minimum. As described under Handling above, mechanical ventilation or other measures may be needed to remove airborne dust.

- Protect from water and exposure to contaminated air (gaseous, particulate, and aerosol contaminated), otherwise the product may be rendered useless.

Storage:

General good storage practices should be followed.

Suitable Conditions:

Store in a cool, dry area and keep in original, closed containers.

Incompatible Products:

- Product should be kept protected from water and exposure to contaminated air (gaseous, particulate, and aerosol contaminated), otherwise the product may be rendered useless."
- Contact with strong oxidizers such as ozone, liquid oxygen, chlorine, permanganates, peroxides, etc. may result in fire.

Recommended Packaging Materials:

- Corrugated boxes of 350 lb, double wall quality, with 4 mm plastic liners.
- Injection molded, polystyrene pails and lids including a neoprene seal.

Not Suitable Packaging Materials:

Porous materials allowing contact with water, air, and the contaminants contained therein.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values:

Inert or Nuisance Dust	5 mg/m ³ respirable fraction	OSHA PEL
	15 mg/m ³ total dust	OSHA PEL

Exposure Controls:

Minimize eye and skin contact by using appropriate protective equipment. Use local or general room ventilation to control airborne dust that may be generated.

Respiratory Protection:	NIOSH approved dust mask
Hand Protection:	Rubber or plastic gloves
Eye Protection:	Goggles or safety glasses with side shields
Skin and Body Protection:	Full cover clothing covering arms and legs.

Hygiene Measures: Do not inhale dust and avoid contact with eyes.

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Physical state:	solid
Form:	monolithic honeycomb matrix
Odor:	no significant odor
Color:	black

Health, Safety, Environmental Information

pH:	not applicable
Boiling point:	not applicable
Flash point:	not applicable
Flammability:	combustible solid
Explosive properties:	no danger of explosion under normal conditions, concentrations of dust in the air can form an explosive dust/air mixture
Oxidizing properties:	not an oxidizer
Vapor pressure:	not applicable
Bulk density:	0.44 g/cc (27.5 lb/ft ³)
Solubility:	insoluble
Partition coefficient:	not applicable
Viscosity:	not applicable
Vapor density:	not applicable

Evaporation rate: not applicable

10. STABILITY AND REACTIVITY

Stability:

Stable under normal conditions

Conditions to Avoid:

Heat & ignition sources

Materials to Avoid:

Strong oxidizers - Contact with strong oxidizers may result in fire.

Hazardous Decomposition Products:

Carbon monoxide may be generated in the event of a fire

Intended Use and Foreseeable Misuse:

Intended use is for air purification from gaseous contaminants. The product is not intended to remove dangerous particulates or biological contaminants. The product is not intended to purify water.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: Not tested

Local Effects: See section 3. HAZARDS IDENTIFICATION, Adverse Human Health Effects.

Sensitization:

Primary skin irritation and corrosivity (rabbits): expected to be non-irritant^[1], not tested

Eye irritation (rabbits): expected to be irritant^[1], not tested

Primary Route of Entry: inhalation, ingestion, skin contact, eye contact

12. ECOLOGICAL INFORMATION

Not determined.

13. DISPOSAL CONSIDERATIONS

Waste From Residues:

Spent media that has removed toxic chemicals should be examined for specific hazards. Local regulations should always be consulted and followed.

Contaminated Packaging: Not relevant

14. TRANSPORT INFORMATION

International Regulations:

The activated carbon that makes up the media is produced by a steam activation process. Because of this the media is not subject to the provisions of the International Dangerous Goods Code (IMDG) or the labeling and packaging requirements of International Maritime Organization (IMO) Class 4.2.

Proper Shipping Name: NMFC 40560 Activated Carbon, Purifying

15. REGULATORY INFORMATION

Regulations:

This section contains information specifically applicable to the chemical product relative to the following regulations. Local regulations should always be consulted and followed.

SARA Title III (Superfund Amendments and Reauthorization Act)

Section 302 Extremely Hazardous Substances (40CFR355):

not listed

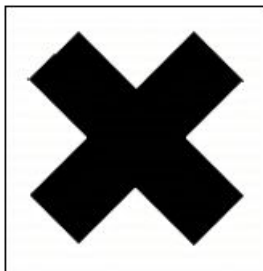
Section 312 Hazard Categories (40CFR370.2):

Only expected as Acute (eye irritant), see Section 11 TOXICOLOGICAL INFORMATION

Section 313 Reportable Ingredients (40CFR372):

none listed

EU Classifications & Labeling



Xi – Irritant

Risk Phrases:

R36/37/38: Irritating to eyes, respiratory system and skin

Safety Phrases:

S3: Keep in a cool place.

S8: Keep container dry.

S24/25: Avoid contact with skin and eyes.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28: After contact with skin, wash immediately with plenty of soap and water.

S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

S63: In case of accident by inhalation: remove casualty to fresh air and keep at rest.

16. OTHER INFORMATION

Ingredient R(isk) Phrase Definitions:

none

Disclaimer:

The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones, which exist. Purafil, Inc. makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. Effects can be aggravated by other materials and/or this material may aggravate or add to the effects of other materials. The user has sole responsibility to determine the suitability of the material for any use and the manner of use contemplated

^[1] According to methods described in US Government Document 29CFR1910.1200.

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY

Product Identification: IAQ GridBLOK

Product Synonyms: GridBLOK®-IAQ

Use of the preparation: This product is intended for use in gas-phase air filtration.

Company Identification:

Purafil, Inc.
2654 Weaver Way
Doraville, GA 30340 / USA

Company Contact Numbers:

Telephone: (770) 662-8545
Facsimile: (770) 263-6922

2. COMPOSITION

Common Chemical Name	Synonyms	CAS Number	Wt %	EC Number	EU Classification
carbon	activated carbon	7440-44-0	<70	231-153-3	
bentonite clay			<20		
proprietary ingredient			<10		
water	dihydrogen oxide	7732-18-5	<15	231-791-2	

Composition Comments: For the full text of R phrases mentioned in this section, see Section 16.

3. HAZARDS IDENTIFICATION

Most Important Hazards:

- If crushed or handled extensively, dust may evolve and can be irritating to the eyes, skin, and respiratory tract.
- Concentrations of dust in the air can form an explosive dust/air mixture.
- Confined space entry. Appropriate safety precautions should be taken when entering any confined space. Entering containers or media vessels/tanks housing activated carbon for inspection, maintenance, etc. may constitute a confined space entry. In confined spaces, activated carbon may remove oxygen from the air causing severe hazards for workers entering such spaces. Before and during the entrance of a confined space all local, state, and federal regulations should be followed.

Adverse Human Health Effects:

- The following medical conditions may be aggravated by exposure to the product:
asthma, chronic lung disease, and skin rashes.

Emergency Overview:

Inhalation: Move to fresh air. If breathing difficulty occurs or persists, seek medical attention.
Skin Contact: Wash area with soap and water. If irritation persists, seek medical attention.
Eye Contact: Flush with large quantities of water. Seek medical attention.
Ingestion: Seek medical attention.

Other Information:

This media is classified by the manufacturer for health effects according to EU Directive 1999/45/EC with Xi; R36/37/38.

4. FIRST-AID MEASURES

First aid measures should be taken as indicated below for the following routes of exposure.

- Inhalation:** Move to fresh air. If breathing difficulty occurs or persists, seek medical attention.
Skin Contact: Wash area with soap and water.
Eye Contact: Flush with large quantities of water. Seek medical attention.
Ingestion: Seek medical attention.

Notes to Physician:

Product is expected to be non-toxic and only an eye irritant in the powder form. Treatment is recommended to be symptomatic and supportive.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

If involved in a fire, flood with plenty of water.

Specific Hazards:

- High airborne concentrations of dust may pose an explosion hazard
- Carbon monoxide may be generated in the event of a fire

Protection of Firefighters:

Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Protective clothing appropriate for the environment should be worn. Goggles or safety glasses with side shields, NIOSH approved dust masks, rubber or plastic gloves, and full cover clothing covering arms and legs are recommended.

Environmental Precautions: none known

Methods for Cleaning Up:

Clean up using dry procedures (broom, shovel, etc.); avoid dusting.

Recovery:

Product may be recovered for use if it has not come in contact with liquid, changed color, or been exposed to significant amounts of gaseous contaminants.

Disposal:

See section 13. DISPOSAL CONSIDERATIONS.

7. HANDLING AND STORAGE

Handling:

Use air conveying (vacuum) for bulk removal. If manual handling is used for transfer (from vessel, slingbags, boxes, or pails), use mechanical ventilation or other measures to remove airborne dust.

Prevention of User Exposure: See Section 8

Prevention of Fire and Explosion:

Contact with strong oxidizers may result in fire.

Precautions for Safe Handling:

- Confined space entry. Appropriate safety precautions should be taken when entering any confined space. Entering containers or media vessels/tanks housing activated carbon for inspection, maintenance, etc. may constitute a confined space entry. In confined spaces, activated carbon may remove oxygen from the air causing severe hazards for workers entering such spaces. Before and during the entrance of a confined space all local, state, and federal regulations should be followed.
- Avoid crushing the product to keep dusting to a minimum. As described under Handling above, mechanical ventilation or other measures may be needed to remove airborne dust.

- Protect from water and exposure to contaminated air (gaseous, particulate, and aerosol contaminated), otherwise the product may be rendered useless.

Storage:

General good storage practices should be followed.

Suitable Conditions:

Store in a cool, dry area and keep in original, closed containers.

Incompatible Products:

- Product should be kept protected from water and exposure to contaminated air (gaseous, particulate, and aerosol contaminated), otherwise the product may be rendered useless."
- Contact with strong oxidizers such as ozone, liquid oxygen, chlorine, permanganates, peroxides, etc. may result in fire.

Recommended Packaging Materials:

- Corrugated boxes of 350 lb, double wall quality, with 4 mm plastic liners.
- Injection molded, polystyrene pails and lids including a neoprene seal.

Not Suitable Packaging Materials:

Porous materials allowing contact with water, air, and the contaminants contained therein.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values:

Inert or Nuisance Dust	5 mg/m ³ respirable fraction	OSHA PEL
	15 mg/m ³ total dust	OSHA PEL

Exposure Controls:

Minimize eye and skin contact by using appropriate protective equipment. Use local or general room ventilation to control airborne dust that may be generated.

Respiratory Protection:	NIOSH approved dust mask
Hand Protection:	Rubber or plastic gloves
Eye Protection:	Goggles or safety glasses with side shields
Skin and Body Protection:	Full cover clothing covering arms and legs.

Hygiene Measures: Do not inhale dust and avoid contact with eyes.

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Physical state:	solid
Form:	monolithic honeycomb matrix
Odor:	no significant odor
Color:	black

Health, Safety, Environmental Information

pH:	not applicable
Boiling point:	not applicable
Flash point:	not applicable
Flammability:	combustible solid
Explosive properties:	no danger of explosion under normal conditions, concentrations of dust in the air can form an explosive dust/air mixture
Oxidizing properties:	not an oxidizer
Vapor pressure:	not applicable
Bulk density:	0.44 g/cc (27.5 lb/ft ³)
Solubility:	insoluble
Partition coefficient:	not applicable
Viscosity:	not applicable
Vapor density:	not applicable

Evaporation rate: not applicable

10. STABILITY AND REACTIVITY

Stability:

Stable under normal conditions

Conditions to Avoid:

Heat & ignition sources

Materials to Avoid:

Strong oxidizers - Contact with strong oxidizers may result in fire.

Hazardous Decomposition Products:

Carbon monoxide may be generated in the event of a fire

Intended Use and Foreseeable Misuse:

Intended use is for air purification from gaseous contaminants. The product is not intended to remove dangerous particulates or biological contaminants. The product is not intended to purify water.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: Not tested

Local Effects: See section 3. HAZARDS IDENTIFICATION, Adverse Human Health Effects.

Sensitization:

Primary skin irritation and corrosivity (rabbits): expected to be non-irritant^[1], not tested

Eye irritation (rabbits): expected to be irritant^[1], not tested

Primary Route of Entry: inhalation, ingestion, skin contact, eye contact

12. ECOLOGICAL INFORMATION

Not determined.

13. DISPOSAL CONSIDERATIONS

Waste From Residues:

Spent media that has removed toxic chemicals should be examined for specific hazards. Local regulations should always be consulted and followed.

Contaminated Packaging: Not relevant

14. TRANSPORT INFORMATION

International Regulations:

The activated carbon that makes up the media is produced by a steam activation process. Because of this the media is not subject to the provisions of the International Dangerous Goods Code (IMDG) or the labeling and packaging requirements of International Maritime Organization (IMO) Class 4.2.

Proper Shipping Name: NMFC 40560 Activated Carbon, Purifying

15. REGULATORY INFORMATION

Regulations:

This section contains information specifically applicable to the chemical product relative to the following regulations. Local regulations should always be consulted and followed.

SARA Title III (Superfund Amendments and Reauthorization Act)

Section 302 Extremely Hazardous Substances (40CFR355):

not listed

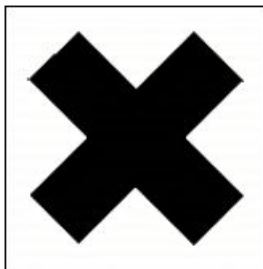
Section 312 Hazard Categories (40CFR370.2):

Only expected as Acute (eye irritant), see Section 11 TOXICOLOGICAL INFORMATION

Section 313 Reportable Ingredients (40CFR372):

none listed

EU Classifications & Labeling



Xi – Irritant

Risk Phrases:

R36/37/38: Irritating to eyes, respiratory system and skin

Safety Phrases:

S3: Keep in a cool place.

S8: Keep container dry.

S24/25: Avoid contact with skin and eyes.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28: After contact with skin, wash immediately with plenty of soap and water.

S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

S63: In case of accident by inhalation: remove casualty to fresh air and keep at rest.

16. OTHER INFORMATION

Ingredient R(isk) Phrase Definitions:

none

Disclaimer:

The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones, which exist. Purafil, Inc. makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. Effects can be aggravated by other materials and/or this material may aggravate or add to the effects of other materials. The user has sole responsibility to determine the suitability of the material for any use and the manner of use contemplated

^[1] According to methods described in US Government Document 29CFR1910.1200.

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY

Product Identification: Puracarb® GridBLOK

Product Synonyms: GridBLOK®-PCB

Use of the preparation: This product is intended for use in gas-phase air filtration.

Company Identification:

Purafil, Inc.
2654 Weaver Way
Doraville, GA 30340 / USA

Company Contact Numbers:

Telephone: (770) 662-8545
Facsimile: (770) 263-6922

2. COMPOSITION

Common Chemical Name	Synonyms	CAS Number	Wt %	EC Number	EU Classification
carbon	activated carbon	7440-44-0	<70	231-153-3	
bentonite clay			<20		
potassium carbonate		584-08-7	<10		
water	dihydrogen oxide	7732-18-5	<15	231-791-2	

Composition Comments: For the full text of R phrases mentioned in this section, see Section 16.

3. HAZARDS IDENTIFICATION

Most Important Hazards:

- If crushed or handled extensively, dust may evolve and can be irritating to the eyes, skin, and respiratory tract.
- Concentrations of dust in the air can form an explosive dust/air mixture.
- Confined space entry. Appropriate safety precautions should be taken when entering any confined space. Entering containers or media vessels/tanks housing activated carbon for inspection, maintenance, etc. may constitute a confined space entry. In confined spaces, activated carbon may remove oxygen from the air causing severe hazards for workers entering such spaces. Before and during the entrance of a confined space all local, state, and federal regulations should be followed.

Adverse Human Health Effects:

- The following medical conditions may be aggravated by exposure to the product:
asthma, chronic lung disease, and skin rashes.

Emergency Overview:

- Inhalation: Move to fresh air. If breathing difficulty occurs or persists, seek medical attention.
- Skin Contact: Wash area with soap and water. If irritation persists, seek medical attention.
- Eye Contact: Flush with large quantities of water. Seek medical attention.
- Ingestion: Seek medical attention.

Other Information:

This media is classified by the manufacturer for health effects according to EU Directive 1999/45/EC with Xi; R36/37/38.

4. FIRST-AID MEASURES

First aid measures should be taken as indicated below for the following routes of exposure.

- Inhalation:** Move to fresh air. If breathing difficulty occurs or persists, seek medical attention.
Skin Contact: Wash area with soap and water.
Eye Contact: Flush with large quantities of water. Seek medical attention.
Ingestion: Seek medical attention.

Notes to Physician:

Product is expected to be non-toxic and only an eye irritant in the powder form. Treatment is recommended to be symptomatic and supportive.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

If involved in a fire, flood with plenty of water.

Specific Hazards:

- High airborne concentrations of dust may pose an explosion hazard
- Carbon monoxide may be generated in the event of a fire

Protection of Firefighters:

Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Protective clothing appropriate for the environment should be worn. Goggles or safety glasses with side shields, NIOSH approved dust masks, rubber or plastic gloves, and full cover clothing covering arms and legs are recommended.

Environmental Precautions: none known

Methods for Cleaning Up:

Clean up using dry procedures (broom, shovel, etc.); avoid dusting.

Recovery:

Product may be recovered for use if it has not come in contact with liquid, changed color, or been exposed to significant amounts of gaseous contaminants.

Disposal:

See section 13. DISPOSAL CONSIDERATIONS.

7. HANDLING AND STORAGE

Handling:

Use air conveying (vacuum) for bulk removal. If manual handling is used for transfer (from vessel, slingbags, boxes, or pails), use mechanical ventilation or other measures to remove airborne dust.

Prevention of User Exposure: See Section 8

Prevention of Fire and Explosion:

Contact with strong oxidizers may result in fire.

Precautions for Safe Handling:

- Confined space entry. Appropriate safety precautions should be taken when entering any confined space. Entering containers or media vessels/tanks housing activated carbon for inspection, maintenance, etc. may constitute a confined space entry. In confined spaces, activated carbon may remove oxygen from the air causing severe hazards for workers entering such spaces. Before and during the entrance of a confined space all local, state, and federal regulations should be followed.
- Avoid crushing the product to keep dusting to a minimum. As described under Handling above, mechanical ventilation or other measures may be needed to remove airborne dust.

- Protect from water and exposure to contaminated air (gaseous, particulate, and aerosol contaminated), otherwise the product may be rendered useless.

Storage:

General good storage practices should be followed.

Suitable Conditions:

Store in a cool, dry area and keep in original, closed containers.

Incompatible Products:

- Product should be kept protected from water and exposure to contaminated air (gaseous, particulate, and aerosol contaminated), otherwise the product may be rendered useless."
- Contact with strong oxidizers such as ozone, liquid oxygen, chlorine, permanganates, peroxides, etc. may result in fire.

Recommended Packaging Materials:

- Corrugated boxes of 350 lb, double wall quality, with 4 mm plastic liners.
- Injection molded, polystyrene pails and lids including a neoprene seal.

Not Suitable Packaging Materials:

Porous materials allowing contact with water, air, and the contaminants contained therein.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values:

Inert or Nuisance Dust	5 mg/m ³ respirable fraction	OSHA PEL
	15 mg/m ³ total dust	OSHA PEL

Exposure Controls:

Minimize eye and skin contact by using appropriate protective equipment. Use local or general room ventilation to control airborne dust that may be generated.

Respiratory Protection:	NIOSH approved dust mask
Hand Protection:	Rubber or plastic gloves
Eye Protection:	Goggles or safety glasses with side shields
Skin and Body Protection:	Full cover clothing covering arms and legs.

Hygiene Measures: Do not inhale dust and avoid contact with eyes.

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Physical state:	solid
Form:	monolithic honeycomb matrix
Odor:	no significant odor
Color:	black

Health, Safety, Environmental Information

pH:	not applicable
Boiling point:	not applicable
Flash point:	not applicable
Flammability:	combustible solid
Explosive properties:	no danger of explosion under normal conditions, concentrations of dust in the air can form an explosive dust/air mixture
Oxidizing properties:	not an oxidizer
Vapor pressure:	not applicable
Bulk density:	0.44 g/cc (27.5 lb/ft ³)
Solubility:	insoluble
Partition coefficient:	not applicable
Viscosity:	not applicable
Vapor density:	not applicable

Evaporation rate: not applicable

10. STABILITY AND REACTIVITY

Stability:

Stable under normal conditions

Conditions to Avoid:

Heat & ignition sources

Materials to Avoid:

Strong oxidizers - Contact with strong oxidizers may result in fire.

Hazardous Decomposition Products:

Carbon monoxide may be generated in the event of a fire

Intended Use and Foreseeable Misuse:

Intended use is for air purification from gaseous contaminants. The product is not intended to remove dangerous particulates or biological contaminants. The product is not intended to purify water.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: Not tested

Local Effects: See section 3. HAZARDS IDENTIFICATION, Adverse Human Health Effects.

Sensitization:

Primary skin irritation and corrosivity (rabbits): expected to be non-irritant^[1], not tested

Eye irritation (rabbits): expected to be irritant^[1], not tested

Primary Route of Entry: inhalation, ingestion, skin contact, eye contact

12. ECOLOGICAL INFORMATION

Not determined.

13. DISPOSAL CONSIDERATIONS

Waste From Residues:

Spent media that has removed toxic chemicals should be examined for specific hazards. Local regulations should always be consulted and followed.

Contaminated Packaging: Not relevant

14. TRANSPORT INFORMATION

International Regulations:

The activated carbon that makes up the media is produced by a steam activation process. Because of this the media is not subject to the provisions of the International Dangerous Goods Code (IMDG) or the labeling and packaging requirements of International Maritime Organization (IMO) Class 4.2.

Proper Shipping Name: NMFC 40560 Activated Carbon, Purifying

15. REGULATORY INFORMATION

Regulations:

This section contains information specifically applicable to the chemical product relative to the following regulations. Local regulations should always be consulted and followed.

SARA Title III (Superfund Amendments and Reauthorization Act)

Section 302 Extremely Hazardous Substances (40CFR355):

not listed

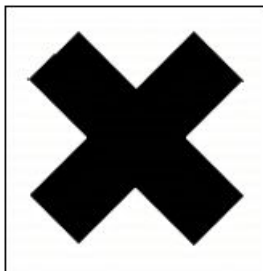
Section 312 Hazard Categories (40CFR370.2):

Only expected as Acute (eye irritant), see Section 11 TOXICOLOGICAL INFORMATION

Section 313 Reportable Ingredients (40CFR372):

none listed

EU Classifications & Labeling



Xi – Irritant

Risk Phrases:

R36/37/38: Irritating to eyes, respiratory system and skin

Safety Phrases:

S3: Keep in a cool place.

S8: Keep container dry.

S24/25: Avoid contact with skin and eyes.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28: After contact with skin, wash immediately with plenty of soap and water.

S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

S63: In case of accident by inhalation: remove casualty to fresh air and keep at rest.

16. OTHER INFORMATION

Ingredient R(isk) Phrase Definitions:

none

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MATERIAL SAFETY DATA SHEET

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Company Identification:

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2654 Weaver Way
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Company Contact Numbers:

Telephone: (770) 662-8545
Facsimile: (770) 263-6922

2. COMPOSITION

Common Chemical Name	Synonyms	CAS Number	Wt %	EC Number	EU Classification
carbon	activated carbon	7440-44-0	<70	231-153-3	
bentonite clay			<20		
phosphoric acid	Ortho-phosphoric acid	7664-38-2	<10	231-633-2	C; R34
water	dihydrogen oxide	7732-18-5	<15	231-791-2	

Composition Comments: For the full text of R phrases mentioned in this section, see Section 16.

3. HAZARDS IDENTIFICATION

Most Important Hazards:

- If crushed or handled extensively, dust may evolve and can be irritating to the eyes, skin, and respiratory tract.
- Concentrations of dust in the air can form an explosive dust/air mixture.
- Confined space entry. Appropriate safety precautions should be taken when entering any confined space. Entering containers or media vessels/tanks housing activated carbon for inspection, maintenance, etc. may constitute a confined space entry. In confined spaces, activated carbon may remove oxygen from the air causing severe hazards for workers entering such spaces. Before and during the entrance of a confined space all local, state, and federal regulations should be followed.

Adverse Human Health Effects:

- The following medical conditions may be aggravated by exposure to the product:
asthma, chronic lung disease, and skin rashes.

Emergency Overview:

- Inhalation: Move to fresh air. If breathing difficulty occurs or persists, seek medical attention.
- Skin Contact: Wash area with soap and water. If irritation persists, seek medical attention.
- Eye Contact: Flush with large quantities of water. Seek medical attention.
- Ingestion: Seek medical attention.

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Ingestion: Seek medical attention.

Notes to Physician:

Product is expected to be non-toxic and only an eye irritant in the powder form. Treatment is recommended to be symptomatic and supportive.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

If involved in a fire, flood with plenty of water.

Specific Hazards:

- High airborne concentrations of dust may pose an explosion hazard
- Carbon monoxide and oxides of phosphorus may be generated in the event of a fire

Protection of Firefighters:

Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Protective clothing appropriate for the environment should be worn. Goggles or safety glasses with side shields, NIOSH approved dust masks, rubber or plastic gloves, and full cover clothing covering arms and legs are recommended.

Environmental Precautions: none known

Methods for Cleaning Up:

Clean up using dry procedures (broom, shovel, etc.); avoid dusting.

Recovery:

Product may be recovered for use if it has not come in contact with liquid, changed color, or been exposed to significant amounts of gaseous contaminants.

Disposal:

See section 13. DISPOSAL CONSIDERATIONS.

7. HANDLING AND STORAGE

Handling:

Use air conveying (vacuum) for bulk removal. If manual handling is used for transfer (from vessel, slingbags, boxes, or pails), use mechanical ventilation or other measures to remove airborne dust.

Prevention of User Exposure: See Section 8

Prevention of Fire and Explosion:

Contact with strong oxidizers may result in fire.

Precautions for Safe Handling:

- Confined space entry. Appropriate safety precautions should be taken when entering any confined space. Entering containers or media vessels/tanks housing activated carbon for inspection, maintenance, etc. may constitute a confined space entry. In confined spaces, activated carbon may remove oxygen from the air causing severe hazards for workers entering such spaces. Before and during the entrance of a confined space all local, state, and federal regulations should be followed.
- Avoid crushing the product to keep dusting to a minimum. As described under Handling above, mechanical ventilation or other measures may be needed to remove airborne dust.

- Protect from water and exposure to contaminated air (gaseous, particulate, and aerosol contaminated), otherwise the product may be rendered useless.

Storage:

General good storage practices should be followed.

Suitable Conditions:

Store in a cool, dry area and keep in original, closed containers.

Incompatible Products:

- Product should be kept protected from water and exposure to contaminated air (gaseous, particulate, and aerosol contaminated), otherwise the product may be rendered useless."
- Contact with strong oxidizers such as ozone, liquid oxygen, chlorine, permanganates, peroxides, etc. may result in fire.

Recommended Packaging Materials:

- Corrugated boxes of 350 lb, double wall quality, with 4 mm plastic liners.
- Injection molded, polystyrene pails and lids including a neoprene seal.

Not Suitable Packaging Materials:

Porous materials allowing contact with water, air, and the contaminants contained therein.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values:

Inert or Nuisance Dust	5 mg/m ³ respirable fraction	OSHA PEL
	15 mg/m ³ total dust	OSHA PEL

Exposure Controls:

Minimize eye and skin contact by using appropriate protective equipment. Use local or general room ventilation to control airborne dust that may be generated.

Respiratory Protection:	NIOSH approved dust mask
Hand Protection:	Rubber or plastic gloves
Eye Protection:	Goggles or safety glasses with side shields
Skin and Body Protection:	Full cover clothing covering arms and legs.

Hygiene Measures: Do not inhale dust and avoid contact with eyes.

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Physical state:	solid
Form:	monolithic honeycomb matrix
Odor:	no significant odor
Color:	black

Health, Safety, Environmental Information

pH:	not applicable
Boiling point:	not applicable
Flash point:	not applicable
Flammability:	combustible solid
Explosive properties:	no danger of explosion under normal conditions, concentrations of dust in the air can form an explosive dust/air mixture
Oxidizing properties:	not an oxidizer
Vapor pressure:	not applicable
Bulk density:	0.44 g/cc (27.5 lb/ft ³)
Solubility:	insoluble
Partition coefficient:	not applicable
Viscosity:	not applicable
Vapor density:	not applicable

Evaporation rate: not applicable

10. STABILITY AND REACTIVITY

Stability:

Stable under normal conditions

Conditions to Avoid:

Heat & ignition sources

Materials to Avoid:

Strong oxidizers - Contact with strong oxidizers may result in fire.

Hazardous Decomposition Products:

Carbon monoxide and oxides of phosphorus may be generated in the event of a fire

Intended Use and Foreseeable Misuse:

Intended use is for air purification from gaseous contaminants. The product is not intended to remove dangerous particulates or biological contaminants. The product is not intended to purify water.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: Not tested

Local Effects: See section 3. HAZARDS IDENTIFICATION, Adverse Human Health Effects.

Sensitization:

Primary skin irritation and corrosivity (rabbits): expected to be non-irritant^[1], not tested

Eye irritation (rabbits): expected to be irritant^[1], not tested

Primary Route of Entry: inhalation, ingestion, skin contact, eye contact

12. ECOLOGICAL INFORMATION

Not determined.

13. DISPOSAL CONSIDERATIONS

Waste From Residues:

Spent media that has removed toxic chemicals should be examined for specific hazards. Local regulations should always be consulted and followed.

Contaminated Packaging: Not relevant

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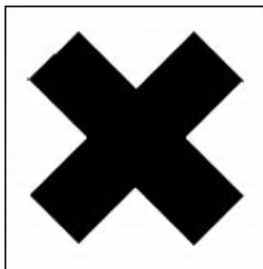
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