

## SAFETY DATA SHEET

### QUIK-GEL®

Revision Date: 02-Mar-2023

Revision Number: 27

#### 1. Identification

**Product identifier**

**Product Name** QUIK-GEL®

**Other means of identification**

**Hazardous Material Number:** HM003747

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Viscosifier

**Supplier details**

Halliburton Energy Services  
San Fernando y Tinogasta  
Neuquén, CP 8300 (Q8301XAB)  
Argentina

Halliburton Energy Services  
Carrera 7 No. 71-52, Floor 7, Torre B,  
Bogotá, Colombia

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Global Incident Response Access Code: 334305  
Contract Number: 14012

#### 2. Hazards Identification

**Classification of the hazardous chemical**

|  |                    |
|--|--------------------|
| Carcinogenicity                                      | Category 1A - H350 |
| Specific Target Organ Toxicity - (Repeated Exposure) | Category 2 - H373  |

**Label Elements**

**Hazard Pictograms**



**Signal Word:** Danger

**Hazard Statements** H350 - May cause cancer by inhalation  
H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

**Precautionary Statements**

**Prevention** P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P280 - Wear protective gloves/protective clothing/eye protection/face protection

**Response** P308 + P313 - IF exposed or concerned: Get medical advice/attention  
P314 - Get medical attention/advice if you feel unwell

**Storage** P405 - Store locked up

**Disposal** P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

**Contains Substances** Crystalline silica, quartz

**CAS Number** 14808-60-7

**Other hazards which do not result in classification**

Dust can form an explosive mixture in air  
This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).  
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

**3. Composition/Information on Ingredients**

**Product Classification:** Substance

| Substances                 | CAS Number | PERCENT (w/w) | GHS Classification                  |
|----------------------------|------------|---------------|-------------------------------------|
| Crystalline silica, quartz | 14808-60-7 | 1 - 5%        | Carc. 1A (H350)<br>STOT RE 1 (H372) |

The exact percentage (concentration) of the composition has been withheld as proprietary.

**4. First Aid Measures**

**Description of first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Rinse mouth with water many times.

**Most important symptoms and effects, both acute and delayed**

Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically

**5. Fire-fighting measures**

**Suitable extinguishing media**

**Suitable Extinguishing Media**

All standard fire fighting media

**Extinguishing media which must not be used for safety reasons**

None known.

**Physicochemical hazards arising from the chemical**

**Special exposure hazards in a fire**

Not applicable

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**6. Accidental Release Measures**

**Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

See Section 8 for additional information.

**Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**Methods and material for containment and cleaning up**

Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

**7. Handling and storage**

**Precautions for safe handling**

This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Keep from excessive heat. Do not reuse empty container. Product has a shelf life of 36 months.

**8. Exposure Controls/Personal Protection**

**Control parameters**

**Exposure Limits**

| Substances                 | CAS Number | Venezuela                    | Colombia                     | Argentina                   |
|----------------------------|------------|------------------------------|------------------------------|-----------------------------|
| Crystalline silica, quartz | 14808-60-7 | TWA: 0.025 mg/m <sup>3</sup> | TWA: 0.025 mg/m <sup>3</sup> | TWA: 0.05 mg/m <sup>3</sup> |

**Appropriate engineering controls**

**Engineering Controls**

Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

**Individual protection measures, such as personal protective equipment**

**Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection**

Not normally needed. But if significant exposures are possible then the following respirator is recommended:

Dust/mist respirator. (N95, P2/P3)

**Hand Protection**

Normal work gloves.

**Skin Protection**

Wear clothing appropriate for the work environment. Dusty clothing should be laundered

before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.  
**Eye Protection** Wear safety glasses or goggles to protect against exposure.  
**Other Precautions** None known.  
**Environmental Exposure Controls** No information available

**9. Physical and Chemical Properties**

Information on basic physical and chemical properties

**Physical State:** Powder **Color** Various  
**Odor:** Mild earthy **Odor Threshold:** No information available

| <u>Property</u>                               | <u>Values</u>            |
|---|--------------------------|
| Remarks/ - Method                             |                          |
| <b>pH:</b>                                    | 8-10                     |
| <b>Freezing Point / Range</b>                 | No data available        |
| <b>Melting Point / Range</b>                  | No data available        |
| <b>Pour Point / Range</b>                     | No data available        |
| <b>Boiling Point / Range</b>                  | No data available        |
| <b>Flash Point</b>                            | No data available        |
| <b>Evaporation rate</b>                       | No data available        |
| <b>Vapor Pressure</b>                         | No data available        |
| <b>Vapor Density</b>                          | No data available        |
| <b>Specific Gravity</b>                       | 2.6                      |
| <b>Water Solubility</b>                       | Partly soluble           |
| <b>Solubility in other solvents</b>           | No data available        |
| <b>Partition coefficient: n-octanol/water</b> | No data available        |
| <b>Autoignition Temperature</b>               | No data available        |
| <b>Decomposition Temperature</b>              | No data available        |
| <b>Viscosity</b>                              | No data available        |
| <b>Explosive Properties</b>                   | No information available |
| <b>Oxidizing Properties</b>                   | No information available |
| <u>Other information</u>                      |                          |
| <b>VOC Content (%)</b>                        | No data available        |

**10. Stability and Reactivity**

Reactivity  
 Not expected to be reactive.

Chemical stability  
 Stable

Possibility of hazardous reactions  
 Will Not Occur

Conditions to avoid  
 None anticipated

Incompatible materials  
 Hydrofluoric acid.

Hazardous decomposition products  
 Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

**11. Toxicological Information**

Information on possible routes of exposure  
**Principle Route of Exposure** Eye or skin contact, inhalation.

**Most Important Symptoms/Effects**

Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

**Toxicology data for the components**

| Substances                 | CAS Number | LD50 Oral             | LD50 Dermal       | LC50 Inhalation   |
|----------------------------|------------|-----------------------|-------------------|-------------------|
| Crystalline silica, quartz | 14808-60-7 | > 15000 mg/kg (human) | No data available | No data available |

**Immediate, delayed and chronic health effects from exposure**

**Inhalation**

Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).

Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).

- Eye Contact**
- Skin Contact**
- Ingestion**

May cause mechanical irritation to eye.  
None known.  
None known.

**Chronic Effects/Carcinogenicity**

**Silicosis:** Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

**Cancer Status:** The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2).

There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

This product contains Wyoming bentonite or other sorptive clays. Crystalline silica forms found in this particular clay are limited to quartz. Extreme temperatures that can generate cristobalite or tridymite are not expected to occur under realistic conditions. In addition, all quartz found in sorptive clays are considered "occluded", i.e., strongly coated with an amorphous silica surface (Wendlandt et al., 2007; Hochella and Muryama, 2010; SMI, 2014). Occluded quartz has been experimentally-determined to be relatively non-toxic compared to unoccluded quartz (Geh et al., 2006; Creutzenberg et al., 2008). A lack of health effects found in several studies examining occupational exposure to sorptive clays also suggest that chronic inhalation of sorptive clays is not expected to result in silicosis or cancer (Waxweiler et al., 1988; ACGIH, 1991; USEPA, 1996; IARC, 2005). In light of these findings OSHA has recently exempted Wyoming bentonite and other sorptive clays from the crystalline silica PEL in §1910.1053(a)(1)(iii).

| Substances                 | CAS Number | Skin corrosion/irritation  |
|----------------------------|------------|----------------------------|
| Crystalline silica, quartz | 14808-60-7 | Non-irritating to the skin |

|                            |                   |   |
|----------------------------|-------------------|---|
| <b>Substances</b>          | <b>CAS Number</b> | <b>Serious eye damage/irritation</b>  |
| Crystalline silica, quartz | 14808-60-7        | Non-irritating to the eye No information available  |
| <b>Substances</b>          | <b>CAS Number</b> | <b>Skin Sensitization</b>   |
| Crystalline silica, quartz | 14808-60-7        | No information available.   |
| <b>Substances</b>          | <b>CAS Number</b> | <b>Respiratory Sensitization</b>  |
| Crystalline silica, quartz | 14808-60-7        | No information available  |
| <b>Substances</b>          | <b>CAS Number</b> | <b>Mutagenic Effects</b>  |
| Crystalline silica, quartz | 14808-60-7        | Not regarded as mutagenic.  |
| <b>Substances</b>          | <b>CAS Number</b> | <b>Carcinogenic Effects</b>   |
| Crystalline silica, quartz | 14808-60-7        | Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure. |
| <b>Substances</b>          | <b>CAS Number</b> | <b>Reproductive toxicity</b>  |
| Crystalline silica, quartz | 14808-60-7        | No information available  |
| <b>Substances</b>          | <b>CAS Number</b> | <b>STOT - single exposure</b>   |
| Crystalline silica, quartz | 14808-60-7        | No significant toxicity observed in animal studies at concentration requiring classification.   |
| <b>Substances</b>          | <b>CAS Number</b> | <b>STOT - repeated exposure</b>   |
| Crystalline silica, quartz | 14808-60-7        | Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)  |
| <b>Substances</b>          | <b>CAS Number</b> | <b>Aspiration hazard</b>  |
| Crystalline silica, quartz | 14808-60-7        | No information available  |

**12. Ecological Information**

**Ecotoxicity**

**12.1. Toxicity**

| Substances                 | CAS Number | Toxicity to Algae                                     | Toxicity to Fish                   | Toxicity to Microorganisms | Toxicity to Invertebrates             |
|----------------------------|------------|---|------------------------------------|----------------------------|---------------------------------------|
| Crystalline silica, quartz | 14808-60-7 | EC50(72 h)=440 mg/L (Pseudokirchneriella subcapitata) | LL0(96 h)=10000 mg/L (Danio rerio) | No information available   | LL50(24 h)>10000 mg/L (Daphnia magna) |

**Persistence and degradability**

| Substances                 | CAS Number | Persistence and Degradability  |
|----------------------------|------------|--|
| Crystalline silica, quartz | 14808-60-7 | The methods for determining biodegradability are not applicable to inorganic substances. |

**Bioaccumulative potential**

| Substances                 | CAS Number | Bioaccumulation          |
|----------------------------|------------|--------------------------|
| Crystalline silica, quartz | 14808-60-7 | No information available |

**Mobility in soil**

| Substances                 | CAS Number | Mobility                 |
|----------------------------|------------|--------------------------|
| Crystalline silica, quartz | 14808-60-7 | No information available |

**Other adverse effects**

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

### 13. Disposal Considerations

#### Disposal methods

**Disposal methods**

If practical, recover and reclaim, recycle, or reuse by the guidelines of an approved local reuse program. Should contaminated product become a waste, dispose of in a licensed industrial landfill according to federal, state, and local regulations.

**Contaminated Packaging**

Follow all applicable national or local regulations.

### 14. Transport Information

#### Transportation Information

**UN Number** Not restricted  
**UN proper shipping name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable  
**Environmental Hazards:** Not applicable

#### IMDG/IMO

**UN Number** Not restricted  
**UN proper shipping name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable  
**Environmental Hazards:** Not applicable

#### IATA/ICAO

**UN Number** Not restricted  
**UN proper shipping name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable  
**Environmental Hazards:** Not applicable

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

#### Special precautions for user

None

### 15. Regulatory Information

#### International Agreements

**Montreal Protocol - Ozone Depleting Substances:** Does not apply.  
**Stockholm Convention - Persistent Organic Pollutants:** Does not apply  
**Rotterdam Convention - Prior Informed Consent:** Does not apply.  
**Basel Convention - Hazardous Waste:** Does not apply.

**NFPA Ratings:** Health 0, Flammability 0, Reactivity 0

**HMIS Ratings:** Health 0\*, Flammability 0, Physical Hazard 0, PPE: E

### 16. Other Information

**Revision Date:** 02-Mar-2023

**Revision Note**

Update to Format

**Key literature references and sources for data**

www.ChemADVISOR.com/

NZ CCID

**Key or legend to abbreviations and acronyms used in the safety data sheet**

ADR - The European Agreement concerning the International Carriage of Dangerous Goods by Road  
AS/NZS 1715 - New Zealand Standard on Selection, use and maintenance of respiratory protective equipment  
bw – body weight  
C - Celsius  
CAS – Chemical Abstracts Service  
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures  
EC – European Commission  
EC10 – Effective Concentration 10%  
EC50 – Effective Concentration 50%  
EEC – European Economic Community  
EN 149 - European standard on filtering halfmasks to protect against particles  
ErC50 – Effective Concentration growth rate 50%  
EN 374 - European standard on Protective gloves against chemicals and micro-organisms  
FFP - Filtering Facepieces  
h - hour  
IATA/ICAO - International Air Transport Association / International Civil Aviation Organization  
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
LC50 – Lethal Concentration 50%  
IMDG/IMO - International Maritime Dangerous Goods / International Maritime Organization  
LD50 – Lethal Dose 50%  
LL0 – Lethal Loading 0%  
LL50 – Lethal Loading 50%  
MAK - Maximum Workplace Concentration  
MARPOL – International Convention for the Prevention of Pollution from Ships  
mg/kg – milligram/kilogram  
mg/L – milligram/liter  
mg/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
NIOSH – National Institute for Occupational Safety and Health  
NOEC – No Observed Effect Concentration  
NDS - najwyższe dopuszczalne stężenie na stanowisku pracy  
NDS - OEL-TWA [Poland najwyższe dopuszczalne stężenie na stanowisku pracy]  
NTP – National Toxicology Program  
OEL – Occupational Exposure Limit  
PBT – Persistent Bioaccumulative and Toxic  
PC – Chemical Product category  
PEL – Permissible Exposure Limit  
ppm – parts per million  
PROC – Process category  
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals  
R/H-phrases - Risk/Hazard-phrases  
RID - The European Agreement concerning the International Carriage of Dangerous Goods by Rail  
STEL – Short Term Exposure Limit  
SU – Sector of Use category  
SZW - Netherlands Ministry of Social Affairs and Employment  
TWA – Time-Weighted Average  
UK - United Kingdom  
UN – United Nations  
VLA-EC - short-time excursion limits [Spain valores límite ambientales para la exposición de corta duración]  
VLA-ED - time-weighted average values for a whole work shift [Spain valores límite ambientales para la exposición diaria]  
VOC – Volatile Organic Carbon  
vPvB – very Persistent and very Bioaccumulative  
w/w - weight/weight

**Disclaimer Statement**

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**End of Safety Data Sheet**