

**SECTION 1: Identification**

**1.1. Identification**

Product form : Mixture  
Product name : Thiokol 2235B

**1.2. Recommended use and restrictions on use**

No additional information available

**1.3. Supplier**

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

**1.4. Emergency telephone number**

Emergency number : For Chemical Emergency  
Spill, Leak, Fire, Exposure, or Incident  
CHEMTREC:  
Within USA and Canada: 1-800-424-9300  
Outside USA and Canada: +1-703-527-3887 (collect calls accepted)

**SECTION 2: Hazard(s) identification**

**2.1. Classification of the substance or mixture**

**GHS-US classification**

Acute toxicity (oral), Category 4 H302  
Acute toxicity (inhalation), Category 4 H332  
Skin sensitization, Category 1 H317  
Specific target organ toxicity (repeated exposure), Category 2 H373  
Hazardous to the aquatic environment - Acute Hazard, Category 3 H402  
Hazardous to the aquatic environment - Chronic Hazard, Category 3 H412

**2.2. GHS Label elements, including precautionary statements**

**GHS US labelling**

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Warning

Hazard statements (GHS US) :

H302+H332 - Harmful if swallowed or if inhaled  
H317 - May cause an allergic skin reaction.  
H373 - May cause damage to organs through prolonged or repeated exposure.  
H402 - Harmful to aquatic life.  
H412 - Harmful to aquatic life with long lasting effects.

Dispose of in accordance with local/national regulations :

P260 - Do not breathe the mist/vapors/spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P271 - Use only outdoors or in a well-ventilated area.  
P272 - Contaminated work clothing must not be allowed out of the workplace.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves, protective clothing, chemical goggles, & face protection.  
P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.  
P302+P352 - If on skin: Wash with plenty of water.  
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P314 - Get medical advice/attention if you feel unwell.  
P330 - Rinse mouth.  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.  
P363 - Wash contaminated clothing before reuse.  
P391 - Collect spillage.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%
Manganese dioxide	(CAS-No.) 1313-13-9	30 – 60
Thiram	(CAS-No.) 137-26-8	1 – 5

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

- First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.
- First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if breathing is affected. If breathing is difficult, supply oxygen.
- First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.
- First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing if pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.
- First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Get medical attention if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects : Harmful if swallowed or if inhaled. May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure.
- Symptoms/effects after inhalation : Harmful if inhaled.
- Symptoms/effects after skin contact : May cause an allergic skin reaction.
- Symptoms/effects after eye contact : Direct contact with eyes is likely to be irritating.
- Symptoms/effects after ingestion : Harmful if swallowed.
- Chronic symptoms : May cause damage to organs through prolonged or repeated exposure.

### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam. Carbon dioxide. Dry powder. Water spray.

### 5.2. Specific hazards arising from the chemical

- Fire hazard : Not flammable.
- Explosion hazard : Product is not explosive.
- Reactivity : No dangerous reactions known under normal conditions of use.

### 5.3. Special protective equipment and precautions for fire-fighters

- Precautionary measures fire : Eliminate all ignition sources if safe to do so.
- Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers. Do not dispose of fire-fighting water in the environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus.
- Other information : Under fire conditions closed containers may rupture or explode.

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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Ventilate area. Keep upwind. Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection.

##### 6.1.1. For non-emergency personnel

Protective equipment : Wear Protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.

#### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters.

#### 6.3. Methods and material for containment and cleaning up

For containment/cleaning up : SMALL SPILL: Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on absorbent, such as sawdust or vermiculite, and sweep into closed containers for disposal. After all visible traces, including ignitable vapors, have been removed, thoroughly wet vacuum the area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal. Only those persons who are adequately trained, authorized, and wearing the required personal protective equipment (PPE) should participate in spill response and clean-up.

LARGE SPILL: Keep spectators away. Only those persons who are adequately trained, authorized and wearing the required personal protective equipment (PPE) should participate in spill response and clean-up. Ventilate the area by natural means or by explosion proof means (i.e. fans). Know and prepare for spill response before using or handling this product. Eliminate all ignition sources (flames, hot surfaces, portable heaters and sources of electrical, static, or frictional sparks). Dike and contain spill with inert material (e.g. sand, earth). Transfer liquids to covered and labeled metal containers for recovery or disposal, or remove with inert absorbent. Use only non-sparking tools and appropriate PPE. Place absorbent diking materials in covered metal containers for disposal. Prevent contamination of sewers, streams, and groundwater with spilled material or used absorbent.

#### 6.4. Reference to other sections

See Sections 8 and 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : For professional or industrial use only. Follow label instructions. Keep out of reach of children. Not for consumption. No smoking. Do not breathe vapors. Avoid contact with body. Turn off all pilot lights, flames, stoves, heaters, electric motors, welding equipment and other sources of ignition. Empty containers must not be washed and re-used for any purpose. Contact lens wearers must wear protective eye wear around chemical vapors and liquid. Wash hands thoroughly after handling. Flammable vapors may cause flash fire or ignite explosively. To prevent build-up of vapors, use adequate natural and/or mechanical ventilation (e.g. open all windows and doors to achieve cross ventilation). Containers may be hazardous when empty. Never use welding or cutting torch on or near container. Do not cut, drill, grind, or expose containers to heat, sparks, static electricity or other source of ignition. Explosion may occur causing injury or death.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container. Keep container closed when not in use. Containers which are opened should be properly resealed and kept upright to prevent leakage. Store in a dry, cool and well-ventilated place.

Incompatible materials : No data available.

Heat and ignition sources : Avoid ignition sources.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Manganese dioxide (1313-13-9)		
ACGIH	Remark (ACGIH)	OELs not established

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<b>Manganese dioxide (1313-13-9)</b>		
OSHA	Remark (OSHA)	OELs not established

<b>Thiram (137-26-8)</b>		
ACGIH	ACGIH OEL TWA	0.05 mg/m <sup>3</sup> (inhalable fraction and vapor)
ACGIH	Remark (ACGIH)	TLV® Basis: Body weight & hematologic eff. Notations: DSEN; A4 (Not classifiable as a Human Carcinogen)
ACGIH	Regulatory reference	ACGIH 2022
OSHA	OSHA PEL TWA [1]	5 mg/m <sup>3</sup>
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
IDLH	IDLH	100 mg/m <sup>3</sup>
NIOSH	NIOSH REL TWA	5 mg/m <sup>3</sup>

### 8.2. Appropriate engineering controls

Appropriate engineering controls

: Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

### 8.3. Individual protection measures/Personal protective equipment

Personal protective equipment symbol(s):



**Personal protective equipment:**

Gloves. Protective goggles. Protective clothing.

#### Hand protection:

Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.

#### Eye protection:

Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles.

#### Skin and body protection:

Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

#### Respiratory protection:

Use NIOSH (or other equivalent national standard) -approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment. An approved organic vapor respirator/supplied air or self-contained breathing apparatus must be used when vapor concentration exceeds applicable exposure limits

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: No data available
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available

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Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (n-butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No dangerous reactions known under normal conditions of use.

### 10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

### 10.3. Possibility of hazardous reactions

None under normal use.

### 10.4. Conditions to avoid

None under normal use.

### 10.5. Incompatible materials

None known.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Harmful if inhaled.

#### Manganese dioxide (1313-13-9)

LD50 oral rat	9000 mg/kg
LC50 Inhalation - Rat	> 1500 mg/m <sup>3</sup> (Exposure time: 4 h)

#### Thiram (137-26-8)

LD50 oral rat	560 mg/kg
LD50 dermal rat	> 2000 mg/kg
LD50 dermal rabbit	> 7940 mg/kg
LC50 Inhalation - Rat	500 mg/m <sup>3</sup> (Exposure time: 4 h)

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified

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STOT-single exposure	: Not classified
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Viscosity, kinematic	: Not applicable
Symptoms/effects	: Harmful if swallowed or if inhaled. May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure.
Symptoms/effects after inhalation	: Harmful if inhaled.
Symptoms/effects after skin contact	: May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Direct contact with eyes is likely to be irritating.
Symptoms/effects after ingestion	: Harmful if swallowed.
Chronic symptoms	: May cause damage to organs through prolonged or repeated exposure.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology – general	: No data available.
Hazardous to the aquatic environment, short-term (acute)	: Harmful to aquatic life
Hazardous to the aquatic environment, long-term (chronic)	: Harmful to aquatic life with long lasting effects.

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Other adverse effects	: No data available.
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### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Waste treatment methods	: Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport

#### Transport by sea (IMDG)

Not regulated for transport

#### Air transport (IATA)

Not regulated for transport

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### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

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All chemical substances in this product are listed as "Active" in the EPA (Environmental Protection Agency) "TSCA Inventory Notification (Active-Inactive) Requirements Rule" ("the Final Rule") of Feb. 2019, as amended Feb. 2021, or are otherwise exempt or regulated by other agencies such as FDA or FIFRA

SARA Section 311/312 Hazard Classes	Health hazard - Respiratory or skin sensitization Health hazard - Acute toxicity (any route of exposure) Health hazard - Specific target organ toxicity (single or repeated exposure)
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##### Sodium hydroxide (1310-73-2)

Not subject to reporting requirements of the United States SARA Section 313

CERCLA RQ	1000 lb
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##### Thiram (137-26-8)

Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	10 lb
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#### 15.2. International regulations

No additional information available

#### 15.3. US State regulations

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

Component	State or local regulations
Sodium hydroxide (1310-73-2)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List
Thiram (137-26-8)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

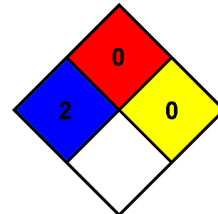
### SECTION 16: Other information

Other information : Author: NA.

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



#### HMIS Hazard Rating

Health : 2  
\* - Chronic (long-term) health effects may result from repeated overexposure

Flammability : 0

Physical : 0

#### Indication of changes:

Revision 1.0: New SDS Created.

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

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