

## Safety Data Sheet

Material Name: DESICORE

SDS ID: 00232993

### Section 1 - PRODUCT AND COMPANY IDENTIFICATION

**Material Name**

DESICORE

**Synonyms**

MTG METAL OXIDE GAS PURIFICATION SYSTEM

**Product Description**

As a service to our customers, Matheson has identified this Safety Data Sheet with the intended gas for which the accompanying purifier will be used. The data herein is reflective of the purification media, as shipped under an argon pressure of 5-15 psig. Once the purifier is installed and exposed to the intended process gas, the SDS for the process gas must also be consulted in conjunction with this SDS to determine the appropriate hazards.

**Product Use**

Industrial and Specialty Gas Applications. For Use with Gas: Trisilane (Silcore).

**Restrictions on Use**

None known.

**Details of the supplier of the safety data sheet**

MATHESON TRI-GAS, INC.

909 Lake Carolyn Parkway

Suite 1300

Irving, TX 75039

General Information: 1-800-416-2505

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 703-527-3887 (Call collect)

### Section 2 - HAZARDS IDENTIFICATION

**Classification in accordance with paragraph (d) of 29 CFR 1910.1200.**

Specific Target Organ Toxicity - Repeated Exposure - Category 1 ( respiratory system , Immune system , kidneys )

Specific Target Organ Toxicity - Repeated Exposure - Category 2

**GHS Label Elements**

**Symbol(s)**



**Signal Word**

Danger

**Hazard Statement(s)**

Causes damage to organs through prolonged or repeated exposure.

May cause damage to organs through prolonged or repeated exposure.

**Precautionary Statement(s)**

**Prevention**

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

**Response**

Get medical advice/attention if you feel unwell.

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### Storage

None needed according to classification criteria.

### Disposal

Dispose in accordance with all applicable regulations.

### Other Hazards

There are no expected signs or symptoms of overexposure in the workplace. The purification system is sold as a sealed unit and no worker exposure to the media is expected.

### Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
Not Available	PROPRIETARY ORGANOLITHIUM POLYMER	100
7631-86-9	SILICON DIOXIDE	>1

### Section 4 - FIRST AID MEASURES

#### Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

#### Skin

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

#### Eyes

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

#### Ingestion

If swallowed, get medical attention.

#### Most Important Symptoms/Effects

##### Acute

no information on significant adverse effects.

##### Delayed

no information on significant adverse effects.

#### Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

### Section 5 - FIRE FIGHTING MEASURES

#### Extinguishing Media

##### Suitable Extinguishing Media

Use extinguishing agents appropriate for surrounding fire.

##### Unsuitable Extinguishing Media

None known.

#### Special Hazards Arising from the Chemical

Negligible fire hazard.

#### Hazardous Combustion Products

miscellaneous decomposition products

#### Fire Fighting Measures

Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

#### Special Protective Equipment and Precautions for Firefighters

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Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

### Section 6 - ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures**

Wear personal protective clothing and equipment, see Section 8.

**Methods and Materials for Containment and Cleaning Up**

Collect spilled material in appropriate container for disposal. If purifier has been exposed to process gas prior to release, refer to hazards associated with process gas before attempting to clean up spilled medium.

**Environmental Precautions**

Avoid release to the environment.

### Section 7 - HANDLING AND STORAGE

**Precautions for Safe Handling**

No special handling precautions during normal use. Wash hands thoroughly after handling.

**Conditions for Safe Storage, Including any Incompatibilities**

None needed according to classification criteria.

Store and handle in accordance with all current regulations and standards. See original container for storage recommendations. Store at ambient temperatures with contents under dry inert gas pressure at 5 - 15 psig.

**Incompatible Materials**

chlorine trifluoride, FLUORINE, hydrofluoric acid, magnesium, oxidizing materials, ozone, sodium, VINYL ACETATE

### Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

**Component Exposure Limits**

<b>SILICON DIOXIDE</b>	<b>7631-86-9</b>
NIOSH:	6 mg/m3 TWA
	3000 mg/m3 IDLH
OSHA (US):	20 mppcf TWA ; ((80)/(% SiO2) mg/m3 TWA )

**ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)**

There are no biological limit values for any of this product's components.

**Engineering Controls**

Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

**Individual Protection Measures, such as Personal Protective Equipment**

**Eye/face protection**

Not required during normal system use. In the event of system rupture, media removal from the system, or exposure to the media: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**Skin Protection**

Not required during normal system use. In the event of system rupture, media removal from the system, or exposure to the media: Wear appropriate chemical resistant clothing.

**Respiratory Protection**

Not required during normal system use. In the event of system rupture, media removal from the system, or exposure to the media: Any dust, mist, and fume respirator. Any air-purifying respirator with a high-efficiency particulate filter. Any powered, air-purifying respirator with a dust, mist, and fume filter. Any powered, air-purifying respirator

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with a tight-fitting facepiece and a high-efficiency particulate filter. Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

**Glove Recommendations**

Not required during normal system use. In the event of system rupture, media removal from the system, or exposure to the media: Wear appropriate chemical resistant gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES			
<b>Appearance</b>	White pellets (compound) encased in a stainless steel cylinder (canister) pressurized with an inert gas	<b>Physical State</b>	solid
<b>Odor</b>	Not available	<b>Color</b>	white
<b>Odor Threshold</b>	Not available	<b>pH</b>	Not available
<b>Melting Point</b>	Not available	<b>Boiling Point</b>	Not available
<b>Boiling Point Range</b>	Not available	<b>Freezing point</b>	Not available
<b>Evaporation Rate</b>	Not available	<b>Flammability (solid, gas)</b>	Not flammable
<b>Autoignition Temperature</b>	Not available	<b>Flash Point</b>	(Not flammable )
<b>Lower Explosive Limit</b>	Not available	<b>Decomposition temperature</b>	Not available
<b>Upper Explosive Limit</b>	Not available	<b>Vapor Pressure</b>	Not available
<b>Vapor Density (air=1)</b>	Not available	<b>Specific Gravity (water=1)</b>	Not available
<b>Water Solubility</b>	Not available	<b>Partition coefficient: n-octanol/water</b>	Not available
<b>Viscosity</b>	Not available	<b>Kinematic viscosity</b>	Not available
<b>Solubility (Other)</b>	Not available	<b>Density</b>	Not available
<b>Physical Form</b>	white , solid	<b>Molecular Weight</b>	Not available
Section 10 - STABILITY AND REACTIVITY			

**Reactivity**

No reactivity hazard is expected.

**Chemical Stability**

Stable at normal temperatures and pressure.

**Possibility of Hazardous Reactions**

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Will not polymerize.

**Conditions to Avoid**

Avoid contact with incompatible materials.

**Incompatible Materials**

chlorine trifluoride, FLUORINE, hydrofluoric acid, magnesium, oxidizing materials, ozone, sodium, VINYL ACETATE

**Hazardous decomposition products**

miscellaneous decomposition products

<b>Section 11 - TOXICOLOGICAL INFORMATION</b>
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**Information on Likely Routes of Exposure**

**Inhalation**

Inhaling dust from medium may cause mechanical irritation of nose and throat, coughing and chest discomfort. Inhalation of large quantities of dust may cause lung damage.

**Skin Contact**

no information on significant adverse effects.

**Eye Contact**

mechanical irritation, tearing, redness, swelling, conjunctivitis

**Ingestion**

no information on significant adverse effects.

**Acute and Chronic Toxicity**

**Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

**SILICON DIOXIDE (7631-86-9)**

Oral LD50 Rat 7900 mg/kg (in olive oil ;no deaths occurred )

Dermal LD50 Rabbit >5000 mg/kg (no deaths occurred )

Inhalation LC50 Rat >58.8 mg/L 4 h

**Product Toxicity Data**

**Acute Toxicity Estimate**

Dermal	> 2000 mg/kg
Inhalation - Dust and Mist	> 5 mg/L
Oral	> 2000 mg/kg

**Immediate Effects**

no information on significant adverse effects.

**Delayed Effects**

no information on significant adverse effects.

**Irritation/Corrosivity Data**

No data available.

**Respiratory Sensitization**

No data available.

**Dermal Sensitization**

No data available.

**Component Carcinogenicity**

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IARC:	Monograph 68 [1997] ; Supplement 7 [1987] (Group 3 (not classifiable))
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**Germ Cell Mutagenicity**

No data available.

**Tumorigenic Data**

No data available

**Reproductive Toxicity**

No data available.

**Specific Target Organ Toxicity - Single Exposure**

No target organs identified.

**Specific Target Organ Toxicity - Repeated Exposure**

No target organs identified.

**Aspiration hazard**

No data available.

**Medical Conditions Aggravated by Exposure**

No data available.

**Additional Data**

There are no expected signs or symptoms of overexposure in the workplace. The purification system is sold as a sealed unit and no worker exposure to the media is expected. In case of an accidental spill, the signs and symptoms below may be seen.

**Section 12 - ECOLOGICAL INFORMATION**

**Component Analysis - Aquatic Toxicity**

<b>SILICON DIOXIDE</b>	<b>7631-86-9</b>
Fish:	LC50 96 h Brachydanio rerio 5000 mg/L [static ]
Algae:	EC50 72 h Pseudokirchneriella subcapitata 440 mg/L IUCLID
Invertebrate:	EC50 48 h Ceriodaphnia dubia 7600 mg/L IUCLID

**Persistence and Degradability**

No data available.

**Bioaccumulative Potential**

No data available.

**Mobility**

No data available.

**Other Toxicity**

No data available.

**Section 13 - DISPOSAL CONSIDERATIONS**

**Disposal Methods**

Dispose in accordance with all applicable regulations.

**Component Waste Numbers**

The U.S. EPA has not published waste numbers for this product's components.

**Section 14 - TRANSPORT INFORMATION**

**US DOT Information:**

No Classification assigned.

**International Bulk Chemical Code**

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This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

### Section 15 - REGULATORY INFORMATION

**U.S. Federal Regulations**

None of this product's components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

**SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories**

Specific Target Organ Toxicity

**U.S. State Regulations**

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
<b>SILICON DIOXIDE</b>	<b>7631-86-9</b>	Yes	Yes	Yes	No	Yes

**California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)**

Not listed under California Proposition 65.

**Component Analysis - Inventory**

**SILICON DIOXIDE (7631-86-9)**

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW, CN	VN (Draft)
No	Yes	Yes	Yes	Yes	Yes	Yes

### Section 16 - OTHER INFORMATION

**NFPA Ratings**

Health: 1 Fire: 0 Instability: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**Summary of Changes**

Updated: 05/01/2015

**Key / Legend**

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania\*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan

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Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; KR REACH CCA - Korea Registration and Evaluation of Chemical Substances Chemical Control Act; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX – Mexico; Ne- Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL – Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TH-TECI - Thailand - FDA Existing Chemicals Inventory (TECI); TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

### **Other Information**

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