Material Safety Data Sheet: Blue Silica Gel

1. Identification of the substance/preparation and the company
   Substance: Blue Silica Gel
   Application: Drying Agent
   Company: IMPAK Corporation
              13700 South Broadway
              Los Angeles, CA 90061

2. Composition/Information of ingredients
   Synthetic Amorphous Silica
   Weight %: >99
   CAS No.: 7631-86-9
   Hazard symbols: --
   R-phrased: --

   Cobalt Dichloride
   Weight %: 0.2-0.9
   CAS No.: 7646-79-9
   Hazard symbols: T, N
   Index No.: 027-004-00-5
   EINECS No.: 231-5489-4

3. Hazards Identification
   Hazard description:
   May cause cancer by inhalation.
   Harmful to aquatic organisms, may cause long term adverse effects in the aquatic environment.

4. First-aid measures
   After inhalation take the patient into the fresh air. Call a doctor if necessary. In the event of contact with the skin rinse off with water and soap. Contamination of the eyes must be treated by thorough irrigation with water, with the eyelids held open. In case of persistent irritation of the skin and/or eyes seek medical advice. If product is swallowed consult a doctor if necessary.

5. Fire-fighting measures
   Suitable extinguishing media: No restriction in fire situations. Product is not combustible.
   For reasons for security unsuitable extinguishing media: None.
   Special risk due to the substance for the preparation itself, its combustion products or the gas being produced: In case of fire, cobalt oxide and hydrogen chloride is formed.
   Special protective equipment when fighting fires: Firemen have to wear self-contained breathing apparatus.
   Further information: none.
6. **Accidental release measures**

Precautionary measures regarding persons: Avoid the formation and deposition of dust. Ensure effective ventilation. Avoid contact with skin and eyes and the inhalation of dust. Use the personal protective equipment listed in Charter 8.

Environmental protection measures: Do not empty into drains or waters.

Methods for cleaning up/taking up: Take up mechanically; avoid dust formation. Fill into labeled, sealable containers. Note German Technical Regulation on Dangerous Substances No 200/201

Further information: none

7. **Handling and Storage**

**Handling**

Information on safe handling: Avoid the formation of dust. During processing, ensure efficient exhaust ventilation in the working area

Information on fire explosion prevention: none

**Storage**

Requirements on storerooms and containers: The “Water Resources Management Act” and the relevant “Local Water legislation” and the regulations on plants for storing, filling and transportation of substances which are hazardous to water must be observed.

Information on common storage: Observe the rules contained in the VCI concept for separate/common storage. Observe the official regulations.

Further information on storage conditions: Keep in sealed containers in a dry place. Note German Technical Regulation on Dangerous Substances No 514

Storage class according to VCI (Association of the German Chemical Industry): 6.1BS

8. **Exposure controls/personal protection**

For exposure controls see Chapter 15

Respiratory protection: Respiratory equipment with filter type P according to DIN EN 143

Hand protection: Suitable materials for safety gloves (natural rubber, nitrile rubber, butyl rubber) Details of material thickness and breakthrough time (Not applicable for non-dissolved solids/dusts

Eye protection: googles

9. **Physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>granule or beads</td>
</tr>
<tr>
<td>Color</td>
<td>Blue</td>
</tr>
<tr>
<td>Odor</td>
<td>odorless</td>
</tr>
<tr>
<td>pH Value</td>
<td>3.5-8 (aqueous suspension)</td>
</tr>
<tr>
<td>Melting point</td>
<td>not determined</td>
</tr>
<tr>
<td>Boiling point</td>
<td>not determined</td>
</tr>
<tr>
<td>Inflammability</td>
<td>no</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>not determined</td>
</tr>
<tr>
<td>Spontaneous flammability</td>
<td>not determined</td>
</tr>
<tr>
<td>Fire-promoting Properties</td>
<td>no</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>not determined</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>not relevant</td>
</tr>
<tr>
<td>Bulk density</td>
<td>600-700 kg/m³</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>approx. 5g/l</td>
</tr>
<tr>
<td>Fat Solubility</td>
<td>not determined</td>
</tr>
<tr>
<td>Partition coeffizient</td>
<td>not determined</td>
</tr>
<tr>
<td>n-octanol/water</td>
<td>not determined</td>
</tr>
</tbody>
</table>
10. Stability and reactivity

Condition to avoid: none
Substances to avoid: none known
Hazardous decomposition products: Formation of Cobalt oxide and hydrogen chloride possible during thermal decomposition.
Further information: none

11. Toxicological Information

Toxicological information

Acute toxicity:
LD₅₀ oral, rat: 3160 mg/kg (Applies to Synthetic Amorphous Silica)
LD₅₀ oral, rat: 80 mg/kg (Applies to Cobalt Dichloride)

The following results refer to Cobalt Dichloride)
Sensitization: Cobalt Dichloride can sensitize the skin and respiratory passages and cause allergic reactions.
Effects after repeated or prolonged exposure: Repeated intake of Cobalt Dichloride may cause myocardial damage.
Carcinogenic effects: In animal tests the product gives an indication of carcinogenic effect

12. Ecological information

The results refer to Cobalt Dichloride.
Aquatic toxicity
Acute fish toxicity: LC₅₀ (Oncorhynchus mykiss): >35.0 mg/l
Acute toxicity of daphnia: ED₅₀ (Daphnia magna): 11.8 mg/l
Toxicity to bacteria: 120 h EC₅₀ (Activated sludge): 64.0 mg/l

13. Disposal Considerations

Unused material: reuse if possible. Address manufacturer

or

May be disposed of in approved landfills provided local regulations are observed

14. Transport information

GGVSE: -- UN: -- PG: --
RID/ADR: -- UN: -- PG: --
Warning sign: Hazard No. -- UN No.: ----
ADNR: -- UN: -- PG: --
GGVsee/IMDG Code: -- UN: -- PG: -- MPO: --
ICAO-TI/IATA-DGR: -- UN: -- PG: --
Declaration for land shipment: --
Declaration for sea shipment: --
Declaration of shipment by air: --
Other information: Not dangerous cargo. Keep separated from foodstuffs
15. Regulatory information

Labeling in accordance with EEC directives:
Symbol: T, Hazard description: Toxic Contains: Cobalt Dichloride
R 49: May cause cancer by inhalation.
R 52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
S 53: Avoid exposure - obtain special instructions before use.
S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
S 61: Avoid release to the environment. Refer to special instructions/Safety data sheets.

“Only for professional use”

German regulations
TRGS 900 "Atmospheric Threshold Value":
7631-86-9 Synthetic Amorphous Silica
threshold: 4mg/m³ E

Note remarks

Handling restrictions: none
Major accidents regulations: not listed in the appendices

Technical Instruction on Air Pollution Control:
Figure 5.2.2 Class II
Cobalt and his compounds, stated as Co.

Water pollution class (WGK): 1 - slightly hazardous to water
WGK = Classification in accordance with the German Water Resources Act
Observe national regulations

16. Other Information

Text of all R phrases referred to in sections 2 and 3:
R49: May cause cancer by inhalation.
R22: Harmful if swallowed.
R42: May cause sensitization by inhalation.
R42/43: May cause sensitization by inhalation and skin contact.
R43: May cause sensitization by skin contact.
R50: Very toxic to aquatic organisms.
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53: May cause long-term adverse effects in the aquatic environment.

The presented Safety Data sheet has been altered.
The reason for the alteration is as follows: revised text (see chapter 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 15, and 16) labeling (see chapter 15)

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties, or performance.