

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** Thiokol FEC 2234 - Hardener/Side B

**Other means of identification**

**SKU#** TK230H

**Recommended use** Not available.

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

Holcim Solutions and Products US, LLC  
26 Century Boulevard, Suite 205  
Nashville, Tennessee 37214  
1-800-878-7876 •www.polyspec.com

**Emergency phone number** CHEMTREC 800- 424-9300  
International 703- 527-3887

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards** Acute toxicity, oral Category 4

Acute toxicity, inhalation Category 4

Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 2

Sensitization, skin Category 1

**Environmental hazards** Hazardous to the aquatic environment, acute hazard Category 3

Hazardous to the aquatic environment, long-term hazard Category 3

**OSHA defined hazards** Not classified.

**Label elements**



**Signal word** Warning

**Hazard statement** Harmful if swallowed. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful if inhaled. Harmful to aquatic life with long lasting effects.

**Precautionary statement**

**Prevention** Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear eye protection/face protection. Wear protective gloves.

**Response** If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

**Storage** Store away from incompatible materials.

<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	65.22% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment. 62.82% of the mixture consists of component(s) of unknown acute oral toxicity. 68.62% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 65.22% of the mixture consists of component(s) of unknown acute dermal toxicity.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Isophoronediamine		2855-13-2	10 - 30
Titanium Dioxide		13463-67-7	10 - 30
Benzyl Alcohol		100-51-6	5 - 10
1-(2-aminoethyl)piperazine		140-31-8	1 - 5
Aluminium Hydroxide		21645-51-2	1 - 5
Silica, Amorphous		7631-86-9	1 - 5
Other components below reportable levels			30 - 60

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors and spray mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

### Methods and materials for containment and cleaning up

Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

### Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

### Precautions for safe handling

Do not taste or swallow. Avoid inhalation of vapors and spray mists. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Titanium Dioxide (CAS 13463-67-7)	PEL	15 mg/m <sup>3</sup>	Total dust.

#### US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
Silica, Amorphous (CAS 7631-86-9)	TWA	0.8 mg/m <sup>3</sup>
		20 mppcf

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminium Hydroxide (CAS 21645-51-2)	TWA	1 mg/m <sup>3</sup>	Respirable fraction.
Titanium Dioxide (CAS 13463-67-7)	TWA	10 mg/m <sup>3</sup>	

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Silica, Amorphous (CAS 7631-86-9)	TWA	6 mg/m <sup>3</sup>

#### US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Benzyl Alcohol (CAS 100-51-6)	TWA	44.2 mg/m <sup>3</sup>
		10 ppm

### Biological limit values

No biological exposure limits noted for the ingredient(s).

<b>Appropriate engineering controls</b>	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Face shield is recommended. Wear safety glasses with side shields (or goggles).
<b>Skin protection</b>	
<b>Hand protection</b>	Wear appropriate chemical resistant gloves.
<b>Other</b>	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

## 9. Physical and chemical properties

<b>Appearance</b>	Liquid.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	White.
<b>Odor</b>	Slight.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	374 °F (190 °C)
<b>Flash point</b>	200.0 °F (93.3 °C) Pensky-Martens Closed Cup
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	482 °F (250 °C)
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	11.24 lb/gal
<b>Explosive properties</b>	Not explosive.
<b>Flammability class</b>	Combustible IIIB
<b>Oxidizing properties</b>	Not oxidizing.

**Specific gravity** 1.35  
**VOC** < 25 g/l Mixed components

## 10. Stability and reactivity

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.  
**Chemical stability** Material is stable under normal conditions.  
**Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.  
**Conditions to avoid** Avoid temperatures exceeding the flash point. Contact with incompatible materials.  
**Incompatible materials** Peroxides. Phenols.  
**Hazardous decomposition products** No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

**Inhalation** Harmful if inhaled.  
**Skin contact** Causes skin irritation. May cause an allergic skin reaction.  
**Eye contact** Causes serious eye irritation.  
**Ingestion** Harmful if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics** Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

### Information on toxicological effects

**Acute toxicity** Harmful if inhaled. Harmful if swallowed.  
**Skin corrosion/irritation** Causes skin irritation.  
**Serious eye damage/eye irritation** Causes serious eye irritation.

### Respiratory or skin sensitization

**Respiratory sensitization** Not a respiratory sensitizer.  
**Skin sensitization** May cause an allergic skin reaction.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

### IARC Monographs. Overall Evaluation of Carcinogenicity

Silica, Amorphous (CAS 7631-86-9) 3 Not classifiable as to carcinogenicity to humans.  
Titanium Dioxide (CAS 13463-67-7) 2B Possibly carcinogenic to humans.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

### US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects** Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** Harmful to aquatic life with long lasting effects.

**Persistence and degradability** No data is available on the degradability of this product.

### Bioaccumulative potential

#### Partition coefficient n-octanol / water (log Kow)

Benzyl Alcohol 1.1

**Mobility in soil** No data available.

**Other adverse effects** The product contains volatile organic compounds which have a photochemical ozone creation potential.

### 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport information

#### DOT

Not regulated as dangerous goods.

#### IATA

Not regulated as dangerous goods.

#### IMDG

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.

### 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### **TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

#### **CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

#### **SARA 304 Emergency release notification**

Not regulated.

#### **OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not regulated.

#### **Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

#### **SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**  
Not regulated.

#### **Other federal regulations**

##### **Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

##### **Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations**

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Benzene (CAS 71-43-2)	Listed: February 27, 1987
Ethylene Oxide (CAS 75-21-8)	Listed: July 1, 1987
Formaldehyde (CAS 50-00-0)	Listed: January 1, 1988
Titanium Dioxide (CAS 13463-67-7)	Listed: September 2, 2011

**US - California Proposition 65 - CRT: Listed date/Developmental toxin**

Benzene (CAS 71-43-2)	Listed: December 26, 1997
Ethylene Oxide (CAS 75-21-8)	Listed: August 7, 2009
Toluene (CAS 108-88-3)	Listed: January 1, 1991

**US - California Proposition 65 - CRT: Listed date/Female reproductive toxin**

Ethylene Oxide (CAS 75-21-8)	Listed: February 27, 1987
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**US - California Proposition 65 - CRT: Listed date/Male reproductive toxin**

Benzene (CAS 71-43-2)	Listed: December 26, 1997
Ethylene Oxide (CAS 75-21-8)	Listed: August 7, 2009

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Titanium Dioxide (CAS 13463-67-7)
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**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision**

**Issue date** 10-13-2016

**Version #** 01

**HMIS® ratings**  
 Health: 2  
 Flammability: 1  
 Physical hazard: 0

**NFPA ratings**  
 Health: 2  
 Flammability: 1  
 Instability: 0

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**Revision information** This document has undergone significant changes and should be reviewed in its entirety.