

## 1. Identification

**Product identifier** PROTIVATE™ NU5-LUX 1-5-0

**Other means of identification**

**Synonyms**

-

**Recommended use** Seed Nutrition.

**Recommended restrictions** All other uses.

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

**Manufacturer/Supplier** Koch Agronomic Services, LLC  
 4111 E 37th St N  
 Wichita, KS 67220 US  
 kochmsds@kochind.com  
 1.866.863.5550

**Emergency** For Chemical Emergency  
 Call CHEMTREC day or night  
 USA/Canada - 1.800.424.9300  
 Mexico - 1.800.681.9531  
 Outside USA/Canada - 1.703.527.3887  
 (collect calls accepted)

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards** Serious eye damage/eye irritation Category 1  
 Carcinogenicity (inhalation) Category 2  
 Specific target organ toxicity, repeated exposure Category 2 (Brain)

**OSHA defined hazards** Combustible dust

**Label elements**



**Signal word** Danger

**Hazard statement** May form combustible dust concentrations in air. Causes serious eye damage. Suspected of causing cancer by inhalation. May cause damage to organs through prolonged or repeated exposure.

**Precautionary statement**

**Prevention** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Prevent dust accumulation to minimize explosion hazard. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Do not breathe dust. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Observe good industrial hygiene practices.

**Response** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Take off contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish. Collect spillage.

**Storage** Store locked up.

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations. Not assigned.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** None.

### 3. Composition/information on ingredients

#### Mixtures

<b>Chemical name</b>	<b>CAS number</b>	<b>%</b>
Zinc oxide	1314-13-2	< 25
Mica	12001-26-2	< 20
Starch	9005-25-8	< 20
Manganese sulfate monohydrate	7785-87-7	< 15
Monoammonium phosphate	7722-76-1	< 15
Titanium dioxide	13463-67-7	< 15
Sodium molybdate dihydrate	7631-95-0	< 10
Zinc sulfate monohydrate	7733-02-0	< 10

**Composition comments** All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Hydrated forms of chemical substances are exempt from the TSCA Inventory as mixtures. See the anhydrous form of the chemical substances for the TSCA Inventory.

### 4. First-aid measures

#### Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

#### Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

#### Eye contact

Do not rub eyes. 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 immediately.

#### Ingestion

Rinse mouth. Get medical attention if symptoms occur.

#### Most important symptoms/effects, acute and delayed

Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes. Coughing. Prolonged exposure may cause chronic effects.

#### Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

#### General information

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

#### Suitable extinguishing media

Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture. Powder. Apply extinguishing media carefully to avoid creating airborne dust.

#### Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

#### Specific hazards arising from the chemical

Explosion hazard: 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.

#### Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

#### Fire fighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

#### Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

#### General fire hazards

May form combustible dust concentrations in air.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Use only non-sparking tools. 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. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. 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

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter. Prevent product from entering drains. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. 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

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. 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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Combustible dust clouds may be created where operations produce fine material (dust). Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA-654). Explosion-proof general and local exhaust ventilation. Do not breathe dust. Do not get this material in contact with eyes. Avoid prolonged exposure. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

Store locked up. Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

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

Components	Type	Value	Form
Manganese sulfate monohydrate (CAS 7785-87-7)	Ceiling	5 mg/m <sup>3</sup>	
Starch (CAS 9005-25-8)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
Titanium dioxide (CAS 13463-67-7)	PEL	15 mg/m <sup>3</sup>	Total dust.
Zinc oxide (CAS 1314-13-2)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		5 mg/m <sup>3</sup>	Fume.
		15 mg/m <sup>3</sup>	Total dust.

#### US. OSHA Table Z-3 Permissible Exposure Limits (PEL) for Mineral Dusts (29 CFR 1910.1000)

Components	Type	Value	Form
Mica (CAS 12001-26-2)	TWA	20 mppcf	

**US. OSHA Table Z-3 Permissible Exposure Limits (PEL) for Mineral Dusts (29 CFR 1910.1000)**

Components	Type	Value	Form
Starch (CAS 9005-25-8)	TWA	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
Zinc oxide (CAS 1314-13-2)	TWA	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

**US. ACGIH Threshold Limit Values (TLV)**

Components	Type	Value	Form
Manganese sulfate monohydrate (CAS 7785-87-7)	TWA	0.1 mg/m <sup>3</sup>	Inhalable fraction.
		0.02 mg/m <sup>3</sup>	Respirable fraction.
Mica (CAS 12001-26-2)	TWA	0.1 mg/m <sup>3</sup>	Respirable fraction.
Starch (CAS 9005-25-8)	TWA	10 mg/m <sup>3</sup>	
Titanium dioxide (CAS 13463-67-7)	TWA	2.5 mg/m <sup>3</sup>	Respirable finescale particles
		0.2 mg/m <sup>3</sup>	Respirable nanoscale particles
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m <sup>3</sup>	Respirable fraction.
	TWA	2 mg/m <sup>3</sup>	Respirable fraction.

**NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended**

Components	Type	Value
Mica (CAS 12001-26-2)	IDLH	1500 mg/m <sup>3</sup>
Titanium dioxide (CAS 13463-67-7)	IDLH	5000 mg/m <sup>3</sup>
Zinc oxide (CAS 1314-13-2)	IDLH	500 mg/m <sup>3</sup>

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

Components	Type	Value	Form
Manganese sulfate monohydrate (CAS 7785-87-7)	STEL	3 mg/m <sup>3</sup>	Fume.
	TWA	1 mg/m <sup>3</sup>	Fume.
Mica (CAS 12001-26-2)	TWA	3 mg/m <sup>3</sup>	Respirable.
Starch (CAS 9005-25-8)	TWA	5 mg/m <sup>3</sup>	Respirable.
		10 mg/m <sup>3</sup>	Total
Zinc oxide (CAS 1314-13-2)	Ceiling	15 mg/m <sup>3</sup>	Dust.
	STEL	10 mg/m <sup>3</sup>	Fume.
	TWA	5 mg/m <sup>3</sup>	Fume.
		5 mg/m <sup>3</sup>	Dust.

**Biological limit values**

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

**Appropriate engineering controls** Explosion-proof general and local exhaust ventilation. Good general ventilation 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. 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). If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. Use only appropriately classified electrical equipment and powered industrial trucks. Provide eyewash station.

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

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection** Wear appropriate chemical resistant gloves. Wear suitable gloves tested to EN 374. Glove material: Nitrile rubber. Use gloves with breakthrough time of > 480 minutes. Minimum glove thickness > 0.7 mm.

**Skin protection**

**Other** Wear suitable protective clothing.

**Respiratory protection** Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** Observe any medical surveillance requirements. When using, do not eat, drink or smoke. 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.

## 9. Physical and chemical properties

**Appearance**

**Physical state** Solid.

**Form** Powder.

**Color** White.

**Odor** Property has not been measured.

**Odor threshold** Not available.

**pH** Property has not been measured.

**Melting point/freezing point** Property has not been measured.

**Initial boiling point and boiling range** Property has not been measured.

**Flash point** Property has not been measured.

**Evaporation rate** Not available.

**Flammability (solid, gas)** Fine particles may form explosive mixtures with air.

**Upper/lower flammability or explosive limits**

**Explosive limit - lower (%)** Property has not been measured.

**Explosive limit - upper (%)** Property has not been measured.

**Vapor pressure** Property has not been measured.

**Vapor density** Property has not been measured.

**Relative density** Not available.

**Solubility(ies)**

**Solubility (water)** Property has not been measured.

**Partition coefficient (n-octanol/water)** Property has not been measured.

**Auto-ignition temperature** Property has not been measured.

**Decomposition temperature** Property has not been measured.

<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	Property has not been measured.
<b>Explosive properties</b>	Not explosive.
<b>Kinematic viscosity</b>	Not applicable, material is a solid.
<b>Oxidizing properties</b>	Not oxidizing.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Keep away from heat, sparks and open flame. Contact with incompatible materials. Minimize dust generation and accumulation.
<b>Incompatible materials</b>	Strong oxidizing agents. Acids.
<b>Hazardous decomposition products</b>	Metal oxides.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Suspected of causing cancer by inhalation. Dust may irritate respiratory system. Prolonged inhalation may be harmful.
<b>Skin contact</b>	Dust or powder may irritate the skin.
<b>Eye contact</b>	Causes serious eye damage.
<b>Ingestion</b>	May cause discomfort if swallowed.

<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes. Coughing.
---	---

### Information on toxicological effects

<b>Acute toxicity</b>	Not expected to be acutely toxic.
-----------------------	-----------------------------------

Components	Species	Test Results
Manganese sulfate monohydrate (CAS 7785-87-7)		
<b><u>Acute</u></b>		
<b>Inhalation</b>		
<i>Dust</i>		
LC50	Rat	> 4.45 mg/l, 4 hours
<b>Oral</b>		
LD50	Rat	2150 mg/kg
Starch (CAS 9005-25-8)		
<b><u>Acute</u></b>		
<b>Dermal</b>		
LD50		> 5000 mg/kg
<b>Oral</b>		
LD50		> 50000 mg/kg
<b><u>Chronic</u></b>		
<b>Other</b>		
NOAEL		> 5000 mg/kg
Titanium dioxide (CAS 13463-67-7)		
<b><u>Acute</u></b>		
<b>Oral</b>		
LD50	Rat	> 5000 mg/kg

Components	Species	Test Results
Zinc oxide (CAS 1314-13-2)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rat	2000 mg/kg
<b>Inhalation</b>		
LC50	Rat	1.68 - 5.7 mg/l, 4 hours
<b>Oral</b>		
LD50	Mouse	2000 - 5000 mg/kg
	Rat	2000 - 5000 mg/kg
Zinc sulfate monohydrate (CAS 7733-02-0)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	920 mg/kg
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.	
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.	
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.	
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
<b>Carcinogenicity</b>	Suspected of causing cancer.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
Titanium dioxide (CAS 13463-67-7)	2B Possibly carcinogenic to humans.	
<b>NTP Report on Carcinogens</b>		
Not listed.		
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)</b>		
Not listed.		
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.	
<b>Specific target organ toxicity - single exposure</b>	Not classified.	
<b>Specific target organ toxicity - repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure.	
<b>Aspiration hazard</b>	Not an aspiration hazard.	
<b>Chronic effects</b>	Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure. Prolonged exposure may cause chronic effects.	
<b>Further information</b>	None known.	

## 12. Ecological information

**Ecotoxicity** Very toxic to aquatic life with long lasting effects.

Components	Species	Test Results
Manganese sulfate monohydrate (CAS 7785-87-7)		
<b>Aquatic</b>		
<i>Acute</i>		
Algae	ErC50	Algae 61 mg/l, 72 hours
Fish	LC50	Fish 49.9 mg/l, 96 hours
Titanium dioxide (CAS 13463-67-7)		
<b>Aquatic</b>		
<i>Acute</i>		
Crustacea	EC50	Daphnia magna > 100 mg/l, 48 Hours
Fish	LL50	Oryzias latipes > 100 mg/l, 96 Hours

Components	Species	Test Results
Zinc oxide (CAS 1314-13-2)		
<b>Aquatic</b>		
Algae	EC50	Algae > 0.69 - < 4.55 mg/l, 24 hours
	NOEC	Algae > 0.3 - < 1.94 mg/l, 96 hours 1.071 mg/l, 16 days
<i>Acute</i>		
Crustacea	EC50	Aquatic Invertebrates > 1.27 - < 1.92 mg/l, 4 hours
		> 0.155 - < 100 mg/l, 48 hours
		> 0.14 - < 6 mg/l, 24 hours
Fish	LC50	Aquatic Invertebrates > 0.072 - < 0.103 mg/l, 96 hours
	EC50	> 0.37 - < 1.19 mg/l, 96 hours
	EC50	Fish > 2.065 - < 2.966 mg/l, 85 hours
	LC50	Fish 23.06 mg/l, 84 hours
		0.33 mg/l, 95 hours
		> 0.112 - < 8.062 mg/l, 96 hours

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

**Bioaccumulative potential** No data available.

**Mobility in soil** No data available.

**Other adverse effects** No data available.

### 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

<b>UN number</b>	UN3077
<b>UN proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s. (Zinc oxide, Zinc sulfate)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	9
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

DOT (Road/Rail): Non-bulk shipments of this material are non-regulated for domestic ground transportation when they meet the requirements of 49 CFR 171.4(c).

<b>Special provisions</b>	8, 146, 335, A112, B54, B120, IB8, IP3, N20, T1, TP33
<b>Packaging exceptions</b>	155
<b>Packaging non bulk</b>	213
<b>Packaging bulk</b>	240



**IATA**

**UN number** UN3077  
**UN proper shipping name** Environmentally hazardous substance, solid, n.o.s. (Zinc oxide, Zinc sulfate)  
**Transport hazard class(es)**  
**Class** 9  
**Subsidiary risk** -  
**Packing group** III  
**Environmental hazards** Yes  
**ERG Code** 9L  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

**IMDG**

**UN number** UN3077  
**UN proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide, Zinc sulfate)  
**Transport hazard class(es)**  
**Class** 9  
**Subsidiary risk** -  
**Packing group** III  
**Environmental hazards**  
**Marine pollutant** Yes  
**EmS** F-A, S-F  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

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

**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)**

Manganese sulfate monohydrate (CAS 7785-87-7) Listed.  
 Zinc oxide (CAS 1314-13-2) Listed.  
 Zinc sulfate monohydrate (CAS 7733-02-0) Listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

**Toxic Substances Control Act (TSCA)** All components on the TSCA 8(b) inventory are designated "active".

**Superfund Amendments and Reauthorization Act of 1986 (SARA)****SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**Classified hazard categories** Combustible dust  
 Serious eye damage or eye irritation  
 Carcinogenicity  
 Specific target organ toxicity (single or repeated exposure)

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Lead	7439-92-1	0 - 0.05
Manganese sulfate monohydrate	7785-87-7	< 15
Mercury	7439-97-6	0 - 0.01
Zinc oxide	1314-13-2	< 25
Zinc sulfate monohydrate	7733-02-0	< 10

## Other federal regulations

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

Manganese sulfate monohydrate (CAS 7785-87-7)

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

Not regulated.

**Safe Drinking Water Act (SDWA)** Contains component(s) regulated under the Safe Drinking Water Act.

## US state regulations

### US. Massachusetts RTK - Substance List

Mica (CAS 12001-26-2)

Starch (CAS 9005-25-8)

Titanium dioxide (CAS 13463-67-7)

Zinc oxide (CAS 1314-13-2)

Zinc sulfate monohydrate (CAS 7733-02-0)

### US. New Jersey Worker and Community Right-to-Know Act

Manganese sulfate monohydrate (CAS 7785-87-7)

Mica (CAS 12001-26-2)

Titanium dioxide (CAS 13463-67-7)

Zinc oxide (CAS 1314-13-2)

Zinc sulfate monohydrate (CAS 7733-02-0)

### US. Pennsylvania Worker and Community Right-to-Know Law

Manganese sulfate monohydrate (CAS 7785-87-7)

Mica (CAS 12001-26-2)

Starch (CAS 9005-25-8)

Titanium dioxide (CAS 13463-67-7)

Zinc oxide (CAS 1314-13-2)

Zinc sulfate monohydrate (CAS 7733-02-0)

### US. Rhode Island RTK

Mica (CAS 12001-26-2)

Starch (CAS 9005-25-8)

Titanium dioxide (CAS 13463-67-7)

Zinc oxide (CAS 1314-13-2)

### California Proposition 65



**WARNING:** This product can expose you to Titanium dioxide, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### California Proposition 65 - CRT: Listed date/Carcinogenic substance

Titanium dioxide (CAS 13463-67-7)

Listed: September 2, 2011

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

Titanium dioxide (CAS 13463-67-7)

## International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
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)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
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** 24-October-2022

**Revision date** 21-December-2023

**Version #** 03

**Further information** Refer to:  
OSHA 3371-08 2009, Hazard Communication Guidance for Combustible Dusts  
NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids

### NFPA ratings



### Disclaimer

NOTICE: The information contained in this document is based on data considered to be accurate as of the preparation date of this Safety Data Sheet (SDS) and was prepared pursuant to applicable Government regulation(s). This SDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the above data and safety information, nor is any authorization given or implied to practice any patented invention without a license. Additional information may be needed to evaluate other uses of the product, including use of the product in combination with any materials or in any processes other than those specifically referenced. Information provided about any hazards that may be associated with the product is not meant to suggest that use of the product in a given application will necessarily result in any exposure or risk to workers or the general public. Purchasers and users of the product are responsible for determining that this product is suitable for the intended use and application. No responsibility can be assumed by vendor for any damage or injury resulting from failure to adhere to recommended uses, or from any hazards inherent to the product. Purchasers and users assume all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Purchasers and users of the product should explicitly advise their employees, agents, contractors and customers who will use the product of this SDS.