



Entegris, Inc. • 6975 Flanders Drive • San Diego, CA 92121
TEL 858 452 0124 • FAX 858 452 0229

MATERIAL SAFETY DATA SHEET

Chloride (HCl) Gas Purifier Media

Part Number: 5307472
Patent: U.S. 7,288,201

SECTION 1 - PRODUCT IDENTIFICATION

Trade name and Synonyms: Chloride (HCl) Gas Purifier media.
Chemical name: Chemical Mixture.
Formula: Chemical Mixture
Product CAS No.: Chemical Mixture
Product use: Chloride Gas purifier, removes moisture from HCl gas.

MSDS Number: 8007475
Issue Date: 6/30/08
Revision Date: 6/30/08
Revision: A

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components in the solid mixture inside the purifier body.

<u>COMPONENT</u>	<u>CAS No.</u>	<u>%</u>
Entegris Proprietary	Not assigned	> 99.0
Nitrogen	7727-37-9	< 1.0

Note: See Section 8 for Exposure Limits and Section 11 for Toxicological Information.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Stainless steel housing containing solid adsorbent mixture. The hazards identified relate to accidental or intentional release of the housing contents

Odorless

Flash Point: Not Determined

Suspected Cancer Hazard: None

Causes eye, skin and respiratory tract irritation. May cause allergic skin and respiratory reaction. Harmful if swallowed. May cause gastrointestinal irritation, headache, nausea, vomiting and diarrhea.

This product will remain stable when housed in the purifier body.

Routes of Entry:

Eyes? YES Skin? YES Inhalation? YES Ingestion? YES

Potential Health Effects:

EYE CONTACT causes irritation.

SKIN CONTACT causes irritation and dehydration.

INHALATION May cause slight irritation of the mucous membranes and upper respiratory tract, and possible tissue burns.

INGESTION May cause slight gastrointestinal disturbance.

Carcinogenicity:

NTP? NO

IARC? NO

OSHA? NO

Chronic Health Hazards:

No known chronic hazards.

Medical Conditions Generally Aggravated by Exposure:

May aggravate existing medical conditions such as allergies, dermatitis, asthma, bronchitis or any other respiratory ailment.

NOTE: See Section 8 for Exposure Limits, Section 11 for Toxicological Information and Section 12 for Ecological Information.



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SECTION 4 – FIRST AID MEASURES

In the unlikely event that the purifier media is liberated from the purifier body these health hazards may arise from inhalation, ingestion, and or/contact with the skin and/or eyes

Eye Contact: Immediately flush eyes with plenty of water for at least 15min. Call a physician.

Skin Contact: Immediately wash skin with soap and plenty of water. If irritation persists, call a physician.

Inhalation: Remove to fresh air. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician.

Ingestion: If vomiting occurs, keep head lower than hips to help prevent aspiration. Get medical attention if gastrointestinal distress occurs.

SECTION 5 – FIRE-FIGHTING MEASURES

Flash Point: Not Determined
Auto-Ignition: Not Applicable
LEL: Not Applicable
UEL: Not Applicable

NFPA Hazard Classification:

Health: 2 Flammable: 1 Reactivity: 0

Extinguishing Media: Use water, carbon dioxide or foam.

Special Fire-Fighting Procedures: Wear NIOSH/MSHA approved positive-pressure self-contained breathing apparatus and protective clothing as specified in 29 CFR 1910.156.

Unusual Fire and Explosion Hazards: This product will remain stable when housed in the purifier body. Toxic emissions are possible in a fire situation.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Contain spillage and scoop up or vacuum. Avoid dusting. Notification of the National Response Center (800-424-8802) may be required. Refer to EPA, DOT and applicable state and local regulations for current response information.

It is recommended that each user establish a spill prevention, control and countermeasure plan (SPCC). Such plan should include procedures applicable to proper storage, control and clean up of spills, including reuse or disposal as appropriate (see Section 13: Disposal Consideration).

****Note**** In the unlikely event that the purifier media is liberated from the purifier body the above procedures should be followed. Additionally, proper exposure controls and personal protection equipment should be used (see Section 8: Exposure Control/Personal Protection), and disposal of the material should be in accordance with Section 13: Disposal Considerations.

SECTION 7 - HANDLING AND STORAGE

****Note**** In the unlikely event that the purifier media is liberated from the purifier body the following procedures should be observed. Notify Safety personnel. Wash thoroughly after handling media. Keep container closed. Avoid breathing dust. Keep away from sunlight, heat or fire. Store in cool, dry location away from incompatible materials.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits Ingredients:	PEL-OSHA	TLV-ACGIH
Media Mixture	7.5mg/m ³ (Total Dust)	10mg/m ³ (Inhalable Fraction)
CAS NO.: Chemical Mixture	2.5mg/m ³ (Respirable)	3mg/m ³ (Respirable)

Unless otherwise noted, all values are reported as 8-hour Time-Weighted Averages (TWAs) and total dust (particulates only). All ACGIH TLVs refer to the 1998 Standards. All OSHA PELs refer to 29 CFR Part 1910 Air Contaminants: Final Rule. January 19, 1989.

Respiratory Protection: A NIOSH/MSHA-approved respirator recommended for dust if media is liberated from purifier body.

Ventilation: General; local exhaust ventilation as necessary to control any air contaminants to within their PELs or TLVs during exposure to media. Under conditions of normal use, personal exposure to housing contents is unlikely. Provide exhaust ventilation system to meet exposure limits of the gas being purified with this product.

Protective Equipment: Chemical goggles as needed to prevent irritation. Rubber or neoprene gloves. Body protection as necessary to prevent skin contact.



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SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Black Extrusions
Odor: Odorless
Specific Gravity (H₂O=1): Less than 1.0 g/cc (Bulk Density)
Melting Point: Not Determined
Vapor Pressure (mm Hg): Not Applicable
Vapor Density (Air=1): Not Applicable
Evaporation Rate: Not Applicable
% Solubility in Water: Insoluble
pH: Not Determined

SECTION 10 – STABILITY AND REACTIVITY

Stability: Generally considered stable housed inside purifier body or when properly installed in Gas Systems.

Avoid: None expected.

Incompatibility (Materials to Avoid): Oxidizing agents

Hazardous Decomposition or By-Products: Oxides of carbon and bases, haloacid fumes.

Polymerization: Polymerization is not expected to occur.

SECTION 11- TOXICOLOGICAL INFORMATION

Chemical Name	%Wt.	LD50	LC50
Media Mixture	100	8100mg/kg Rat, oral	Not Available
CAS NO.: Chemical Mixture			

*The toxicological data has been taken from products of similar composition.

NOTE: See Section 3, 8 and 12 for additional information.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity: No data available.

Environmental Fate: No data available.

SECTION 13 – DISPOSAL CONSIDERATIONS

US EPA Waste Number: Not Regulated

Federal, State, and Local disposal laws and regulations will determine the proper waste disposal/recycling/reclamation procedure. All waste materials should be reviewed to determine the applicable hazards (testing may be necessary). Disposal requirements are dependent on the hazard classification and will vary by location and the type of disposal selected.

NOTE Chemical additions, processing or otherwise altering this material may make the waste management information presented above incomplete, inaccurate or otherwise inappropriate. Chloride gas purifier media may become hazardous depending upon the application in which it is used.

As local regulations may vary; all waste must be disposed/recycled/reclaimed in accordance with Federal, State, and Local environmental control regulations.

SECTION 14 – TRANSPORT INFORMATION

Gatekeeper Chloride Purifier Media is not regulated by USDOT, ICAO/IATA, or IMO as a hazardous or dangerous good.

INTERNATIONAL

UN Number: Not Applicable

UNITED STATES

EPA Waste Number: Not Regulated

DOT Classification: Not Applicable

DOT Proper Shipping Name: Not Applicable

Packing Group: Not Applicable

CANADA

PIN Number: Not Applicable



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TDG Class: Not Applicable
EC DGL: Not Applicable

SECTION 15 – REGULATORY INFORMATION

US FEDERAL REGULATIONS

TSCA: Gatekeeper Chloride Purifier Media is listed on the Toxic Substances Control Act (TSCA) Chemical Inventory. See Regulations in 40 CFR 700 for details.

SARA 311 and 312 Hazard Categories

Immediate (Acute) Health Hazard: Yes
Delayed (Chronic) Health Hazard: Yes
Fire Hazard: No
Reactivity Hazard: No
Sudden Release of Pressure: No

SARA Section 313 Notification: None

OZONE DEPLETING SUBSTANCES (ODS): This product neither contains nor is manufactured with an ozone depleting substance subject to the labeling requirements of the Clean Air Act Amendments 1990 and 40 CFR Part 82.

VOLATILE ORGANIC COMPOUNDS (VOC): None

US STATE REGULATIONS

California: No significant Risk Level: None of the chemicals in this product are known to Entegris, Inc. to be listed.

VOLATILE ORGANIC COMPOUND (CARB): Not determined

CANADIAN REGULATIONS

DSL/NDSL: DSL

WHMIS Classification: Class D Division 2 Subdivision B

EUROPEAN Labeling in Accordance with EC Directives for contained material, if it were released.

Hazard Symbols: None Applicable

Risk Phrases: None Applicable

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

EINECS: Yes

OTHER REGULATIONS

MITI (Japan): Yes

AICS (AUSTRALIA): Yes

SECTION 16 – OTHER INFORMATION

Prepared by: Entegris Inc., Research and Development Department.

Phone Number: See Header.

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