

1. IDENTIFICATION

Product Name	Synthetic amorphous silica
Other Names	Amorphous synthetic silica gel; Hydrated amorphous silica; MFIL-P(S); MFIL-P(UH)(AC milled); Precipitated Silicon Dioxide; RUBSIL (G); Silica, amorphous, highly dispersed; Synthetic amorphous silica, precipitated; Synthetic precipitated silica; Synthetic, crystalline free, silica gel; TOKUSIL Series
Uses	Filler and reinforcing agent; Additive; Chemical intermediate.
Chemical Family	No Data Available
Chemical Formula	SiO ₂ .H ₂ O
Chemical Name	Silica gel, precipitated, crystalline free
Product Description	Contains no detectable crystalline silica (detection limit <0.1% by weight).

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	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, 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	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
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

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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
Synthetic amorphous silica	SiO ₂	112926-00-8	>87 - 100 %
Ingredients determined not to be hazardous	Unspecified	Unspecified	Balance %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink plenty of water. Do not induce vomiting. Get medical advice/attention if a large amount is swallowed or if you feel unwell. Never give anything by mouth to an unconscious person.
Eye	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 10 - 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs, get medical advice/attention.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Remove contaminated clothing and loosen remaining clothing. If respiratory symptoms persist, get medical advice/attention. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
Advice to Doctor	Treat symptomatically.
Medical Conditions Aggravated by Exposure	Existing medical conditions (e.g. asthma, bronchitis) may be aggravated by exposure to dust.

5. FIRE FIGHTING MEASURES

General Measures	No action shall be taken involving any personal risk or without suitable training. If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
Flammability Conditions	Non-combustible; material itself does not burn.
Extinguishing Media	If material is involved in a fire, use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction. Use an extinguishing agent suitable for the surrounding fire.
Fire and Explosion Hazard	No specific fire or explosion hazard.
Hazardous Products of Combustion	Fire or heat may produce irritating and/or toxic fumes.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
Flash Point	Does not flash
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. Do not touch or walk through spilled material - Slippery when spilt. Avoid accidents, clean up immediately! Avoid dust formation. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Vacuum or sweep up material and place in a designated, labelled waste container (see SECTION 13).
Containment	Stop leak if you can do it without risk. Prevent dust cloud. Cover powder spill with plastic sheet or tarp to minimise spreading.
Decontamination	After cleaning, flush away traces with water.
Environmental Precautionary Measures	Prevent spillage from entering into drains and waterways. Inform the relevant authorities if the product has caused environmental pollution.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures	Wear protective equipment to avoid skin and eye contact and breathing in dust (see SECTION 13).

7. HANDLING AND STORAGE

Handling	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. Avoid dust formation. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). A considerable static electrical charge can be built up during mechanical handling which may become a hazard in atmospheres containing flammable vapours. Take precautionary measures against static discharge. When transferring material into flammable solvents, use proper grounding to avoid electrical sparks.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep containers closed when not in use (material may absorb moisture); check regularly for spills. Keep away from incompatible materials (see SECTION 10).
Container	Keep in the original container. Do not store in unlabelled containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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General	COMPONENT: Silica - Amorphous, Precipitated silica/Silica gel (CAS No. 112926-00-8): - Safe Work Australia exposure standard: TWA = 10 mg/m ³ ; This value is for inhalable dust containing no asbestos and < 1% crystalline silica (a). - New Zealand Workplace Exposure Standard: TWA = 10 mg/m ³ .
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	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.
Personal Protection Equipment	- Respiratory protection: Wear respiratory protection in case of inadequate ventilation or where there is any risk of the exposure limits being exceeded. Recommended: Dust mask/particulate filter respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses with side shields or tightly fitting safety goggles. - Hand protection: Handle with gloves. Recommended: Leather, cloth or rubber gloves. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Lightweight protective clothing, overalls, apron, boots. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Special Hazards Precautions	Avoid alteration of product properties before use. Calcining, which may result in crystal formation, or mixing with additives, may alter toxicological properties.
Work Hygienic Practices	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands, forearms and face thoroughly after handling chemical products, before eating, drinking and smoking, and at the end of the work period. Remove contaminated clothing and protective equipment before entering eating areas. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Powder or granular
Odour	Odourless
Colour	White
pH	3 - 10 (5% suspension)
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	2,200 °C
Melting Point	>1,000 °C
Freezing Point	No Data Available
Solubility	Insoluble in water
Specific Gravity	2.0 - 2.1
Flash Point	Does not flash
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available

Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	~5% (moisture)
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	A considerable static electrical charge can be built up during mechanical handling which may become a hazard in atmospheres containing flammable vapours.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Non-combustible; Material itself does not burn.
Reactions That Release Gases or Vapours	Fire or heat may produce irritating and/or toxic fumes.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	Under normal conditions of storage and use, hazardous reactions will not occur.
Chemical Stability	Stable under recommended storage and handling conditions.
Conditions to Avoid	Avoid dust formation. Avoid exposure to high temperatures (>800 °C). Take precautionary measures against static discharge.
Materials to Avoid	Incompatible/reactive with acids (Hydrofluoric acid), oxidising materials, strong alkalis.
Hazardous Decomposition Products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous Polymerisation	Does not occur.

11. TOXICOLOGICAL INFORMATION

General Information	<p>Information on possible routes of exposure:</p> <ul style="list-style-type: none"> - Ingestion: No known significant effects or critical hazards. Synthetic amorphous silica is a permitted food additive in the UK, US and many other countries. - Eye contact: No significant irritation expected other than possible mechanical irritation. Dust may cause discomfort and mild irritation, redness. - Skin contact: Prolonged or repeated contact may dry skin and cause irritation. Dust may have a drying effect on the skin. - Inhalation: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs; coughing and respiratory tract irritation. <p>Chronic effects: No known significant effects or critical hazards. Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. Silica, amorphous is classified in Group 3 of the IARC Monographs: Not classifiable as to its carcinogenicity to humans.</p>
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Acute

Ingestion	Acute toxicity (Oral): - LD50, Rat: >3,100 mg/kg bw.
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: - Acute NOEC, Fish (Freshwater): >10,000 ppm (96 h) [static]. - Acute NOEC, Fish (Brachydanio rerio): >10,000 ppm (4 d) [static]. - Acute NOEC, Crustacea (Daphnia magna): >1,000 ppm (24 h).
Persistence/Degradability	Not readily biodegradable.
Mobility	No information available.
Environmental Fate	No known significant effects or critical hazards.
Bioaccumulation Potential	Low bioaccumulative potential.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. May be disposed of by landfill in accordance with local regulations.
Special Precautions for Land Fill	Empty containers should be taken for local recycling, recovery or waste disposal.

14. TRANSPORT INFORMATION**Land Transport (Australia)**

ADG Code

Proper Shipping Name	Synthetic amorphous silica
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	Synthetic amorphous silica
Class	No Data Available

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Subsidiary Risk(s) No Data Available
No Data Available
UN Number No Data Available
Hazchem No Data Available
Pack Group No Data Available
Special Provision No Data Available
Comments NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand)

NZS5433

Proper Shipping Name Synthetic amorphous silica
Class No Data Available
Subsidiary Risk(s) No Data Available
No Data Available
UN Number No Data Available
Hazchem No Data Available
Pack Group No Data Available
Special Provision No Data Available
Comments NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America)

US DOT

Proper Shipping Name Synthetic amorphous silica
Class No Data Available
Subsidiary Risk(s) No Data Available
No Data Available
UN Number No Data Available
Hazchem No Data Available
Pack Group No Data Available
Special Provision No Data Available
Comments NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport

IMDG Code

Proper Shipping Name Synthetic amorphous silica
Class No Data Available
Subsidiary Risk(s) No Data Available
UN Number No Data Available
Hazchem No Data Available
Pack Group No Data Available
Special Provision No Data Available
EMS No Data Available
Marine Pollutant No
Comments NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

IATA DGR

Proper Shipping Name Synthetic amorphous silica

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Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

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)
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15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	Not Hazardous
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National/Regional Inventories

Australia (AIIIC)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	231-545-4
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined

Taiwan (NCSR) Not Determined

USA (TSCA) Not Determined

16. OTHER INFORMATION

Related Product Codes	SILICF4300, SILICF5000, SILICF9010, SILICP1000, SILICP1001, SILICP1002, SILICP1003, SILICP1004, SILICP1005, SILICP1200, SILICP1201, SILICP1500, SILICP1800, SILICP2000, SILICP2025, SILICP2100, SILICP2200, SILICP2300, SILICP2400, SILICP2500, SILICP2600, SILICP2700, SILICP2800, SILICP2900, SILICP3000, SILICP3100, SILICP3200, SILICP3300, SILICP3400, SILICP3500, SILICP3700, SILICP4100, SILICP4500, SILICP5100, SILICP5200, SILICP5300, SILICP5320, SILICP5400, SILICP5500, SILICP5600, SILICP5750, SILICP5753, SILICP6000, SILICP6100, SILICP6127, SILICP6200, SILICP6300, SILICP6330, SILICP6500, SILICP6501, SILICP6600, SILICP6800, SILICP6900, SILICP6910, SILICP6912, SILICP6990, SILICP6991, SILICP6999, SILICP7001, SILICP7200, SILICP7270, SILICP7300, SILICP7400, SILICP7401, SILICP7440, SILICP7500, SILICP7505, SILICP7600, SILICP7615, SILICP7660, SILICP7700, SILICP7720, SILICP7740, SILICP7800, SILICP8000, SILICP8100, SILICP8110, SILICP8200, SILICP8300, SILICP9150, SILICP9200, SILICP9500, SIMATT1061, SIMATT1101, SIMATT1102, SIMATT2600, SIMATT2700, SIMATT2705, SIMATT2715
Revision	4
Revision Date	05 Mar 2022
Reason for Issue	Update
Key/Legend	<p>< Less Than > Greater Than</p> <p>AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² Square Centimetres CO₂ Carbon Dioxide COD Chemical Oxygen Demand deg C (°C) Degrees Celcius EPA (New Zealand) Environmental Protection Authority of New Zealand deg F (°F) Degrees Fahrenheit g Grams g/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health immiscible Liquids are insoluable in each other. inHg Inch of Mercury inH₂O Inch of Water K Kelvin kg Kilogram kg/m³ Kilograms per Cubic Metre lb Pound LC50 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. LD50 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. ltr or L Litre m³ Cubic Metre mbar Millibar mg Milligram mg/24H Milligrams per 24 Hours mg/kg Milligrams per Kilogram mg/m³ Milligrams per Cubic Metre Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present. mm Millimetre mmH₂O Millimetres of Water mPa.s Millipascals per Second N/A Not Applicable NIOSH National Institute for Occupational Safety and Health</p>

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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