# SAFETY DATA SHEET

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

**1.1 Product identifier**

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| **Product Name** | **METSO BEADS® 2048**<br>**Sodium metasilicate** |
| Alternative names | Sodium metasilicate (anhydrous) |
| CAS No. | 6834-92-0 |
| EINECS No. | 2299129 |

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

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|---|---|
| Identified use(s) | General purpose industrial chemical for use in a wide range of applications.<br>Complexing agent ; Corrosion inhibitor ; Flame retardant or fire preventing agent ; Flotation agent ; pH Regulating agent ; Viscosity control agent<br>See also Annex to the extended Safety Data Sheet. |
| Uses advised against | None known. |

**1.3 Details of the supplier of the safety data sheet**

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|---|---|
| Company Identification | PQ Corporation<br>P.O. Box 840<br>Valley Forge<br>PA 19482<br>USA |
| Telephone: | +1 610-651-4200 |
| E-Mail (competent person) | sds.uk@pqcorp.com |

PRODUCT DISTRIBUTED BY:
Connection Chemical LP
126 South State St. Ste. 200
Newtown, PA 18940
+1-215-493-4240

**1.4 Emergency telephone number**

| | |
|---|---|
| Emergency Phone No. | +1 800-424-9300 |

## SECTION 2: HAZARDS IDENTIFICATION

**2.1 Classification of the substance or mixture**

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| **GHS Classification** | Skin Corr. 1B / Eye Dam. 1<br>STOT SE 3<br>Met. Corr. 1 |
| **EC Classification** | CORROSIVE |
| **Hazards summary** | Alkaline. Causes burns.<br>Irritating to respiratory system.<br>May cause permanent damage to eyes. Can etch glass if not promptly removed. |

**2.2 Label elements**

Hazard pictogram(s)

Signal word(s) Danger

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|---|---|
| Hazard statement(s) | H314: Causes severe skin burns and eye damage.<br>H335: May cause respiratory irritation.<br>H290: May be corrosive to metals. |
| Precautionary statement(s) | P261: Avoid breathing dust.<br>P262: Do not get in eyes, on skin, or on clothing.<br>P280: Wear protective gloves/protective clothing/eye protection/face protection.<br>P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.<br>P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.<br>P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| **EC Classification** | CORROSIVE |
| Hazard Symbol |  |
| Risk Phrases | R34: Causes burns.<br>R37: Irritating to respiratory system. |
| Safety Phrases | S1/2: Keep locked up and out of the reach of children.<br>S13: Keep away from food, drink and animal feedingstuffs.<br>S24/25: Avoid contact with skin and eyes.<br>S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.<br>S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). |
| **2.3 Other hazards** | Not applicable. |

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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

| Ingredient(s) | %W/W | CAS No. | EINECS No. / REACH Registration | Hazard symbol(s) and hazard statement(s) |
|---|---|---|---|---|
| Silicic acid, disodium salt; Disodium metasilicate | 100 | 6834-92-0 | 2299129 | H314 : Skin Corr. 1B<br>Eye Dam. 1 ;<br>H335 : STOT SE 3 ;<br>H290 : Met. Corr. 1 ; |

## SECTION 4: FIRST AID MEASURES

**4.1 Description of first aid measures**

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| Eye Contact | Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention. |
| Skin Contact | Wash affected skin with plenty of water. Continue to wash the affected area for at least 15 minutes. Obtain medical attention. |

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|---|---|
| Inhalation | Remove patient from exposure, keep warm and at rest. Obtain immediate medical attention. |
| Ingestion | Do not induce vomiting. Wash out mouth with water and give 200-300 ml (half a pint) of water to drink. Obtain immediate medical attention. |
| **4.2 Most important symptoms and effects, both acute and delayed** | Alkaline. Causes burns.<br>Irritating to respiratory system.<br>May cause permanent damage to eyes. |
| **4.3 Indication of any immediate medical attention and special treatment needed** | Obtain immediate medical attention. |

## SECTION 5: FIRE-FIGHTING MEASURES

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| **5.1 Extinguishing media** | |
| Suitable Extinguishing Media | Compatible with all standard fire fighting techniques. |
| Unsuitable extinguishing Media | None known. |
| **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

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| **6.1 Personal precautions, protective equipment and emergency procedures** | Wear suitable protective clothing. Wear eye/face protection.<br>An approved dust mask should be worn if dust is generated during handling. |
| **6.2 Environmental precautions** | Do not allow to enter drains, sewers or watercourses. Advise Authorities if spillage has entered water course or sewer or has contaminated soil or vegetation. |
| **6.3 Methods and materials for containment and cleaning up** | Caution - spillages may be slippery. Avoid generation of dust.<br>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

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| **7.1 Precautions for safe handling** | Avoid contact with eyes, skin and clothing.<br>Avoid generation of dust.<br>Emergency shower and eye wash facilities should be readily available.<br><br>See Also Section 8. |
| **7.2 Conditions for safe storage, including any incompatibilities** | Keep container tightly closed and dry. In case of high humidity or storage for extended periods of time, use plastic bags to enclose product containers to avoid caking.<br>Unsuitable containers: Aluminium<br>See Also Section 10. |
| **7.3 Specific end use(s)** | Not available. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters**

| SUBSTANCE. | Occupational Exposure Limits |
|---|---|
| Disodium metasilicate | No Occupational Exposure Limit assigned.<br>An exposure limit of 2 mg/m3 (15 min TWA) is recommended by analogy with sodium hydroxide (UK EH40). |

**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: Chemical goggles (EN 166).

Skin protection: Wear suitable protective clothing and gloves. PVC or rubber gloves. For example EN374-3. Wear suitable overalls.

**8.2.3 Environmental Exposure Controls** The primary hazard of sodium silicate is the alkalinity. Avoid generation of dust. Avoid release to the environment.

## *SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES*

**9.1 Information on basic physical and chemical properties**

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|---|---|
| Appearance | Powder. Granules. White. |
| Odour | Odourless. |
| Odour Threshold (ppm) | Not applicable. |
| pH (Value) | Strongly alkaline. Approx 14 |
| Freezing Point (°C) | Not applicable. |
| Melting Point (°C) | 1089 |
| Boiling Point (°C) | Not applicable. |
| Flash Point (°C) [Closed cup] | Not applicable. |
| Evaporation rate | Not applicable. |
| Flammability (solid, gas) | Not applicable. |
| Explosive Limit Ranges | Not applicable. |
| Vapour Pressure (mm Hg) | Not applicable. |
| Vapour Density (Air=1) | Not applicable. |
| Density (g/ml) | No data. |
| Solubility (Water) | Soluble. |
| 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** | Bulk density: Approximately 68 lbs/ft3 untamped, 77 lbs/ft3 tamped |

## *SECTION 10: STABILITY AND REACTIVITY*

**10.1 Reactivity** See Section: 10.3

**10.2 Chemical stability** This product is hygroscopic.

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| **10.3 Possibility of hazardous reactions** | When arc welding vessels containing aqueous solutions of this material, take care to control any explosion risk from hydrogen evolved by electrolysis. Aqueous solutions will react with aluminium, zinc, tin and their alloys evolving hydrogen gas which can form an explosive mixture with air. Can react violently if in contact with acids. Can react with sugar residues to form carbon monoxide. |
| **10.4 Conditions to avoid** | See Section: 10.3 |
| **10.5 Incompatible materials** | See Section: 10.3 |
| **10.6 Hazardous decomposition product(s)** | Hydrogen |

## *SECTION 11: TOXICOLOGICAL INFORMATION*

**11.1 Information on toxicological effects**

**Acute toxicity**

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|---|---|
| Ingestion | Material will cause chemical burns. All symptoms of acute toxicity are due to high alkalinity.<br>Oral LD50 (rat) 1152-1349 mg/kg bw |
| Inhalation | Dust is severely irritant to the respiratory tract. All symptoms of acute toxicity are due to high alkalinity.<br>Inhalation LC50 (rat) >2.06 g/m³ |
| Skin Contact | Material will cause chemical burns.<br>Dermal LD50 (rat) >5000 mg/kg bw |
| Eye Contact | Material will cause chemical burns. May cause permanent damage if eye is not immediately irrigated. |
| **Skin corrosion/irritation** | Corrosive to: Skin. |
| **Serious eye damage/irritation** | Corrosive to: Eyes. |
| **Sensitisation** | Not sensitising. (LLNA) |
| **Mutagenicity** | No evidence of genotoxicity. In vitro/in vivo negative. |
| **Carcinogenicity** | Components are not listed by IARC, NTP or OSHA as carcinogens. |
| **Reproductive toxicity** | No evidence of reproductive toxicity or developmental toxicity. |
| **STOT - single exposure** | Irritating to respiratory system. |
| **STOT - repeated exposure** | Not classified. NOAEL oral (rat) 227 mg/kg bw/d |
| **Aspiration hazard** | Not classified |
| **Other information** | Not applicable. |

## *SECTION 12: ECOLOGICAL INFORMATION*

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|---|---|
| **12.1 Toxicity** | Fish (Brachydanio rerio) LC50 (96 hour) 210 mg/l<br>Aquatic invertebrates: (Daphnia magna) EC50 (48 hour) 1700 mg/l |
| **12.2 Persistence and degradability** | Inorganic. Soluble silicates, upon dilution, rapidly depolymerise into molecular species indistinguishable from natural dissolved silica. |
| **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** | The alkalinity of this material will have a local effect on ecosystems sensitive to changes in pH. |

## *SECTION 13: DISPOSAL CONSIDERATIONS*

**13.1 Waste treatment methods** Dispose of this material and its container to hazardous or special waste collection point. This material is classified as hazardous waste under EC Directive 2008/98/EC. This material is classified as hazardous waste under the Hazardous Waste (England and Wales) Regulations SI 2005 No. 894. This material is classified as hazardous waste under the Hazardous Waste (England and Wales) Regulations SI 2005 No. 894.
Disposed water/wet solutions containing this material are classified as RCRA hazardous waste if they exhibit the corrosive characteristic (pH greater than or equal to12.5).
Disposal should be in accordance with local, state or national legislation.

## *SECTION 14: TRANSPORT INFORMATION*

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| **14.1 UN number** | 3262 |
| **14.2 Proper Shipping Name** | Corrosive Solid, Basic, Inorganic, n.o.s. (Sodium metasilicate, Anhydrous) |
| **14.3 Transport hazard class(es)** | 8 |
| **14.4 Packing group** | II |
| **14.5 Environmental hazards** | Not classified as a Marine Pollutant. |
| **14.6 Special precautions for user** | Unsuitable containers: Aluminium |

## *SECTION 15: REGULATORY INFORMATION*

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
TSCA Inventory Status: Reported/Included.
AICS Inventory Status: Reported/Included.
DSL/NDSL Inventory Status: Reported/Included.
German Water Hazard Classification VwVwS: Product ID number 847, WGK class 1 (low hazard to water).

**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.

This SDS was last reviewed: 04/2013
The following sections contain revisions or new statements: All sections updated to comply with Regulation (EC) No.1907/2006 (REACH) and Regulation (EC) No.1272/2008 (CLP) and their amendments.

| | |
|---|---|
| EC Classification No. 67/548/EEC | CORROSIVE |
| Hazard Symbol |  |
| Risk Phrases | R34: Causes burns.<br>R37: Irritating to respiratory system. |
| Safety Phrases | S1/2: Keep locked up and out of the reach of children.<br>S13: Keep away from food, drink and animal feedingstuffs.<br>S24/25: Avoid contact with skin and eyes.<br>S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.<br>S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). |

| | |
|---|---|
| GHS Classification | Skin Corr. 1B / Eye Dam. 1<br>STOT SE 3<br>Met. Corr. 1 |
| Signal word(s) | Danger |
| Hazard pictogram(s) |  |
| Hazard statement(s) | H314: Causes severe skin burns and eye damage.<br>H335: May cause respiratory irritation.<br>H290: May be corrosive to metals. |
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