1. Identification

1.1. Product identifier

Trade name: AEROSIL® R 972 V
Chemical Name: Silane, dichlorodimethyl-, reaction products with silica
CAS-No.: 68611-44-9

1.2. Recommended use of the chemical and restrictions on use

Relevant applications identified:
- Silicone rubber
- Sealants
- Paints and varnishes
- Adhesive
- Coloured printing inks
- Toner

1.3. Details of the supplier of the safety data sheet

Company: Evonik Corporation USA
299 Jefferson Road
Parsippany, NJ 07054-0677
USA

Telephone: 973-929-8000
Telefax: 973-929-8040

E-mail address: Product-Regulatory-Services@Evonik.com

1.4. 24 HOUR EMERGENCY TELEPHONE NUMBERS:

CHEMTREC - US & CANADA: 800-424-9300
CHEMTREC MEXICO: 01-800-681-9531
CHEMTREC INTERNATIONAL: +1 703-527-3887 (collect calls accepted)

Product Regulatory Services: 973-929-8060

2. Hazards identification

2.1. Classification of the substance or mixture

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
Remarks: Not a hazardous substance or mixture.

2.2. Label elements

Statutory basis: Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
Remarks: Not a hazardous substance or mixture.

2.3. Other hazards
3. Composition/information on ingredients

3.1. Substances

- Silane, dichlorodimethyl-, reaction products with silica <= 100%

  CAS-No. 68611-44-9

  Remarks Not a hazardous substance or mixture.

3.2. Mixtures

  not applicable

4. First aid measures

4.1. Description of first aid measures

  Inhalation
  In case product dust is released: Possible discomfort: cough, sneezing
  Move victims into fresh air.

  Skin contact
  Wash off with soap and plenty of water.

  Eye contact
  In case of contact, immediately flush eyes with plenty of water for at least 15 minutes or until all material
  has been removed. Obtain medical attention.

  Ingestion
  If accidentally swallowed, rinse mouth thoroughly with water and afterwards, drink plenty of water. In case
  of discomfort, obtain medical attention.

4.2. Most important symptoms and effects, both acute and delayed

  Symptoms
  None known

4.3. Indication of any immediate medical attention and special treatment needed

  No hazards which require special first aid measures.

5. Fire-fighting measures

5.1. Extinguishing media

  Suitable extinguishing media: Water spray, foam, CO2, dry powder., Adapt fire-extinguishing measures to
  surroundings

  Unsuitable extinguishing media: Do not use full-force water jet in order to avoid dispersal and spread of the fire.

5.2. Special hazards arising from the substance or mixture

  May be released in case of fire: carbon monoxide, carbon dioxide, formaldehyde and methane.

5.3. Advice for firefighters

  As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or
  equivalent) and full protective gear.

6. Accidental release measures
6.1. **Personal precautions, protective equipment and emergency procedures**

Wear personal protective equipment.

6.2. **Environmental precautions**

Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.

6.3. **Methods and material for containment and cleaning up**

Sweep up or vacuum up spillage and collect in suitable container for disposal.

**Additional advice**

Avoid dust formation.

7. **Handling and storage**

7.1. **Precautions for safe handling**

Use with adequate ventilation.

7.2. **Conditions for safe storage, including any incompatibilities**

**Advice on protection against fire and explosion**

Take precautionary measures against static discharges.

**Storage**

Keep containers tightly closed in a dry, cool place.

**Dust explosion class**

1 m3 vessel = not dust explosive

VDI Guideline 2263 sheet 1

8. **Exposure controls/personal protection**

8.1. **Control parameters**

<table>
<thead>
<tr>
<th>Silicon dioxide, chemically prepared</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No.</td>
</tr>
<tr>
<td>112945-52-5</td>
</tr>
<tr>
<td>7631-86-9</td>
</tr>
<tr>
<td>Control parameters</td>
</tr>
<tr>
<td>6 mg/m3</td>
</tr>
</tbody>
</table>

Recommended exposure limit (REL): (NIOSH)

8.2. **Exposure controls**

**Personal protective equipment**

**Respiratory protection**

A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

**Hand protection**

Use impermeable gloves.

**Eye protection**

Wear safety glasses with side shields. In case dusts are formed, wear close fitting protective goggles.

**Skin and body protection**

A safety shower and eye wash fountain should be readily available.

To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product.
Hygiene measures
When using, do not eat, drink or smoke. Wash face and/or hands before break and end of work. To ensure ideal skin protection: use super fatted soaps and skin cream for skin care. Wash contaminated clothing before re-use.

Protective measures
Handle in accordance with good industrial hygiene and safety practice. If there is the possibility of skin/eye contact, the indicated hand/eye/body protection should be used. If the workplace threshold limit value is exceeded and/or the substance is released, use appropriate respiratory protection.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>solid</td>
</tr>
<tr>
<td>Colour</td>
<td>white</td>
</tr>
<tr>
<td>Form</td>
<td>powder</td>
</tr>
<tr>
<td>Odour</td>
<td>odorless</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>not applicable</td>
</tr>
<tr>
<td>pH</td>
<td>3.7 - 5.5 (40 g / l) (20 °C)</td>
</tr>
<tr>
<td>Medium: water / methanol</td>
<td>1: 1 in suspension</td>
</tr>
<tr>
<td>Decomposition</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>not applicable</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>not determined</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>not determined</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>not applicable</td>
</tr>
<tr>
<td>Vapour density</td>
<td>not applicable</td>
</tr>
<tr>
<td>Density</td>
<td>ca. 2 g/cm3 (20 °C)</td>
</tr>
<tr>
<td>Water solubility</td>
<td>&gt; 1 mg/l</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>not applicable</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>&gt; 400 °C</td>
</tr>
<tr>
<td>Method:</td>
<td>VDI 2263</td>
</tr>
</tbody>
</table>
Thermal decomposition  > 300 °C
Viscosity, dynamic  not applicable

9.2. Other information
Explosiveness  not determined
Minimum ignition energy  not determined
Tapped density  ca. 90 g / l
Method: DIN / ISO 787/11

10. Stability and reactivity

10.1. Reactivity
No dangerous reaction known under conditions of normal use.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions  None if processed as per stipulations

10.4. Conditions to avoid
Hydrophobic properties disappear at temperatures > 300°C

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products
Decomposition products with heating above decomposition temperature
Carbon monoxide, Carbon dioxide (CO2), organic products of decomposition
Stable under normal conditions.
Product will not undergo hazardous polymerization.

11. Toxicological information

11.1. Information on toxicological effects
No toxicological tests are available on the product.
Acute oral toxicity  LD50 Rat: > 5000 mg/kg
Method: analogous OECD method comparable product

Acute inhalation toxicity  LC0 Rat: 0.477 mg/l / 4 h
Method: analogy OECD (maximum concentration attainable in experiments) comparable product

Skin irritation  Rabbit
Not irritating.
Method: literature
Eye irritation
Rabbit
Not irritating.
Method: literature

Sensitization
not known

Repeated dose toxicity
Oral
No negative effects.

Inhalation
No irreversible changes and no indication of silicosis.

Assessment of STOT single exposure
no evidence for hazardous properties

Assessment of STOT repeat exposure
no evidence for hazardous properties

Risk of aspiration toxicity
No aspiration toxicity classification

Gentoxicity in vitro
Ames test S. typhimurium / E. coli
Negative
Method: literature

Mutagenicity assessment
no evidence of mutagenic effects

Carcinogenicity
No negative effects.

carcinogenicity assessment
Contains no carcinogenic substances as defined by NTP, IARC and/or OSHA.

Toxicity to reproduction
No negative effects.

Human experience
Silicosis or other product specific illnesses of the respiratory tract have not been reported.

12. Ecological information

12.1. Toxicity

Toxicity to fish
LC50 (Brachydanio rerio): > 10000 mg/l / 96 h
Method: OECD 203
The reported toxic effects relate to the nominal concentration.

Toxicity in aquatic invertebrates
EC50 Daphnia magna: > 10000 mg/l / 24 h
Method: OECD 202
The reported toxic effects relate to the nominal concentration.

Toxicity to algae
IC 50 Desmodesmus subspicatus (green algae): > 10000 mg/l / 72 h
Method: OECD 201
The reported toxic effects relate to the nominal concentration.

12.2. Persistence and degradability

Biodegradability
The methods designed to assess persistence and biodegradability are not applicable to this product, in analogy to inorganic substances.
12.3. **Bioaccumulative potential**
- Bioaccumulation: Not to be expected.

12.4. **Mobility in soil**
- Mobility: No remarkable mobility in soil is to be expected.

12.5. **Other adverse effects**
- Further Information: The data we have at our disposal do not necessitate identification concerning environmental hazard.

13. **Disposal considerations**

13.1. **Waste treatment methods**
- **Product**
  - Waste must be disposed of in accordance with federal, state, provincial and local regulations.
- **Uncleaned packaging**
  - Packaging material should be recycled or disposed of in accordance with federal, state and local regulations.

14. **Transport information**

**Not dangerous according to transport regulations.**

14.1. UN number: --
14.2. UN proper shipping name: --
14.3. Transport hazard class(es): --
14.4. Packing group: --
14.5. Environmental hazards (Marine pollutant): --
14.6. Special precautions for user: Yes
  - Not dangerous according to transport regulations.

15. **Regulatory information**

**US Federal Regulations**

**OSHA**
- If listed below, chemical specific standards apply to the product or components:
  - None listed
Clean Air Act Section (112)
If listed below, components present at or above the de minimus level are hazardous air pollutants:

- None listed

CERCLA Reportable Quantities
If listed below, a reportable quantity (RQ) applies to the product based on the percent of the named component:

- None listed

SARA Title III Section 311/312 Hazard Categories
The product meets the criteria only for the listed hazard classes:

- No SARA Hazards

SARA Title III Section 313 Reportable Substances
If listed below, components are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

- None listed

Toxic Substances Control Act (TSCA)
If listed below, non-proprietary substances are subject to export notification under Section 12 (b) of TSCA:

- None listed

State Regulations
The Listing requirements of the Right to Know (RTK) legislation varies by state. All information for NJ, PA, MA and other states can be derived from the listing of hazardous and non-hazardous components in section 2 and 15 of this MSDS.

California Proposition 65
A warning under the California Drinking Water Act is required only if listed below:

- None listed

An employer using HMIS/NFPA labeling must through training ensure that its employees are fully aware of the hazards of the chemicals used.

NFPA Ratings

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>1</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
</tr>
<tr>
<td>Reactivity</td>
<td>0</td>
</tr>
</tbody>
</table>

16. Other information

Further information
Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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Legend

**ACC**  American Chemistry Council
**ACGIH**  American Conference of Governmental Industrial Hygienists
**ACS**  Advisory Committee on Sustainability
**ADI**  Acceptable Daily Intake
**ASTM**  American Society for Testing and Materials
**ATP**  Adaptation to Technical Progress
**BCF**  Bioconcentration factor
**BOD**  Biochemical oxygen demand
**c.c.**  closed cup
**CAO**  Cargo Aircraft Only
**Carc**  Carcinogen
**CAS**  Chemical Abstract Services
**CDN**  Canada
**CEPA**  Canadian Environmental Protection Act
**CERCLA**  Comprehensive Environmental Response – Compensation and Liability Act
**CFR**  Code of Federal Regulations
**CMR**  carcinogenic-mutagenic-toxic for reproduction
**COD**  Chemical oxygen demand
**DIN**  German Institute for Standardization
**DMEL**  Derived minimum effect level
**DNEL**  Derived no effect level
**DOT**  Department of Transportation
**EC50**  half maximal effective concentration
**EPA**  Environmental Protection Agency
**ErC50**  Reduction of Growth Rate
**ERG**  Emergency Response Guide Book
**FDA**  Food and Drug Administration
**GHS**  Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
**GLP**  Good Laboratory Practice
**GMO**  Genetic Modified Organism
**HCS**  Hazard Communication Standard
**HMIS**  Hazardous Materials Identification System
**IARC**  International Agency for Research on Cancer
**IATA**  International Air Transport Association
**IBC**  Intermediate Bulk Container
**ICAO-TI**  International Civil Aviation Organization- Technical Instructions
**ICCA**  International Council of Chemical Association
**ID**  Identification number
**IMDG**  International Maritime Dangerous Goods
**IUPAC**  International Union of Pure and Applied Chemistry
**ISO**  International Organization For Standardization
**LC50**  50 % Lethal Concentration
**LD50**  50 % Lethal Dose
**L(E)C50**  LC50 or EC50
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOAEL</td>
<td>Lowest observed adverse effect level</td>
</tr>
<tr>
<td>LOEL</td>
<td>Lowest observed effect level</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Association</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No observed adverse effect level</td>
</tr>
<tr>
<td>NOEC</td>
<td>No observed effect concentration</td>
</tr>
<tr>
<td>NOEL</td>
<td>No observed effect level</td>
</tr>
<tr>
<td>o. c.</td>
<td>open cup</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Cooperation and Development</td>
</tr>
<tr>
<td>OEL</td>
<td>Occupational Exposure Limit</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, bioaccumulative, toxic</td>
</tr>
<tr>
<td>PEC</td>
<td>Predicted effect concentration</td>
</tr>
<tr>
<td>PNEC</td>
<td>Predicted no effect concentration</td>
</tr>
<tr>
<td>RQ</td>
<td>Reportable Quantity</td>
</tr>
<tr>
<td>SDS</td>
<td>Safety Data Sheet</td>
</tr>
<tr>
<td>STOT</td>
<td>Specific Target Organ Toxicity</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>vPvB</td>
<td>very persistent, very bioaccumulative</td>
</tr>
<tr>
<td>voc</td>
<td>volatile organic compounds</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>