

Firelce HVB-Fx

Version number 1.0

Revision date 2019-07-16


SECTION 1: Identification

- 1.1 Product Identifier(s).**
Trade name(s) Firelce HVB-Fx
Other means of identification
Product code(s)
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
 Relevant identified uses Enhanced Water Firefighting Gel
 Professional use
 Uses advised against Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Not for use with foodstuffs, pharmaceutical products or cosmetics. This product is for industrial and professional use only, It is not intended for household use.
- 1.3 Details of the supplier of the safety data sheet**
 GelTech Solutions.
 1460 Park Lane South, Suite 1
 Jupiter. FL. 33458
 United States
 Telephone. 800-924-4874
 Fax. 561-427-6182
 Normal business hours: 0800 - 1700 MST/DST (UTC-7)
 e-mail: info@geltechsolutions.com.
- 1.4.1 Emergency telephone numbers** USA 1-800-924-4874 / INTL +1 561-427-6144

SECTION 2: Hazard(s) identification

- 2.1 Classification of the substance or mixture**
Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)
- | Section | Hazard class | Category | Hazard class and category | Hazard statement |
|---------|-------------------|------------|---------------------------|------------------|
| A.6 | Carcinogenicity. | 2 | Carc. 2 | H351 |
| B.cD | Combustible dust. | Comb. Dust | cD | OSHA003 |

For full text of abbreviations: see SECTION 16.

- 2.2 Label elements**
Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)
Signal word Warning
Pictograms
GHS08 
- Hazard statements**
H351 Suspected of causing cancer.
OSHA003 May form combustible dust concentrations in air.
Precautionary statements
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves, eye protection, respiratory protection for particulates and dust.
P308+P313 If exposed or concerned: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container according to applicable federal, state, and local regulations.
- 2.3 Other hazards**
 Dust explosion hazards.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Not relevant (mixture).

3.2 Mixtures**Description of the mixture**

Name of substance	Classification acc. to GHS
Superabsorbent polymer	cD / OSHA003
Colorant package blend	Carc. 2 / H351
Colorant package blend	cD / OSHA003
Performance Additives	cD / OSHA003

Product components are considered proprietary and are withheld as a trade secret.

For full text of abbreviations: see SECTION 16.

SECTION 4: First-aid measures**4.1 Description of first- aid measures****General notes**

If irritation or symptoms occur from any route of exposure, remove the affected individual from the area. Remove contaminated clothing and launder before reuse. In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

If inhalation causes irritation, remove to fresh air. If symptoms persist, get medical advice/attention.

Following skin contact

Brush off loose particles from skin. Rinse skin with water/shower.

Following eye contact

Flush eyes with clean water for fifteen (15) minutes. Remove contact lenses if safe to do so. Flush longer if there is any indication of residual chemical in the eye. Ensure adequate flushing of the eyes by separating the eyelids with fingers and rolling eyes in a circular motion. Get medical attention.

Following ingestion

Rinse mouth with water. Do NOT induce vomiting unless instructed to do so by medical personnel. If vomiting occurs naturally, keep airway clear. Never give anything by mouth to an unconscious person. Get medical advice/attention if symptoms occur or if the affected person does not feel well.

4.2 Most important symptoms and effects, both acute and delayed

Dust may cause abrasive irritation to eyes. Prolonged skin contact may cause dryness. Dust may cause nose, throat and upper respiratory tract irritation. Prolonged inhalation of high concentration of dust may cause lung effects. Titanium dioxide dust is considered possibly carcinogenic to humans based on animal evidence, which shows that high concentrations of pigment-grade (powdered) and ultrafine titanium dioxide dust causes respiratory tract cancer in rats exposed by inhalation and intratracheal instillation. See Section 11. The conclusions of several epidemiology studies on more than 20000 TiO₂ industry workers in Europe and the USA did not suggest a carcinogenic effect of TiO₂ dust on the human lung.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Fire-fighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Foam. Carbon dioxide (CO₂). Dry extinguishing powder. Water fog.

Unsuitable extinguishing media

Avoid water jet, hose streams, or any method which will create dust clouds.

5.2 Special hazards arising from the substance or mixture

Danger of dust explosion. Deposited combustible dust has considerable explosion potential. As with all organic dusts, fine particles suspended in air in critical proportions and in the presence of an ignition source may ignite and/or explode. Concentrated dust/air combinations may produce explosive conditions under certain parameters. Dust may be sensitive to ignition by electrostatic discharge, electrical arcs, sparks, welding torches, cigarettes, open flame, or other significant heat sources. As a precaution, implement standard safety measures for handling finely divided organic powders. Refer to Section 7.1.

Hazardous combustion products

Oxides of sulfur. Oxides of nitrogen. Oxides of carbon.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Keep unnecessary personnel away. Wear personal protective equipment to prevent injury. See section 8 of this SDS. Ensure adequate ventilation.

6.2 Environmental precautions

Dispose of unusable product, wash water, and contaminated materials properly. See section 13 for disposal considerations.

6.3 Methods and materials for containment and cleanup

Take up mechanically.

Cover floor drains. Prevent spilled material from leaving the area if safe to do so. Use care to avoid dust generation. vacuum or carefully sweep into a closed container for reuse or disposal. Only use an approved industrial vacuum cleaner. Collect spilled material and place into suitable container(s) for reuse or disposal. Label containers appropriately.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Recommendations****Measures to prevent fire as well as aerosol and dust generation**

Use local and general ventilation. Take precautionary measures against static discharge. Use only in well-ventilated areas. Only vacuum cleaners containing no ignition sources may be used for combustible dusts.

Specific notes/details

There is a risk of a dust explosion if powdered combustible dust is present in high-enough concentrations.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities**Managing of associated risks****Explosive atmospheres**

Avoid generation of dust. Carefully remove accumulated dust from surface areas on a regular basis. Only vacuum cleaners containing no ignition sources may be used for combustible dusts.

Ventilation requirements

Use local and general ventilation.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

Occupational exposure limit values (Workplace Exposure Limits)					
Country	Identifier	TWA [ppm]	TWA [mg/m ³]	Notation	Source
US	REL			appx-D	NIOSH REL
US	PEL	1,766	15	i, dust	29 CFR 1910.1000
US	PEL	529.5	5	partml, r, dust	29 CFR 1910.1000
US	PEL (CA)		10	dust	Cal/OSHA PEL
US	PEL (CA)		5	r	Cal/OSHA PEL
US	TLV®		10		ACGIH® 2019
US	PEL		15	i, dust	29 CFR 1910.1000
US	REL			lowest, appx-A	NIOSH REL
US	REL		6 (10 h)		NIOSH REL

Notation

appx-A	NIOSH Potential Occupational Carcinogen (Appendix A).
appx-D	See Appendix D - Substances with No Established RELs.
dust	As dust.
i	Inhalable fraction.
lowest	Exposure by all routes should be carefully controlled to levels as low as possible.
partml	Particles/ml.
r	Respirable fraction.
TWA	Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified).

8.2 Exposure controls**Appropriate engineering controls**

General ventilation.

Individual protection measures (personal protective equipment)**Eye/face protection**

Wear eye/face protection.

Skin protection**Hand protection**

Wear protective gloves.

Other protection measures

Wash hands thoroughly after handling.

Respiratory protection

Wear approved respiratory protective equipment to prevent inhalation of dust and/or mist.

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance**

Physical state	solid powder
Color	light grey
Odor	odorless

Other safety parameters

pH (value)	not applicable
Melting point/freezing point	>390 °F estimated
Initial boiling point and boiling range	3,000 °C at 101.3 kPa estimated
Flash point	not applicable
Evaporation rate	not determined

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Flammability (solid, gas)	this material is combustible, but will not ignite readily
Lower explosion limit (LEL)	80 g/m ³
Vapor pressure	<10 mmHg estimated
Density	not determined
Vapor density	this information is not available
Bulk density	500 – 600 g/l
Relative density	information on this property is not available
Solubility(ies)	
Water solubility	dispersible, forms a gel
Partition coefficient	
- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	not determined
Viscosity	not relevant solid matter
Explosive properties	dust explosion hazards
Oxidizing properties	none
9.2 Other information	
Solvent content	0.4215 %
Solid content	99.58 %

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Avoid handling product in a manner that can produce dust clouds.

Hints to prevent fire or explosion

This product can be dusty. Handle carefully to minimize dust formation. As with all organic dusts, fine particles suspended in air in critical proportions and in the presence of an ignition source may ignite and/or explode. Concentrated dust/air combinations may produce explosive conditions under certain parameters. Dust may be sensitive to ignition by electrostatic discharge, electrical arcs, sparks, welding torches, cigarettes, open flame, or other significant heat sources. As a precaution, implement standard safety measures for handling finely divided organic powders. .

10.5 Incompatible materials

Avoid contact with strong oxidizing agents. Avoid contact with strong acids.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information**11.1 Information on toxicological effects**

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)**Acute toxicity**

Shall not be classified as acutely toxic.

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant. Solid particles in contact with the eye can be abrasive and possibly lead to irritation.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Suspected of causing cancer. TITANIUM DIOXIDE: Titanium dioxide has been classified by IARC as a possible carcinogen to humans (Group 2B) through inhalation of particulate dust. This classification is based on inadequate evidence for carcinogenicity in humans, but sufficient evidence of carcinogenicity in animals (rats). It should be noted that recent studies have demonstrated that the rat may be particularly sensitive to high levels of toxicity dusts such as titanium dioxide. Epidemiology studies do not suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide. The conclusions of several epidemiology studies on more than 20000 TiO₂ industry workers in Europe and the USA did not suggest a carcinogenic effect of TiO₂ dust on the human lung.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information**12.1 Toxicity**

Shall not be classified as hazardous to the aquatic environment. No negative or toxic effects on the environment are anticipated when released in dilution for terrestrial and aquatic ecosystems; based on government testing. Composted superabsorbent polymers are nontoxic to aquatic or terrestrial organisms at predicted exposure levels from current application rates.

12.2 Persistence and degradability

Decomposes over time or in the presence of natural sunlight when applied to terrestrial substrate or vegetation. Superabsorbent polymers are relatively inert in aerobic and anaerobic conditions. They are immobile in landfills and soil systems (>90% retention), with the mobile fraction showing biodegradability. They are also compatible with incineration of municipal solid waste. Incidental down-the-drain disposal of small quantities of superabsorbent polymers will not affect the performance of wastewater treatment systems.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Superabsorbent polymers are immobile in landfills and soil systems (>90% retention), with the mobile fraction showing biodegradability.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects
Endocrine disrupting potential

None of the ingredients are listed.

Effect on global warming

No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1 Waste Treatment Methods / Disposal Instructions

In concentrate form, this product is a non-hazardous waste material suitable for approved solid waste landfills. Diluted product is non-soluble and can be disposed of in suitable effluent treatment plants. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

Information for each of the UN Model Regulations

14.8.3 Transport of dangerous goods by road or rail (49 CFR US DOT)

Not subject to transport regulations.

14.8.6 International Maritime Dangerous Goods Code (IMDG)

Not subject to IMDG.

14.8.7 International Civil Aviation Organization (ICAO-IATA/DGR)

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA) all ingredients are listed

Superfund Amendment and Reauthorization Act (SARA TITLE III)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

Specific Toxic Chemical Listings (EPCRA Section 313)

none of the ingredients are listed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

none of the ingredients are listed

Clean Air Act

none of the ingredients are listed

State Right to Know (RTK) List / Hazardous Substance List, MA, MN, NJ, PA

Name acc. to inventory	CAS No	Remarks	Classifications
titanium dioxide	13463-67-7		

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

Proposition 65 List of chemicals

Name acc. to inventory	CAS No	Remarks	Type of the toxicity
titanium dioxide	13463-67-7	airborne, unbound particles of respirable size	cancer

Drug precursorsChemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

none of the ingredients are listed

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National inventories

Country	Inventory	Status
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
KR	KECI	all ingredients are listed
NZ	NZIoC	all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

Legend

DSL	Domestic Substances List (DSL).
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China.
KECI	Korea Existing Chemicals Inventory.
NZIoC	New Zealand Inventory of Chemicals.
TCSI	Taiwan Chemical Substance Inventory.
TSCA	Toxic Substance Control Act.

SECTION 16: Other information, including date of preparation or last revision

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR § 40 U.S. Department of Transportation
ACGIH® 2019	From ACGIH®, 2019 TLVs® and BEIs® Book. Copyright 2019. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
cD	Combustible dust
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
ppm	Parts per million
TLV®	Threshold Limit Values
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties. The classification is based on tested mixture.

Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H351	Suspected of causing cancer.
OSHA003	May form combustible dust concentrations in air.

Disclaimer

This information is based upon the present state of our knowledge. As the conditions or methods of use are beyond our control, Robert Koch Industries, Inc. do not assume any responsibility and expressly disclaims any liability for any use of this product. Information contained herein is believed to be true and accurate and is made in good faith but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material, or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local laws and local regulations remains the responsibility of the user.

This Safety Data Sheet (SDS) cannot cover all possible situations which the user may experience during use of this product. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. It is your responsibility to develop appropriate work practice guidelines and employee instructional programs for your operation.