

Product Trade Name: VDF SQUEEZE

Revision Date: 08/20/2024 **Revision No.:** 1

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Identifiers

Product Name: VDF Squeeze
 Product No.: EFP-8101
 Brand: VDF Squeeze
 CAS-No.: Proprietary

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

Identified uses: Lost Circulation Material

1.3 Details of the Supplier of the Safety Data Sheet

Company: Valence Drilling Fluids LLC
 609 S Kelly Ave. STE D-1
 Edmond, OK 73003
 Telephone: +1 (405)-285-6454

1.4 Emergency telephone number

Emergency Telephone #: Chemtrec 1-800-424-9300 (24hrs.)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Combustible dust; Carcinogenicity - STOT-RE Category 1, H350
 Skin Irritation, Category 2 - H315; Eye Irritation, Category 2B - H320

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word

Hazard Statement(s)

Danger

May form combustible dust concentrations in air

H303 May be harmful if swallowed

H315 Causes skin irritation

H319 Causes serious eye irritation

H350 May Cause Cancer by inhalation

H372 Causes damage to lungs through prolonged or repeated exposure

Precautionary statement(s)

P201 Obtain special instruction 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

P264 Wash face, hands and any exposed skin thoroughly after handling

P280 Wear protective gloves/protective clothing/eye protection/face protection

P270 Do not eat, drink or smoke when using this product

P305/351/338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing

P308/313 IF EXPOSED or CONCERNED: Get medical advice/attention

P314 Get medical attention/advice if you feel unwell

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

2.3 Hazards not otherwise classified (HNO) or not covered by GHS

Combustible dust

This product is not considered to be persistent, bio accumulating nor toxic (PBT)

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This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Hazardous Component	CAS No.	EC-No.	Synonyms	Classification	Concentration
Crystalline Silica, quartz	14808-60-7	238-878-4	quartz	Carcinogen, Cat.1A - H350 STOT-RE Cat. 1	<1%
Calcium Oxide	1305-78-8	n/a	Industrial Hydrate	Skin Irrit. 2 - H315 Eye Irrit. 2 - H319	1-15%

*The exact percentage concentration of the composition has been withheld as proprietary. This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. Because of quantity and composition, the health hazard is small. For the full text of the H-Statements mentioned in this Section, see Section 2.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

If on skin: Wash with plenty of soap and water

If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

In case of eye contact

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 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.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide (CO2).

Extinguishing media which must not be used for safety reasons

None known.

5.2 Special hazards arising from the substance or mixture

Fire and explosion hazards

Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Hazardous thermal decomposition products

Decomposition in fire may produce toxic gases.

5.3 Special Protective Equipment and Precautions for Firefighters

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Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Firefighting measures

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Use personal protective equipment. Avoid breathing dust. Avoid dust formation. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Non-sparking tools should be used.

6.2 Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and materials for containment and cleanup

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. Use non-sparking tools.

6.4 Reference to other sections

For disposal see section 13

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Store Locked Up.

7.3 Advice on general occupational hygiene

Wash hands after handling and before eating. Avoid prolonged exposure. All handling to take place in well-ventilated area. Shower after work. Remove and wash contaminated clothing promptly. See also Section 8 for additional information on hygiene measures.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS No.	Value	Control Parameters	Basis
Crystalline Silica, quartz	14808-60-7	OSHA PEL-TWA	10 mg/m ³ %SiO ₂ + 2	Respirable
		ACGIH TLV-TWA	TWA: 0.025 mg/m ³	Respirable
Calcium Oxide	1305-78-8	OSHA PELV	5 mg/M ³	Respirable

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practices. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

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8.3 Individual Protection Measures

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching the gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws, regulations and good laboratory practices. Wash and dry hands.

Body Protection

The type of Body Protection should be selected according to the concentration and the amount of the dangerous substances at the specific workplace.

Respiratory Protection

Respiratory protection is not required. Where protection from nuisance levels of dust are desired use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)

Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking and at the end of the day. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned. Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance	Form: solid powder, fibers Color: white to tan
b) Odor	no data available
c) Odor Threshold	no data available
d) pH	no data available
e) Melt point/Freeze Point	no data available
f) Initial boiling Point And boiling range	no data available
g) Flash Point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	May form on combustion: Carbon Monoxide, Carbon Dioxide, Oxides, Smoke, Fumes
j) Upper/lower flammability Or explosive limits	no data available
k) Vapor pressure	no data available
l) Vapor density	no data available
m) Relative density	no data available
n) Water solubility	Insoluble
o) Partition coefficient: n- octanol/water	no data available
p) Auto Ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive Properties	no data available
t) Oxidizing Properties	no data available

9.2 Other safety information

No data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No data available

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10.2 Chemical stability
Stable under recommended storage conditions

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Contact with strong oxidizing agents

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
No data available

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Product / Ingredient Name	CAS No.	Oral LD ₅₀	Dermal LD ₅₀	Inhalation LC ₅₀
Crystalline silica, quartz	14808-60-7	500 mg/kg (rat) >15000 mg/kg (human)	-	-

Irritation / Corrosion

Product / Ingredient Name	CAS No.	Test	Species	Result
Crystalline silica, quartz	14808-60-7	Skin	-	Non-irritating
		Eye	-	Mechanical irritation possible

Sensitization

Product / Ingredient Name	CAS No.	Test	Species	Result
Crystalline silica, quartz	14808-60-7	-	-	-

Mutagenicity

Product / Ingredient Name	CAS No.	Test	Species	Result
Crystalline silica, quartz	14808-60-7	Skin	-	Not regarded as mutagenic

Carcinogenicity

May cause cancer if inhaled. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

In 1997, the International Agency for Research on Cancer (IARC) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However, in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibers, 1997, Vol. 68, IARC, Lyon, France.)

In June 2003, the European Union Scientific Committee on Occupational Exposure Limits (SCOEL) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003). Silicosis is a progressive, disabling, and sometimes fatal lung disease. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. The disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

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The National Toxicology Program (NTP), within the U.S. Department of Health and Human Services, 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) classified 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 disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

Product / Ingredient Name	CAS No.	IARC Group 1 or 2	ACGIH Carcinogens	NTP
Crystalline silica, quartz	14808-60-7	Group 1 Carcinogenic to Humans	A2 Suspected Human Carcinogen	Group A Known Human Carcinogen

Reproductive toxicity

No information available.

Specific target organ toxicity (single exposure)

No information available.

Specific target organ toxicity (repeated exposure)

Causes damage to lungs through prolonged or repeated exposure if inhaled.

Aspiration hazard

No information available.

11.2 Information on Likely Routes of Exposure

Inhalation

May cause irritation of the nose, throat, and respiratory passages.

Skin contact

May cause mild skin irritation.

Eye contact

May cause mild eye irritation.

Ingestion

Irritation to the mouth, throat, and stomach.

11.3 Symptoms Related to the Physical, Chemical and Toxicological Characteristics

Inhalation

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.

Skin contact

May cause mechanical skin irritation.

Eye contact

May cause mechanical irritation to eye.

Ingestion

No information available.

11.4 Delayed and Immediate Effects, and also Chronic Effects from Short and Long-term Exposure

See Information on Toxicological Effects in this section of the safety data sheet.

11.5 Numerical Measures of Toxicity

Acute toxicity estimate

No data available

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

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- 12.3 Bio accumulative potential**
No data available
- 12.4 Mobility in soil**
No data available
- 12.5 Results of PBT and vPvB assessment**
PBT/vPvB assessment not available as chemical safety assessment not required/conducted
- 12.6 Other adverse effects**
No data available

SECTION 13: DISPOSAL CONSIDERATIONS

- 13.1 Description of Waste Residues and Information on Their Safe Handling and Methods of Disposal, Including the Disposal of Any Contaminated Packaging**
The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional or local authority requirements. Offer surplus and non-recyclable solutions to a licensed disposal company. Empty containers should be disposed of an unused product. Do not reuse empty container.

SECTION 14: TRANSPORT INFORMATION

US DOT

UN Number	Not regulated
UN Proper Shipping Name	Not regulated
Transport class(es)	Not regulated
Packing Group	Not regulated
Environmental Hazards	Not applicable

Canadian TDG

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

Transport within user's premises

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: REGULATORY INFORMATION

CERCLA: Hazardous Substance List

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Not applicable.

SARA Title III, Section 302/304 Extremely Hazardous Substances

Not applicable

SARA Title III, Section 311/312 Hazard Categories

Skin irritation, Eye irritation, Carcinogenicity, Specific target organ toxicity – repeated exposure, Combustible dust

SARA Title III, Section 313 Toxics Release Inventory (TRI) Program:

Not listed.

TSCA:

TSCA 8(a) CDR Exempt/Partial Exemption:

Not determined.

TSCA 8(b) Chemical Inventory:

All components are listed or exempted.

Massachusetts Right to Know Components

Does not apply

Pennsylvania Right to Know Components

Does not apply

New Jersey Right to Know Components

Does not apply

California Prop. 65 Components

The California Proposition 65 regulations apply to this product

SECTION 16: OTHER INFORMATION

HMIS Rating

Health Hazard:	1
Chronic Health Hazard:	1
Flammability:	0
Physical Hazard:	0

NFPA Rating

Health Hazard:	1
Fire Hazard:	0
Reactivity Hazard:	0

Further Information

The information presented herein is based on the best data available and is believed to be correct. However, nothing stated in this information is to be taken as warranty, expressed or implied, regarding the accuracy of the information or the use of our product; nor shall anything contained herein be construed to constitute a permission or recommendation to practice any invention covered by patent or patent application, or know-how owned by Valence Drilling Fluids LLC, any of its divisions, or by others, without a license by the owner of the patent, patent application, or know-how.