

SECTION 1 – Product Identification

This 'Safety Data Sheet' (SDS) covers the **AresKleen™ purification material** (Option 3) in Gaskleen® purifier assemblies with part numbers including 'HBRP'. It should be used in conjunction with the general Pall Product Safety Information (PSDS) sheet, number PSDS2022/GIS-00001/2.2, for the Gaskleen purifier assemblies employing AresKleen purification materials.

1.1 Product Identifier

Product name(s):	AresKleen purification material with part numbers containing 'HBRP'
EC number:	Not applicable
CAS number:	Not applicable
Product codes:	Gaskleen purifier assemblies with part numbers containing 'HBRP' (see Pall PSDS2022/GIS-00001/2.2)
Product Description:	Not applicable – this purification material is only supplied by Pall Corporation as part of Gaskleen purifier assemblies
Product type:	Solid, mixture
Other means of identification:	None

1.2 Relevant identified uses of the substance or mixture and uses advised against

Products containing the above AresKleen purification materials are intended for purification in the following industrial, DRY, gas applications, by trained, professional users. These products are not for consumer sale or use.

Identified Uses:

'HBRP' for Hydrogen Bromide gas service

For use with other gases – please consult Pall;
Carbon Dioxide (CO₂)
Helium (He)
Nitrogen (N₂)
Neon (Ne)
Argon (Ar)
Krypton (Kr)
Xenon (Xe)
Chlorosilanes (SiCl₄, SiH₃Cl, SiH₂Cl₂, SiHCl₃, and SiCl₄)

Please contact Pall Scientific and Laboratory Services for further information on compatible use with mixtures of the above substances.

Do not use for: The AresKleen purification material detailed above is NOT for use with liquids, or with the following gases:

Reactive fluoride gases, such as F₂, HF, and BF₃

For information on gaseous mixture use please contact Pall Scientific and laboratory Services.

For further information on Pall products, please visit Pall at <https://www.pall.com/en/about-pall.html>

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1.3 Details of the supplier of the Safety Data Sheet

Supplier's details: Pall Corporation
3643 State Route 281 (PO Box 2030)
Cortland, NY 13045
USA

E-mail of person responsible for this SDS: Sharon_holbert@pall.com

Tele: +1 (607) 753-6041 select option 5

Country of origin for Gaskleen Purifier assemblies: USA

1.4 Emergency telephone number

Emergency Support CHEMTREC Telephone number +1 800-424-9300
Registration date: January 14th, 2021
Registration number: CCN16658

Hours of Operation 24 hours/day, 7 days/week

Information limitations None

SECTION 2 - Hazards Identification**2.1 Classification of the substance or mixture**

Product definition: Solid, mixture

2.2 Label Elements

GHS Signal word: Not Applicable for AresKleen purification material Option 1

Hazard statements: No known significant effects or critical hazards

Precautionary statements Not Applicable

Prevention Not Applicable

Response Not Applicable

Storage Not Applicable

Disposal Not Applicable

Restrictions on the manufacture, placing on the market and use of dangerous substances, mixtures and articles: Not Applicable

Special packaging requirements

Child resistant fastenings: Not Applicable (product for industrial professional use only)

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Tactile warning of danger: Not Applicable

2.3 Other hazards

This mixture does not contain any substances that are assessed to be a PBT or a vPvB

Other hazards that do not result in classification: None known

Child resistant fastenings: Not Applicable (product for industrial professional use only)

Tactile warning of danger: Not Applicable

SECTION 3 - Materials of Construction

3.1 European Unique Formulation Identifier

AresKleen Option 3 - 'HBRP' purification material	Ingredient Identifier	Percentage in Composition	Regulation (EC) No. 1272/2008 [CLP]	Ingredient Type
Magnesium Bromide (purification material)	EC# 232-170-9 CAS# 7789-48-2	Up to 5%	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
And Proprietary ingredient (purification material)		95% - 100%		Not regulated

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard.

[6] Additional disclosure due to company policy

Occupational exposure limits, if available, are listed in Section 8.

There are no current SVHC substances known to be present in the finished articles above 0.1%.

SECTION 4 - First Aid Measures

4.1 Description of First aid measures

Always address any contaminants present on the AresKleen purification material as the result of use.

Please note that the purification material is a reactive solid material. Contact of the purification material with water and / or air may generate heat. Direct contact of the purifier material with skin or eyes will cause burns and / or severe irritation.

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Eye Contact:	Eye contact with the AresKleen purification material Option 3 is unlikely if used under recommended conditions. Should dust, resulting from damage to the unit, contact the eye – Wash with water, continuing for 10 minutes. Remove contact lenses and raise eyelid first. Seek medical advice.
Inhalation:	Inhalation of the AresKleen purification material Option 3 is unlikely if used under recommended conditions. Should dust, resulting from damage to the unit, be inhaled – remove casualty to fresh air. Seek medical advice if adverse symptoms are experienced.
Skin Contact:	Skin contact is unlikely if used under recommended conditions. If irritation is experienced, wash with soap and water. If irritation persists, burns or other symptoms are experienced, seek medical advice.
Ingestion:	Ingestion is not considered a likely route of exposure for the AresKleen purification material as supplied by Pall, if used as intended. However, if ingestion occurs, rinse mouth with water and give plenty of water to drink. Do not induce vomiting and seek medical attention.
Protection of first aiders:	No action shall be taken involving any personal risk or without suitable training.

4.2 Key symptoms and effects both acute and delayed

No known significant effects or critical hazards

4.3 Indication of immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been inhaled or ingested.
Specific treatments	No specific treatments.

SECTION 5 - Fire Fighting Measures

5.1 Extinguishing media

Select an extinguish medium suitable for surrounding / working environment.

5.2 Specific Hazards Magnesium bromide is non-combustible.

5.3 Advice to Fire Fighters Protective gloves must be worn when handling debris after a fire.

Hazardous thermal Decomposition products may include the following materials:

decomposition products: Carbon Dioxide
Carbon Monoxide
Halogenated Compounds

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Metal oxide / Oxides

Special protective actions	Please note that the purification materials is a reactive solid material. Contact of
for fire-fighters:	that purification material with water and / or air may generate heat. Contact of the purifier material with skin or eyes will cause burns and / or severe irritation.
Special protective equipment	Fire-fighters should wear appropriate protective equipment and self-contained.
for fire-fighters:	breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6 - Accidental Release Measures**6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel:**

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk-through spilt material. Put on appropriate personal protective equipment.

Gloves are required in respect handling AresKleen purification material in the unused condition as supplied.

For used AresKleen purification material always address any contaminants present on the AresKleen purification material as the result of use.

For emergency personnel:

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

For unused Gaskleen purifier assemblies, place in designated waste container appropriate to the materials of construction listed in Section 3 and dispose of in accordance with local regulations via a licenced waste disposal contractor.

For used Gaskleen purifier assemblies, use appropriate PPE measures related to the product processed and the materials of construction detailed in Section 3 and dispose of in accordance with local regulations via a licenced waste disposal contractor.

6.3 Spillage containment and cleaning up

Serious harm from accidental release during handling of the undamaged, unused article is unlikely due to the form of the assembly and the quantity of hazardous material present.

However, Gaskleen assemblies contain reactive, solid, purification materials. Contact of the purification materials with water or atmosphere may generate heat.

Contact of the purification material with the skin will or eyes will cause severe irritation. Therefore, dust resulting from damage to the assembly is potentially water-reactive and must be disposed of as hazardous waste.

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Dust resulting from damage to the assembly is potentially water reactive. Therefore, spilled material should be considered 'hazardous waste'.

Eliminate sources of ignition and other combustible materials. Wear protective clothing as indicated in section 8. Place in a dry container. Use care in handling the container as assembly and container may become sufficiently hot as to burn the skin. Place container in a well-ventilated area, free from sources of ignition and other combustible materials and let stand until material is spent.

Handling must also take into consideration any contaminants on the Gaskleen purifier assembly as the result of use and other materials of construction of the assembly – please see PSDS2022/GIS-00001/2.2. Use suitable equipment to collect the Gaskleen purifier assembly and place in a designated, labelled waste container.

Small spill:

Move the Gaskleen purifier assembly from the spill area. Vacuum or sweep up any released purification material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor as hazardous waste.

Care should be taken to consider the nature of any contamination on the AresKleen purification material as the result of use and suitable PPE employed for handling waste.

Large spill:

Move containers from spill area. Prevent entry into sewers, water courses, basements, or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container.

Dispose of via a licensed waste disposal contractor.

Note: see Section 1 for emergency contact information and Section 13 for hazardous waste disposal.

Wear protective gloves and PPE when handling any potentially damaged units or spilt materials. Taking into consideration the materials of construction of the Gaskleen purifier assembly and any substances present as the result of use.

SECTION 7 – Handling and Storage

Installation and use must be in line with Pall instructions for use Gaskleen purifier assemblies, only by professional, trained operators in Industrial applications.

7.1 Handling

Put on appropriate personal protective equipment for the working environment (See Section 8). Consult details of gaseous product being processed for specific advice. Avoid activities that can damage the Gaskleen purifier assemblies.

Follow good hygiene practices. Eating, drinking, and smoking are generally prohibited in areas where the Gaskleen purifier assembly is handled, stored or processed.

Staff must follow standard work-place hygiene before eating, drinking, or smoking after using this product. Wear gloves to prevent contamination of, and maintain cleanliness of, the unused Gaskleen purifier assemblies.

7.2 Storage

In the received condition, special protective equipment is not needed during handling packaged Gaskleen purifier assemblies. However, gloves are recommended.

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These articles are supplied dry, without the presence of any preserving fluid.

Store in a cool, clean environment.
Handle with care to avoid damage or abrading.
Keep dry.

Store at temperatures between 0°C and 40°C, in dry conditions. For conditions outside of these limits consult Pall for specific recommendations.

Do not expose to direct sunlight or other radiation or direct weather conditions.
Store in original shipping bag or boxing. Do not remove from packaging until point of use.
Ensure careful handling to avoid physical damage. Ensure shipping bag and seals are intact prior to use.

Pall recommends a visual inspection prior to use. Do not use if the product or packaging is damaged (please contact Pall for further advice).

Please also consult the Pall instructions for use information on the product prior to use.

SECTION 8 - Exposure Controls/Personal Protection

Installation and use must be in line with Pall instructions for use of these products, only by professional, trained operators.

8.1 Control parameters

Occupational Exposure limits: Not established.

Recommended monitoring procedures: Not established.

8.2 Exposure controls

Ventilation requirements shall be in accordance with the installation location for the article as supplied in the new and unused condition.

Eye / face protection: Safety eyewear complying with an approved standard or other PPE should be used in accordance with the requirements of the installation location and must be used when required by Pall's instructions for Use of the assembly provided and /or a risk assessment indicates this is necessary to avoid exposure to the purification material or process gases.

If contact is possible, safety glasses with side-shields should be worn unless a risk assessment indicates a higher degree of protection is required.

Skin protection:

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard or other PPE should be used in accordance with the requirements of the installation location and must be used when required by Pall's instructions for Use of the assembly provided and /or a risk assessment indicates this is necessary to avoid exposure to the purification material or process gases.

Body protection: Body PPE should be selected appropriate to the installation location and the tasks to be undertaken as reviewed by a specialist, before handling these products.

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Other skin protection: Appropriate footwear and any additional skin protection measures should be selected appropriate to the installation location and the tasks to be undertaken as reviewed by a specialist, before handling these products.

Respiratory protection: use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazard risks from the materials involved and requirements applicable to the installation location, plus safe working limits of the selected respirator.

Hygiene Measures: Good hygiene practice in line with local working environmental requirements and guidelines.

Hand protection: Disposable gloves are recommended.

Environmental Exposure Controls:

After the Gaskleen purifier assembly has been used additional exposure controls care should be taken in line with the nature of any contaminant on the Gaskleen purifier assembly as a result of its use.

SECTION 9 - Physical and Chemical Properties

Appearance:	Purification material – Small round black beads inside body If purification material is visible the assembly MUST be considered 'damaged' and appropriate action taken. Do not use.
Physical state:	Solid
Colour:	Black
Solubility:	Keep product dry.
Auto-ignition temperature:	Not applicable.
Melting Point:	705°C (1301°F)
Sensitive to shock:	Mechanical / thermal shock can result in damage to the Gaskleen purifier assemblies.

SECTION 10 – Stability and Reactivity

Reactivity:	AresKleen purification material are stable under the Pall recommended conditions of use and storage.
Chemical Stability:	Please see Pall instructions for use of use and storage or contact Pall Scientific and Laboratory Services for further advice.
Hazardous Polymerisation:	

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Other hazardous reactions: Magnesium bromide is stable under normal conditions.

Conditions to Avoid: Avoid contact with reactive fluoride gases.Keep dry.Use only as directed by Pall's Instructions for Use.

Incompatible Materials: Reactive fluoride gases. Water

Decomposition Products: Under recommended conditions of use or storage, no hazardous decomposition products will be produced.

SECTION 11 - Toxicological Information

The information in this section contains generic advice and guidance in respect of the unused AresKleen purification materials supplied. Consult SDS details of the purification material and product being processed for specific advice and recommendations.

11.1 Acute Toxicity

Based on typical information for the material type named, this information has not been determined specifically for Gaskleen purifier assemblies:

Irritation/Corrosion/Sensitisation: Magnesium bromide may cause mild skin and eye irritation upon prolonged or repeated exposure. It is not classified as a corrosive, and there is no evidence to suggest it is a skin or respiratory sensitizer.

Mutagenicity / Carcinogenicity / Reproductive Toxicity / Teratogenicity: Not classified as mutagenic, carcinogenic, toxic to reproduction, or teratogenic.

Aspiration Hazard: Not classified as an aspiration hazard.

Potential acute health effects: Not expected to cause severe acute toxicity under normal handling conditions.

11.2 Chronic health effects

No known significant effects or critical hazards for the unused AresKleen purification material as supplied.

Carcinogenicity: No specific test data available, no evidence for hazardous properties

SECTION 12 - Ecological Information

Do not put to landfill.

SECTION 13 - Disposal Information

The information in this section contains generic advice and guidance.

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Disposal methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product after use should comply with the requirements of environmental protection and waste disposal legislation, and any regional / local authority requirements.

Disposal of surplus or unused, damaged items should be undertaken by a licensed waste disposal contractor. After risk assessment of the materials of construction present – see Section 3.

Any waste or spilled material related to AresKleen purification material should not be disposed of to a sewer, waterway, drain or water course.

Product

Methods of disposal:

Disposal/handling of the un-used AresKleen purification material should be in-line with national legislation and local regulatory requirements for the materials present – see Section 3.

Please note that due to the presence of the purification material this product may be considered 'hazardous waste' under local legislation.

Hazardous Waste:

Used AresKleen purification material should be disposed of in-line with the nature of the contaminants on the Gaskleen assembly as a result of use as well as it's materials of construction. Therefore, used AresKleen purification material may be classified as hazardous waste.

Packaging

Please see PSDS2022/GIS-00001/2.2 for information on Gaskleen purifier assembly packaging materials.

The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled where suitable arrangements and facilities exist.

Incineration or landfill should only be considered where re-cycling is not feasible.

SECTION 14 - Transport Information

Please see PSDS202/GIS-00001/2.2 - the clean and un-used Gaskleen purifier assemblies, supplied in its original packaging, is not known to be classified as dangerous goods under ADR, RID, IMDG or IATA regulations.

Transport within Users premises: Always transport within sealed packaging as supplied. Ensure those transporting or handling the packaged items have been trained on actions in the event of accident, product damage or spillage.

SECTION 15 – Regulatory Information

U.S. Federal regulations; TSCA 8(a) CDR Exempt/ partial exemption – Not determined

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Final determination of suitability of any materials is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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