

### 1. IDENTIFICATION

<b>Product Name</b>	<b>Silica Gel (Orange)</b>
<b>Other Names</b>	No Data Available
<b>Uses</b>	Mainly for drying and indicating humidity of precision instruments, medicine, petrol chemicals, foodstuff, clothing, leather, electric appliances, other industrial gases, etc. Restriction on use: No information available.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	SiO <sub>2</sub> + H <sub>2</sub> O + C <sub>25</sub> H <sub>30</sub> CIN <sub>3</sub>
<b>Chemical Name</b>	Contains: Silicon dioxide; Activated colouring agent
<b>Product Description</b>	Orange indicator (colour change from orange to green).

### Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Suite 13A.03, Menara Summit Persiaran Kewajipan USJ1 47600 UEP Subang Jaya Selangor, Malaysia	+60-3-5614-2111

### Emergency Contact Details

*For emergencies only; DO NOT contact these companies for general product advice.*

Organisation	Location	Telephone
Poisons Information Centre	Australia – Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
National Poison Centre	Malaysia	+60-4-6536-999
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

### 2. HAZARD IDENTIFICATION

# SAFETY DATA SHEET SILICA GEL (ORANGE) REVISION 4, DATE 29 NOV 2024

**Poisons Schedule (Aust)** Not Scheduled

## Globally Harmonised System

**Hazard Classification** NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

**Signal Word** None

## National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

**Dangerous Goods Classification** NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

## Safe Work Australia

National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

**Hazard Classification** NOT hazardous according to the criteria of Safe Work Australia under Model WHS Regulations

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Silicon dioxide	SiO <sub>2</sub>	7631-86-9	98.2 %
Activated colouring agent	Unspecified	Unspecified	<=1.8 %

## 4. FIRST AID MEASURES

### Description of necessary measures according to routes of exposure

<b>Swallowed</b>	IF SWALLOWED: Rinse mouth with water. Get medical advice/attention if you feel unwell. Never give anything by mouth to an unconscious person.
<b>Eye</b>	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention. *Suitable emergency eye wash facility should be immediately available.
<b>Skin</b>	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention. *Suitable emergency safety shower facility should be immediately available.
<b>Inhaled</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention.
<b>Advice to Doctor</b>	Treat symptomatically. *Most important symptoms and effects, both acute and delayed: No information available. *Indication of any immediate medical attention and special treatment needed: No information available.
<b>Medical Conditions Aggravated by Exposure</b>	Existing medical conditions (e.g. asthma, bronchitis) may be aggravated by exposure to dust. Effects of dust may be greater and occur at lower levels of exposure in smokers compared to non-smokers.

**5. FIRE FIGHTING MEASURES**

<b>General Measures</b>	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
<b>Flammability Conditions</b>	Not-combustible.
<b>Extinguishing Media</b>	If material is involved in a fire, use extinguishing media suitable for surrounding environment.
<b>Fire and Explosion Hazard</b>	Not considered to be a fire hazard. Not considered to be an explosion hazard.
<b>Hazardous Products of Combustion</b>	Oxides of carbon, nitrogen and silicon may be formed when heated to decomposition.
<b>Special Fire Fighting Instructions</b>	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
<b>Personal Protective Equipment</b>	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
<b>Flash Point</b>	No Data Available
<b>Lower Explosion Limit</b>	No Data Available
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	No Data Available
<b>Hazchem Code</b>	No Data Available

**6. ACCIDENTAL RELEASE MEASURES**

<b>General Response Procedure</b>	Ensure adequate ventilation. Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
<b>Clean Up Procedures</b>	Collect (vacuum) spilled material in suitable, closed containers for recovery or disposal (see SECTION 13). Avoid raising dust.
<b>Containment</b>	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud.
<b>Decontamination</b>	No information available.
<b>Environmental Precautionary Measures</b>	Do not discharge into drains/surface waters/groundwater.
<b>Evacuation Criteria</b>	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
<b>Personal Precautionary Measures</b>	Use personal protective equipment as required (see SECTION 8).

**7. HANDLING AND STORAGE**

<b>Handling</b>	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Minimise dust generation and accumulation. Avoid aerosol formation. Avoid breathing dust/aerosol and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). During handling electrostatic charges can accumulate; Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres - No smoking.
<b>Storage</b>	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10).
<b>Container</b>	Keep in the original container. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

<b>General</b>	No specific exposure standards are available for this product. COMPONENT: Silica - Amorphous (CAS No. 7631-86-9): - Safe Work Australia Exposure Standard: TWA = 2 mg/m <sup>3</sup> (respirable dust). - New Zealand Workplace Exposure Standard: TWA = 10 mg/m <sup>3</sup> .
<b>Exposure Limits</b>	No Data Available
<b>Biological Limits</b>	No information available.
<b>Engineering Measures</b>	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
<b>Personal Protection Equipment</b>	- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Dust mask/particulate filter respirator (refer to AS/NZS 1715 & 1716). WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses. - Hand protection: Handle with gloves. Recommended: Impervious gloves. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, safety shoes.
<b>Special Hazards Precautions</b>	Product surface alterations caused by calcining or mixing with additives may alter toxicological properties.
<b>Work Hygienic Practices</b>	Do not eat, drink or smoke when using this product. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State</b>	Solid
<b>Appearance</b>	Beads
<b>Odour</b>	Odourless
<b>Colour</b>	Yellow/orange (dry); Green (saturated)
<b>pH</b>	2 - 10 (5% w/w in water)
<b>Vapour Pressure</b>	No Data Available
<b>Relative Vapour Density</b>	No Data Available
<b>Boiling Point</b>	No Data Available
<b>Melting Point</b>	>1,000 °C
<b>Freezing Point</b>	No Data Available
<b>Solubility</b>	<1% in water
<b>Specific Gravity</b>	No Data Available
<b>Flash Point</b>	No Data Available
<b>Auto Ignition Temp</b>	No Data Available
<b>Evaporation Rate</b>	No Data Available
<b>Bulk Density</b>	720 kg/m <sup>3</sup> (typical)
<b>Corrosion Rate</b>	No Data Available
<b>Decomposition Temperature</b>	No Data Available
<b>Density</b>	No Data Available
<b>Specific Heat</b>	No Data Available
<b>Molecular Weight</b>	No Data Available
<b>Net Propellant Weight</b>	No Data Available
<b>Octanol Water Coefficient</b>	No Data Available
<b>Particle Size</b>	No Data Available

<b>Partition Coefficient</b>	No Data Available
<b>Saturated Vapour Concentration</b>	No Data Available
<b>Vapour Temperature</b>	No Data Available
<b>Viscosity</b>	No Data Available
<b>Volatile Percent</b>	No Data Available
<b>VOC Volume</b>	No Data Available
<b>Additional Characteristics</b>	Hygroscopic.
<b>Potential for Dust Explosion</b>	No information available.
<b>Fast or Intensely Burning Characteristics</b>	No information available.
<b>Flame Propagation or Burning Rate of Solid Materials</b>	No information available.
<b>Non-Flammables That Could Contribute Unusual Hazards to a Fire</b>	No information available.
<b>Properties That May Initiate or Contribute to Fire Intensity</b>	Not combustible.
<b>Reactions That Release Gases or Vapours</b>	Oxides of carbon and silicon may be formed when heated to decomposition.
<b>Release of Invisible Flammable Vapours and Gases</b>	No information available.

## 10. STABILITY AND REACTIVITY

<b>General Information</b>	Substance can explode when wet and heated with magnesium.
<b>Chemical Stability</b>	Stable under normal conditions of use.
<b>Conditions to Avoid</b>	Avoid generating dust. Take precautionary measures against static discharge.
<b>Materials to Avoid</b>	Incompatible/reactive with strong bases, oxidisers, hydrogen fluoride, fluorine, xenon hexafluoride, oxygen difluoride and chlorine trifluoride.
<b>Hazardous Decomposition Products</b>	Oxides of carbon and silicon may be formed when heated to decomposition.
<b>Hazardous Polymerisation</b>	No information available.

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	<p>Information on toxicological effects:</p> <ul style="list-style-type: none"> <li>- Acute toxicity: Based on available data, the classification criteria are not met.</li> <li>- Skin corrosion/irritation: Based on available data, the classification criteria are not met.</li> <li>- Serious eye damage/irritation: Based on available data, the classification criteria are not met.</li> <li>- Respiratory/skin sensitisation: Based on available data, the classification criteria are not met.</li> <li>- Germ cell mutagenicity: Based on available data, the classification criteria are not met.</li> <li>- Carcinogenicity: Based on available data, the classification criteria are not met. COMPONENT: Silica, amorphous: IARC Group 3.</li> <li>- Reproductive toxicity: Based on available data, the classification criteria are not met.</li> <li>- STOT (single exposure): Based on available data, the classification criteria are not met.</li> <li>- STOT (repeated exposure): Based on available data, the classification criteria are not met.</li> <li>- Aspiration toxicity: Based on available data, the classification criteria are not met.</li> </ul> <p>Information on possible routes of exposure:</p> <ul style="list-style-type: none"> <li>- Ingestion: The lethal dose for humans for synthetic amorphous silica is estimated at over 15,000 mg/kg.</li> <li>- Eye contact: Dust may cause discomfort and slight transient irritation to the eye conjunctivae.</li> </ul>
----------------------------	--

# SAFETY DATA SHEET SILICA GEL (ORANGE) REVISION 4, DATE 29 NOV 2024

- Skin contact: Not irritating to skin, but may produce skin dryness following prolonged and repeated exposure due to the desiccative and defatting property of amorphous silica.  
- Inhalation: Synthetic amorphous silica gel has little adverse effect on lungs and does not produce significant disease or toxic effect when exposure is kept below the permitted limits.  
Chronic effects: Amorphous silica is not classifiable as to its carcinogenicity to humans (Group 3).

## Acute

<b>Ingestion</b>	Acute toxicity (Oral): - LD50, Rat: >5,000 mg/kg.
<b>Other</b>	Acute toxicity (Dermal): - LD50, Rabbit: >2,000 mg/kg.
<b>Carcinogen Category</b>	None

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	This material is not expected to be toxic to aquatic life.
<b>Persistence/Degradability</b>	Silicon dioxide is an inorganic, stable/inert compound which is not biologically transformed. It is not photodegradable in air, water and soil.
<b>Mobility</b>	No information available.
<b>Environmental Fate</b>	Do not discharge into drains/surface waters/groundwater.
<b>Bioaccumulation Potential</b>	No information available.
<b>Environmental Impact</b>	No Data Available

## 13. DISPOSAL CONSIDERATIONS

<b>General Information</b>	Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility and in accordance with state and local requirements. Processing or use contamination of this product may change the waste management options.
<b>Special Precautions for Land Fill</b>	Waste from this product may be disposed of in sanitary landfill as local regulations permit.

## 14. TRANSPORT INFORMATION

### Land Transport (Australia)

ADG Code	
<b>Proper Shipping Name</b>	Silica Gel (Orange)
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Land Transport (Malaysia)**

ADR Code

<b>Proper Shipping Name</b>	Silica Gel (Orange)
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Land Transport (New Caledonia)**

<b>Proper Shipping Name</b>	Silica Gel (Orange)
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Land Transport (New Zealand)**

NZS5433

<b>Proper Shipping Name</b>	Silica Gel (Orange)
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Land Transport (United States of America)**

US DOT

<b>Proper Shipping Name</b>	Silica Gel (Orange)
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Sea Transport**

IMDG Code

<b>Proper Shipping Name</b>	Silica Gel (Orange)
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>EMS</b>	No Data Available
<b>Marine Pollutant</b>	No
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for SEA transport.

**Air Transport**

IATA DGR

<b>Proper Shipping Name</b>	Silica Gel (Orange)
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for AIR transport.

**National Transport Commission (Australia)**

Australian Code for the Transport of Dangerous Goods by Road &amp; Rail (ADG Code)

<b>Dangerous Goods Classification</b>	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
---------------------------------------	---

**15. REGULATORY INFORMATION**

<b>General Information</b>	No Data Available
<b>Poisons Schedule (Aust)</b>	Not Scheduled

**Environmental Protection Authority (New Zealand)**

Hazardous Substances and New Organisms Amendment Act 2015

<b>Approval Code</b>	Not Hazardous
----------------------	---------------

**National/Regional Inventories**

<b>Australia (AIC)</b>	Listed
<b>Canada (DSL)</b>	Not Determined

Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	Not Determined
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (List of Classified Substances)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Taiwan (TCSI)	Not Determined
USA (TSCA)	Listed
Mexico (INSQ)	Not Determined

## 16. OTHER INFORMATION

Related Product Codes	SILGEL4000, SILGEL9800, SILGEL9801
Revision	4
Revision Date	29 Nov 2024
Reason for Issue	Update sds
Key/Legend	<p>&lt; Less Than &gt; Greater Than</p> <p><b>AICS</b> Australian Inventory of Chemical Substances  <b>atm</b> Atmosphere  <b>CAS</b> Chemical Abstracts Service (Registry Number)  <b>cm<sup>2</sup></b> Square Centimetres  <b>CO<sub>2</sub></b> Carbon Dioxide  <b>COD</b> Chemical Oxygen Demand  <b>deg C (°C)</b> Degrees Celcius  <b>EPA (New Zealand)</b> Environmental Protection Authority of New Zealand  <b>deg F (°F)</b> Degrees Farenheit  <b>g</b> Grams  <b>g/cm<sup>3</sup></b> Grams per Cubic Centimetre  <b>g/l</b> Grams per Litre  <b>HSNO</b> Hazardous Substance and New Organism  <b>IDLH</b> Immediately Dangerous to Life and Health  <b>immiscible</b> Liquids are insoluable in each other.  <b>inHg</b> Inch of Mercury  <b>inH<sub>2</sub>O</b> Inch of Water  <b>K</b> Kelvin  <b>kg</b> Kilogram  <b>kg/m<sup>3</sup></b> Kilograms per Cubic Metre  <b>lb</b> Pound  <b>LC50</b> LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.  <b>LD50</b> LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.  <b>ltr or L</b> Litre  <b>m<sup>3</sup></b> Cubic Metre</p>

## SAFETY DATA SHEET SILICA GEL (ORANGE) REVISION 4, DATE 29 NOV 2024

**mbar** Millibar

**mg** Milligram

**mg/24H** Milligrams per 24 Hours

**mg/kg** Milligrams per Kilogram

**mg/m<sup>3</sup>** Milligrams per Cubic Metre

**Misc or Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

**mm** Millimetre

**mmH<sub>2</sub>O** Millimetres of Water

**mPa.s** Millipascals per Second

**N/A** Not Applicable

**NIOSH** National Institute for Occupational Safety and Health

**NOHSC** National Occupational Health and Safety Commission

**OECD** Organisation for Economic Co-operation and Development

**Oz** Ounce

**PEL** Permissible Exposure Limit

**Pa** Pascal

**ppb** Parts per Billion

**ppm** Parts per Million

**ppm/2h** Parts per Million per 2 Hours

**ppm/6h** Parts per Million per 6 Hours

**psi** Pounds per Square Inch

**R** Rankine

**RCP** Reciprocal Calculation Procedure

**STEL** Short Term Exposure Limit

**TLV** Threshold Limit Value

**tne** Tonne

**TWA** Time Weighted Average

**ug/24H** Micrograms per 24 Hours

**UN** United Nations

**wt** Weight