Certificate of Analysis

Product: Silica Gel Blue 3-5mm

Item NO.: 69-9024

Packing : 1kg/carton

Testing by: in house

ITEMS	SPECIFICATION	RESULTS
Qualified size ratio	96%min	Conforms
Absorption capacity	RH=20% R.H.:8.0min RH=50% R.H.:18.0min RH=90% R.H.:28.0min	Conforms
Loss on drying	3.0%max	Conforms
Show color RH=50%	Blue to light red	Conforms
Conclusion	Conform with factory's standard	

Analyst:

Checker:

MSDS For Silica Gel Blue

1. Product Identification

Name Blue silica gel

Synonyms: Silica, amorphous; Silica, precipitated and gel (CAS # 112926-00-8) (OSHA)

CAS No.: Not applicable

Molecular Weight: Not applicable Chemical

Formula: $SiO2.XH2O + CoCl_2$

Product Codes: See detail drawings

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous	R Phrases
Silica Gel	63231-67-4	> 99.7%	yes	
Cobalt Chloride	7646-79-9	< 0.3%	yes	R22, R36, R42/43

3. Hazards Identification

Emergency Overview

TOXIC (see hazard warning label)

SAFETY DATA Ratings (Provided here for your convenience)

Health Rating: - Moderate

Flammability Rating: - None

Reactivity Rating: - None

Contact Rating: Slight

Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES Storage

Colour code: Orange (General Storage)

Potential Health Effects: This product contains synthetic amorphous silica; not to be confused with crystalline silica such as quartz, cristobalite or tridymite or with diatomaceous earth or other naturally occurring forms of amorphous silica that frequently contain crystalline forms.

Inhalation: May cause dryness and irritation to mucous membranes, nose, and throat.

Symptoms may include coughing, sore throat, and wheezing. Ingestion: No adverse effects expected.

Skin Contact: May cause irritation with dryness and abrasion.

Eye Contact: May cause irritation, redness and pain.

Chronic Exposure: Repeated exposure may cause symptoms similar to those listed for acute effects.

Synthetic amorphous silica does not produce silicosis> Prolonged exposure to cobalt has been shown to cause cancer in laboratory animals.

Aggravation of Pre-existing Conditions: No information found.

4. First Aid Measures

Inhalation: Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion: Give se veral glasses of water to drink to dilute. If large amounts were swallowed, get medical advice.

Skin Contact: Immediately flush skin with plenty of soap and water for at least 15 minutes.
Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

5. Fire Fighting Measures
Fire: Not considered to be a fire hazard.
Explosion; Not considered to be explosion hazard.
Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire.
Special Information: Use protective clothing and breathing equipment appropriate for the surrounding fire.

6. Accidental Release Measure
Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerise for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. Regulations require reporting spills and releases to soil, water and air in excess of reportable quantities.

7. Handling and Storage
Keep in a tightly closed container, stored in a cool, dry, ventilated area and labelled accordingly. Protect against physical damage. When pouring into a container of flammable liquid, ground both containers electrically to prevent a static electric spark. 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 Airborne Exposure Limits:
Silica (synthetic, amorphous):
- OSHA Permissible Exposure Limit (PEL) -
- 80/(%SiO2) mg/m³ (TWA) for amorphous silica, including natural diatomaceous earth.
- ACGIH Threshold Limit Value (TLV) -

10 mg/m³ (TWA) for amorphous precipitated silica and amorphous silica gel.
For Inorganic Cobalt Compounds:
- ACGIH Threshold Limit Value (TLV) -

0.02 mg/m³ (TWA) as Co, A3: Animal carcinogen.

Ventilation Systems: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. 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. Please refer to the ACGIH document, Industrial ventilation, A Manual of Recommended practices, most recent edition, for details.

Personal Respirators: If the exposure limit is exceeded, a half-face dust/mist respirator must be worn suitable for the exposure limit or the maximum use

concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest.
WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. Respirators must meet the requirements of European Standard EN149 FF3SL. Suitable for use under COSHH, CAW, CLAW and IRR.

Skin Protection: Wear protective gloves and clean body-covering clothing.

Eye Protection: Use chemical safety goggles. Maintain eye wash fountain.

9. Physical and Chemical Properties Appearance: Blue crystals.
Odour: Odourless.
Solubility: Silica gel base is insoluble in water; cobalt chloride may leach out.
Specific Gravity: 2.1
PH: 5.5-9.0 (in 5% slurry)%
Volatiles by volume @ 21°C (70°F): 0 Boiling
Point: No information found. Melting Point:
No information found.
Vapour Density (Air=1): No information found.
Vapour Pressure (mm Hg): No information found.
Evaporation Rate (BuAc=1): No information found.

10. Stability and Reactivity
Stability: Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products: Oxides of carbon and silicone may be formed when heated to decomposition.
Hazardous Polymerisation: Will not occur.
Incompatibility: Reacts with hydrogen fluoride, fluorine, oxygen difluoride, chlorine trifluoride, strong acids, strong bases, and oxidizers.
Conditions to Avoid: Moisture, extreme heat, and incompatibles.

11. Toxicological Information
Toxicological Data: No LD50/LC50 information found relating to normal routes of occupational exposure.
Carcinogenicity: Cobalt and its compounds have been shown to cause cancer in laboratory animals.

12. Ecological Information
Environmental Fate: For Silica Gel (synthetic amorphous): When released into the soil, this material is not expected to biodegrade. When released into water, this material is not expected to biodegrade.

Environmental Toxicity: For Silica Gel (synthetic amorphous): This material is not expected to be toxic to aquatic life.

13. Disposal Considerations
Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. Local disposal regulations may differ from national disposal regulations.

Contact your local Environmental Agency for closest Waste Management site. Dispose of container and unused contents in accordance with national and local regulations.

14. Transport Information Not regulated.

15. Regulatory Information

----------\ Chemical Inventory Status - Part 1 \----------

Ingredient	EC
Silica Gel (63231-67-4)	No
Cobalt (II) Chloride (7646-79-9)	No

----------\ Federal, State & International Regulations - Part 1 \----------

	--SARA 302--		-----SARA 313----	
Ingredient	RQ	TPQ	List	Chemical
Catg. Silica Gel (63231-67-4)	No	No	No	No
Cobalt (II) Chloride (7646-79-9)	No	No	No	Cobalt compound

----------\ Federal, State & International Regulations - Part 2 \----------

		--RCRA--	--TSCA--
Ingredient	CERCLA	261.33	8 (d)
Silica Gel (63231-67-4)	No	No	No
Cobalt (II) Chloride (7646-79-9)	1	No	No

Poison Schedule: No information found.

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.
EC Classification: Carcinogenic

R Phrases R49 May cause cancer by inhalation R42/43 may cause sensitisation by inhalation and skin contact.

S Phrases S22 Do not breathe dust.
S53 Avoid exposure - obtain special instructions before use.
S45 In case of accident or if you feel unwell, seek medical advise.
S60 This material and/or its container must be disposed of as hazardous waste.
S2 Keep out of reach of children.

EINECS Listing Preparation - all components listed.

16. Other Information

Label Hazard Warning: TOXIC Label

Precautions:

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

Keep container closed.

Use with adequate ventilation.

Wash Thoroughly after handling.

Label First Aid: If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes.

Get medical attention if irritation develops or persists.

Product Use: Transformer Breathers, Tank Vent Dryers, Drum Vent Dryers, Air Drying

Applications and Laboratory Reagent.

Date: Feb. 14, 2013