SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier
Product Name: Gasil® E140
Alternative names: Synthetic amorphous silica
CAS No.: 112926-00-8
EINECS No.: 231-545-4
REACH Registration No.: 01-2119379499-16-0050

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified use(s): Beverage processing.
Uses advised against: None known.

1.3 Details of the supplier of the safety data sheet
Company Identification: PQ Corporation
P.O. Box 840
Valley Forge
PA 19482
USA
Telephone: +1 610-651-4200
E-Mail (competent person): sds.uk@pqcorp.com

1.4 Emergency telephone number
Emergency Phone No.: +1 800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
GHS Classification: Not classified as dangerous for supply/use.
EC Classification: Not classified as dangerous for supply/use.

2.2 Label elements
Hazard pictogram(s):
Signal word(s): None.
Hazard statement(s): None.
Precautionary statement(s): None.

EC Classification: Not classified as dangerous for supply/use.

2.3 Other hazards
Not applicable.

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Regulation (EC) No. 1272/2008 (CLP)

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>%W/W</th>
<th>CAS No.</th>
<th>EINECS No. / REACH Registration</th>
<th>Hazard symbol(s) and hazard statement(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic amorphous silica</td>
<td>~40</td>
<td>112926-00-8</td>
<td>231-545-4</td>
<td>Not classified</td>
</tr>
<tr>
<td>Water</td>
<td>~60</td>
<td>7732-18-5</td>
<td>231-791-2</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Eye Contact   If substance has got into the eyes, immediately wash out with plenty of water. Obtain immediate medical attention.

Skin Contact  Wash affected skin with plenty of water. If symptoms develop, obtain medical attention.

Inhalation    Remove patient from exposure, keep warm and at rest. If symptoms develop, obtain medical attention.

Ingestion     Do not induce vomiting. Wash out mouth with water. If large amount swallowed or symptoms develop obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed
Exposure to any kind of dust is potentially harmful.

4.3 Indication of any immediate medical attention and special treatment needed
See Section: 4.1

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media
Compatible with all standard fire fighting techniques.

5.2 Special hazards arising from the substance or mixture
Not applicable. Inorganic powder or granules. Non-combustible.

5.3 Advice for fire-fighters
None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear suitable protective clothing. Wear eye/face protection. An approved dust mask should be worn if dust is generated during handling.

6.2 Environmental precautions
Synthetic amorphous silica is virtually inert and has no known adverse effect on the environment.

6.3 Methods and materials for containment and cleaning up
Contain spillages. Dampening with water can reduce dust. Sweep or preferably vacuum up and collect in suitable containers for recovery or disposal.

6.4 Reference to other sections
See Also Section 8.

SECTION 7: HANDLING AND STORAGE
7.1 Precautions for safe handling

Avoid generation of dust. A considerable static electrical charge can be built up during mechanical handling which may become a hazard in atmospheres containing flammable vapours. Advice on the control of static is given in British Standard BS 5958. Advice on the control of static is given in British Standard BS 5958. See Also Section 8.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed and dry.

7.3 Specific end use(s)

See also Annex to the extended Safety Data Sheet.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

<table>
<thead>
<tr>
<th>SUBSTANCE.</th>
<th>Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic amorphous</td>
<td>UK EH40: Silica amorphous</td>
</tr>
<tr>
<td>silica</td>
<td>Total inhalable dust: WEL 6 mg/m3 8h TWA. Respirable dust: WEL 2.4 mg/m3 8h TWA.</td>
</tr>
<tr>
<td></td>
<td>US ACGIH: Silica, Amorphous - Precipitated silica and silica gel: TLV withdrawn 2006</td>
</tr>
<tr>
<td></td>
<td>US OSHA: Silica amorphous - Precipitated silica: PEL 6mg/m3 8h TWA</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Wear protective equipment to comply with good occupational hygiene practice. Do not eat, drink or smoke at the work place.

8.2.1 Appropriate engineering controls

Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions.

8.2.2 Personal Protection

Respiratory protection

Avoid inhalation of dusts. Wear suitable respiratory protective equipment if working in confined spaces with inadequate ventilation or where there is any risk of the exposure limits being exceeded. Advice on respiratory protective equipment is given in the HSE (Health and Safety Executive) publication HS(G)53.

Eye/face protection

Safety spectacles. Eye protection with side protection (EN 166).

Skin protection

Wear suitable protective clothing and gloves. Plastic or rubber gloves. For example EN374-3. Wear suitable overalls.

8.2.3 Environmental Exposure Controls

Avoid generation of dust.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Powder. White.</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless.</td>
</tr>
<tr>
<td>Odour Threshold (ppm)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>pH (Value)</td>
<td>2 - 3.5 at 10% w/w in water.</td>
</tr>
<tr>
<td>Freezing Point (°C)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Melting Point (°C)</td>
<td>&gt; 1000</td>
</tr>
<tr>
<td>Boiling Point (°C)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flash Point (°C) [Closed cup]</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Explosive Limit Ranges</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Vapour Pressure (mm Hg)</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

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Vapour Density (Air=1) Not applicable.
Density (g/ml) No data.
Solubility (Water) Insoluble.
Solubility (Other) No data.
Partition Coefficient No data.
Auto Ignition Point (°C) Not applicable.
Decomposition Temperature (°C) Not applicable.
Viscosity (mPa. s) Not applicable.
Explosive properties Not applicable.
Oxidising Properties Not applicable.
9.2 Other information No data.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity See Section: 10.3
10.2 Chemical stability This product is hygroscopic.
10.3 Possibility of hazardous reactions None known.
10.4 Conditions to avoid See Section: 10.3
10.5 Incompatible materials See Section: 10.3
10.6 Hazardous decomposition product(s) None known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity
Ingestion The lethal dose for humans for synthetic amorphous silica is estimated at over 15000 mg/kg bw. Synthetic amorphous silica is a permitted food additive in the UK, US and many other countries. Oral LD50 (rat) >3100 mg/kg bw
Inhalation Synthetic amorphous silica has little adverse effect on lungs and does not produce significant disease or toxic effect when exposure is kept below the permitted limits. However, existing medical conditions (eg. 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.
Skin Contact Dust may have a drying effect on the skin. Dermal LD50 (rabbit) >5000 mg/kg bw
Eye Contact Dust may cause discomfort and mild irritation.
Skin corrosion/irritation Non-irritant. Dust may have a drying effect on the skin.
Serious eye damage/irritation Non-irritant.
Sensitisation Not sensitising.
Mutagenicity No evidence of genotoxicity. In vitro/in vivo negative.
Carcinogenicity IARC assessment: Amorphous silica is not classifiable as to its carcinogenicity to humans (Group 3).
Reproductive toxicity No evidence of reproductive toxicity or developmental toxicity.
STOT - single exposure Not classified
STOT - repeated exposure Not classified. NOAEL oral (rat) >4000 mg/kg bw/d
Aspiration hazard Not classified
Other information Not applicable

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity Synthetic amorphous silica is virtually inert and has no known adverse effect on the environment.
Fish (Brachydanio rerio) LL50 (96 hour) >10000 mg/l
Aquatic invertebrates: (Daphnia magna) EL50 (24 hour) >10000 mg/l
12.2 Persistence and degradability
Inorganic.

12.3 Bioaccumulative potential
Inorganic. The substance has no potential for bioaccumulation.

12.4 Mobility in soil
Not applicable.

12.5 Results of PBT and vPvB assessment
Not classified as PBT or vPvB.

12.6 Other adverse effects
None.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Disposal should be in accordance with local, state or national legislation. Not a hazardous waste under RCRA Sec.3001. May be disposed of by landfill in accordance with local regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number
Not classified as dangerous for transport.

14.2 Proper Shipping Name
Not applicable.

14.3 Transport hazard class(es)
Not applicable.

14.4 Packing group
Not applicable.

14.5 Environmental hazards
Not applicable.

14.6 Special precautions for user
None. No special packaging requirements.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
TSCA Inventory Status: Reported/Included. CAS No. 7631-86-9
AICS Inventory Status: Reported/Included.
DSL/NDSL Inventory Status: Reported/Included.
WHMIS Classification : Not classified
German Water Hazard Classification VwVwS: Product ID number 849, not hazardous to water - nwg. 1,0,0

15.2 Chemical Safety Assessment
Information available on request.

SECTION 16: OTHER INFORMATION

Data referenced in this eSDS is from company-owned information and from data legitimately accessed by PQ Corporation through membership of Industry Consortia or other agreements. This includes data relating to toxicology, ecotoxicology, DNELs, PNECs and other information in this eSDS and its annex.

GHS Classification
Not classified as dangerous for supply/use.

Signal word(s)
None.

Hazard pictogram(s)
None.

Hazard statement(s)
None.

Precautionary statement(s)
None.
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