

**SAFETY DATA SHEET****AEROSIL® RY 50**

|               |               |               |                   |
|---------------|---------------|---------------|-------------------|
| Material no.  |               | Version       | <b>4.0 / US</b>   |
| Specification | <b>100797</b> | Revision date | <b>04/22/2015</b> |
| Order Number  |               | Print Date    | <b>06/25/2015</b> |
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**1. Identification****1.1. Product identifier**

|               |   |
|---------------|---|
| Trade name    | AEROSIL® RY 50  |
| Chemical Name | Silicones and siloxanes, dimethyl-, reaction products with silica |
| CAS-No.       | 67762-90-7  |

**1.2. Recommended use of the chemical and restrictions on use**

|                                  |       |
|----------------------------------|-------|
| Relevant applications identified | Toner |
|----------------------------------|-------|

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

|               |  |
|---------------|--|
| Company       | Evonik Corporation USA<br>299 Jefferson Road<br>Parsippany, NJ 07054-0677<br>USA |
| Telephone     | 973-929-8000   |
| Telefax       | 973-929-8040   |
| Email address | Product-Regulatory-Services@Evonik.com   |

**1.4. 24 HOUR EMERGENCY TELEPHONE NUMBERS:**

|                                    |  |
|------------------------------------|--|
| <b>CHEMTREC - US &amp; CANADA:</b> | 800-424-9300                             |
| <b>CHEMTREC MEXICO:</b>            | 01-800-681-9531                          |
| <b>CHEMTREC INTERNATIONAL:</b>     | +1 703-527-3887 (collect calls accepted) |
| Product Regulatory Services        | : 973-929-8060                           |

**2. Hazards identification****2.1. Classification of the substance or mixture**

|  |                                       |
|--|---------------------------------------|
| Classification according to Regulation 29CFR 1910.1200 |                                       |
| Remarks  | Not a hazardous substance or mixture. |

**2.2. Label elements**

|                 |  |
|-----------------|--|
| Statutory basis | Classification according to Regulation 29CFR 1910.1200 |
| Remarks         | Not a hazardous substance or mixture.                  |

**2.3. Other hazards**

**Silicones and siloxanes, dimethyl-, reaction products with silica** Not a PBT, vPvB substance according to the criteria of the REACH Regulation.

**3. Composition/information on ingredients**

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**3.1. Substances****• Silicones and siloxanes, dimethyl-, reaction products with silica**

CAS-No. 67762-90-7

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, organic products of decomposition.

**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**

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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**

Data from a comparable product:

1 m<sup>3</sup> vessel = not dust explosive

VDI Guideline 2263 sheet 1

**8. Exposure controls/personal protection****8.1. Control parameters**

|  |   |                                  |
|--|---|----------------------------------|
| <b>• Silicon dioxide, chemically prepared</b>  |   |                                  |
| CAS-No.  | 112945-52-5<br>7631-86-9                      |                                  |
| Control parameters   | 20millions of particles per cubic foot of air | Time Weighted Average (TWA):(Z3) |
| Control parameters   | 0.8 mg/m <sup>3</sup>                         | Time Weighted Average (TWA):(Z3) |
| The exposure limit is calculated from the equation, 80/(%SiO <sub>2</sub> ), using a value of 100% SiO <sub>2</sub> . Lower values of % SiO <sub>2</sub> will give higher exposure limits. |   |                                  |

**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.

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**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**

|  |   |
|--|---|
| physical state                         | solid   |
| Colour                                 | white   |
| Form                                   | powder  |
| Odour                                  | odorless  |
| Odour Threshold                        | not applicable  |
| pH                                     | 4 - 6 (40 g/l) (20 °C)<br>Medium: water / methanol<br>1: 1 in suspension            |
| Melting point/range                    | not applicable<br>Decomposition   |
| Boiling point/range                    | not applicable<br>Decomposition   |
| Flash point                            | not applicable  |
| Evaporation rate                       | not applicable  |
| Flammability (solid, gas)              | not determined  |
| Lower explosion limit                  | not determined  |
| Upper explosion limit                  | not determined  |
| Vapour pressure                        | not applicable  |
| Relative vapour density                | not applicable  |
| Density                                | ca. 2 g/cm <sup>3</sup> (20 °C)   |
| Water solubility                       | hardly soluble  |
| Partition coefficient: n-octanol/water | not applicable  |
| Autoignition temperature               | Data from a comparable product:<br>ca. 460 °C<br>Method: VDI Guideline 2263 sheet 1 |

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Thermal decomposition > 300 °C

Viscosity, dynamic not applicable

**9.2. Other information**

Explosiveness Not to be expected in view of the structure

Bulk density 100 - 180 kg/m<sup>3</sup>

Minimum ignition energy Data from a comparable product:

> 10 kJ

Method: VDI Guideline 2263 sheet 1

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**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 See Sect. 10.1 Reactivity.

**10.4. Conditions to avoid**

Hydrophobic properties disappear at temperatures > 300°C

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

No decomposition if stored and applied as directed.

Product will not undergo hazardous polymerization.

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**11. Toxicological information****11.1. Information on toxicological effects**

Acute oral toxicity LD<sub>0</sub> Rat: 1000 mg/kg  
Method: OECD Test Guideline 401  
No deaths occurred.  
comparable product

LD<sub>50</sub> Rat: > 5000 mg/kg  
Method: OECD Test Guideline 401  
comparable product

Acute inhalation toxicity LC<sub>0</sub> Rat: 0.139 mg/l / 4 h  
Method: analogous OECD method  
(maximum concentration attainable in experiments)  
No deaths occurred.

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comparable product

Acute dermal toxicity      LD50 Rat: > 2000 mg/kg  
Method:                    OECD Test Guideline 402  
Assessment:            The substance or mixture has no acute dermal toxicity  
comparable product

Skin irritation              Rabbit  
Not irritating.  
Method:                    OECD Test Guideline 404

Eye irritation                Rabbit  
Not irritating.  
Method:                    OECD Test Guideline 405

Sensitization                not known

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 evidence that cancer may be caused.

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

Toxicity to reproduction      no evidence of reproduction toxic properties

Human experience            Silicosis or other product specific illnesses of the respiratory tract were not observed in association with the product.

Further information            Data derived from product of similar composition:

**12. Ecological information****12.1. Toxicity**

*No ecotoxicological data is available for this product.*

Toxicity to fish              LC50 (*Brachydanio rerio*): > 10000 mg/l / 96 h  
Test substance:          Silicon dioxide, derived from chemical synthesis  
Method:                    OECD 203  
The reported toxic effects relate to the nominal concentration.

Toxicity in aquatic invertebrates      EC50 *Daphnia magna*: > 1000 mg/l / 24 h  
Test substance:          Silicon dioxide, derived from chemical synthesis  
Method:                    OECD 202  
The reported toxic effects relate to the nominal concentration.

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**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                      An Expert Judgment stated that no classification is necessary based on present knowledge.

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**13. Disposal considerations****13.1. Waste treatment methods****Product**

Waste must be disposed of in accordance with federal, state and local regulations. Incineration is the preferred method.

**Uncleaned packaging**

Packaging material should be recycled or disposed of in accordance with federal, state and local regulations.

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**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.

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**15. Regulatory information****US Federal Regulations**

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**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.

**HMIS Ratings**

Health : 1



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Flammability : 0  
Physical Hazard : 0

**NFPA Ratings**

Health : 1  
Flammability : 0  
Reactivity : 0

**16. Other information****Further information**

Revision date 04/22/2015

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

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**Legend**

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

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**voc** volatile organic compounds  
**WHMIS** Workplace Hazardous Materials Information System  
**WHO** World Health Organization