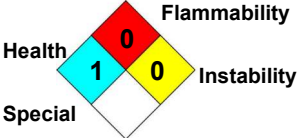





# Material Safety Data Sheet

NFPA	HMIS	WHMIS	TDG	DOT								
	<table border="1"> <tr><td>Health</td><td>1</td></tr> <tr><td>Flammability</td><td>0</td></tr> <tr><td>Physical hazards</td><td>0</td></tr> <tr><td>Suggested PPE</td><td>E</td></tr> </table>	Health	1	Flammability	0	Physical hazards	0	Suggested PPE	E			
Health	1											
Flammability	0											
Physical hazards	0											
Suggested PPE	E											

## 1 . Product and Company Identification

<b>Product name</b> 14173 Ultra Yield Manganese Oxy Sulfate 27%	
<b>Synonym</b> MOS 27	<b>MSDS prepared by the Environment, Health &amp; Safety Department on:</b> 7/10/2009.
<b>Material uses</b> Agricultural industry: Soil additive, micronutrient mix	<b>Version</b> 1
<b>MSDS Number</b> 14173	<b><u>In Case of Emergency</u></b>  <b>Transportation: 1-800-792-8311</b> <b>Medical: 1-888-670-8123</b>
<b>Manufacturer</b> Agrium Advanced Technologies (U.S.), Inc. 2405 West Vassar Road (M-15) Reese, MI 48757	For more information on Agrium AT or our products, please go to: <a href="http://www.agriumat.com">http://www.agriumat.com</a> or contact us at Toll-Free:800-461-6471

## 2 . Hazards Identification

<b>Physical state</b>	Solid.
<b>OSHA/HCS status</b>	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b><u>Potential acute health effects</u></b>	
<b>Inhalation</b>	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. Acute exposure to excessive manganese affects the respiratory and the central nervous system. Inflammation of the lungs may occur after acute toxic inhalation overexposure. "Manganese pneumonia" has been reported in mine workers with clinical signs of alveolar inflammation, marked dyspnea, shallow respiration, subsequent facial cyanosis and an increased susceptibility to infection. Acute renal failure, abdominal pain, and mild methemoglobinemia have been reported following the ingestion of manganese-containing products.
<b>Ingestion</b>	May cause irritation to the digestive tract if swallowed.
<b>Skin</b>	May cause skin irritation.
<b>Eyes</b>	May irritate the eyes upon contact.
<b><u>Potential chronic health effects</u></b>	

## 2 . Hazards Identification

<b>Chronic effects</b>	Contains material that may cause target organ damage, based on animal data. High levels of manganese in the blood may increase anemia by interfering with iron absorption. Iron deficiency may increase an individual's susceptibility to manganese. Studies suggest that populations at risk of adverse effects due to manganese exposure are infants and those with existing iron deficiency. Disorders are reversible if recognized early and overexposure is eliminated. Inhalation of large quantities of manganese containing dusts over many years may result in damage to the central nervous system, with symptoms of sleepiness, tremors and weakness in the legs, slurred speech, emotional disturbances, loss of balance, and in more advanced cases, an irreversible condition with symptoms similar to Parkinson's or Lou Gehrig's disease including a mask-like facial expression, spastic gait, tremors, slurred speech, fatigue, anorexia, apathy, and inability to concentrate in more advanced cases. The neurologic disorder that develops is known as "manganism". A syndrome may develop with symptoms of compulsive behavior, emotional volatility and hallucinations.
<b>Carcinogenicity</b>	No known significant effects or critical hazards.
<b>Mutagenicity</b>	No known significant effects or critical hazards.
<b>Teratogenicity</b>	No known significant effects or critical hazards.
<b>Developmental effects</b>	No known significant effects or critical hazards.
<b>Fertility effects</b>	No known significant effects or critical hazards.
<b>Target organs</b>	Contains material which may cause damage to the following organs: blood, kidneys, lungs, upper respiratory tract, skin, eyes, central nervous system (CNS).
<b><u>Over-exposure signs/symptoms</u></b>	
<b>Inhalation</b>	No specific data.
<b>Ingestion</b>	No specific data.
<b>Skin</b>	No specific data.
<b>Eyes</b>	No specific data.
<b>Medical conditions aggravated by over-exposure</b>	Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
See toxicological information (section 11)	

## 3 . Composition / Information on Ingredients

### United States

<u>Name</u>	<u>CAS number</u>	<u>%</u>
manganese sulfate, monohydrate	10034-96-5	30 - 60
manganese oxide	1344-43-0	15 - 40
diiiron trioxide	1309-37-1	10 - 30
urea	57-13-6	6.93 - 6.972

### Canada

<u>Name</u>	<u>CAS number</u>	<u>%</u>
manganese sulfate, monohydrate	10034-96-5	30 - 60
manganese oxide	1344-43-0	15 - 40
diiiron trioxide	1309-37-1	10 - 30
urea	57-13-6	6.93 - 6.972

### 3 . Composition / Information on Ingredients

<u>Mexico</u>				<u>Classification</u>				
<u>Name</u>	<u>CAS number</u>	<u>UN number</u>	<u>%</u>	<u>IDLH</u>	<u>H</u>	<u>E</u>	<u>R</u>	<u>Special</u>
manganese sulfate, monohydrate	10034-96-5	Not available.	30 - 60	500 mg/m <sup>3</sup>	0	0	0	
manganese oxide	1344-43-0	Not available.	15 - 40	500 mg/m <sup>3</sup>	0	0	0	
diiron trioxide	1309-37-1	Not available.	10 - 30	2500 mg/m <sup>3</sup>	0	0	0	

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

### 4 . First Aid Measures

<b>Eye contact</b>	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
<b>Skin contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.
<b>Inhalation</b>	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
<b>Ingestion</b>	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
<b>Notes to physician</b>	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

### 5 . Fire-fighting Measures

<b>Flammability of the product</b>	No specific fire or explosion hazard.
<b><u>Extinguishing media</u></b>	
<b>Suitable</b>	Use an extinguishing agent suitable for the surrounding fire.
<b>Not suitable</b>	None known.
<b>Special exposure hazards</b>	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.

## 5 . Fire-fighting Measures

<b>Hazardous thermal decomposition products</b>	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides
<b>Special protective equipment for fire-fighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6 . Accidental Release Measures

<b>Personal precautions</b>	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
<b>Environmental precautions</b>	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
<b><u>Methods for cleaning up</u></b>	
<b>Small spill</b>	Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
<b>Large spill</b>	Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## 7 . Handling and Storage

<b>Handling</b>	Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
<b>Storage</b>	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## 8 . Exposure Controls / Personal Protection

### United States

Ingredient	Exposure limits
manganese sulfate, monohydrate	<p><b>OSHA PEL 1989 (United States, 3/1989).</b>                      CEIL: 5 mg/m<sup>3</sup>, (as Mn)</p> <p><b>OSHA PEL (United States, 11/2006).</b>                      CEIL: 5 mg/m<sup>3</sup>, (as Mn)</p> <p><b>ACGIH TLV (United States, 1/2008).</b>                      TWA: 0.2 mg/m<sup>3</sup>, (as Mn) 8 hour(s).</p> <p><b>NIOSH REL (United States, 6/2008).</b>                      STEL: 3 mg/m<sup>3</sup>, (as Mn) 15 minute(s). Form: Fume                      TWA: 1 mg/m<sup>3</sup>, (as Mn) 10 hour(s). Form: Fume</p>
manganese oxide	<p><b>OSHA PEL 1989 (United States, 3/1989).</b>                      CEIL: 5 mg/m<sup>3</sup>, (as Mn)</p> <p><b>OSHA PEL (United States, 11/2006).</b>                      CEIL: 5 mg/m<sup>3</sup>, (as Mn)</p> <p><b>ACGIH TLV (United States, 1/2008).</b>                      TWA: 0.2 mg/m<sup>3</sup>, (as Mn) 8 hour(s).</p> <p><b>NIOSH REL (United States, 6/2008).</b>                      TWA: 1 mg/m<sup>3</sup>, (as Mn) 10 hour(s). Form: Fume                      STEL: 3 mg/m<sup>3</sup>, (as Mn) 15 minute(s). Form: Fume</p>
diiron trioxide	<p><b>ACGIH TLV (United States, 1/2008).</b>                      TWA: 5 mg/m<sup>3</sup> 8 hour(s). Form: Respirable fraction</p> <p><b>NIOSH REL (United States, 6/2008).</b>                      TWA: 5 mg/m<sup>3</sup>, (as Fe) 10 hour(s). Form: Dust and fumes</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>                      TWA: 5 mg/m<sup>3</sup> 8 hour(s). Form: Respirable fraction                      TWA: 10 mg/m<sup>3</sup> 8 hour(s). Form: Total dust                      STEL: 10 ppm, (as Fe) 15 minute(s). Form: Total particulates</p> <p><b>OSHA PEL (United States, 11/2006).</b>                      TWA: 10 mg/m<sup>3</sup> 8 hour(s).</p>
urea	<p><b>AIHA WEEL (United States, 1/2008).</b>                      TWA: 10 mg/m<sup>3</sup> 8 hour(s).</p>

### Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			Notations
Ingredient	List name	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	
manganese sulfate, monohydrate, as Mn	US ACGIH 1/2008	-	-	0.2	-	-	-	-	-	-	
	AB 6/2008	-	-	1	-	-	-	-	-	-	
manganese sulfate, monohydrate, as manganese sulfate, monohydrate, as Mn	BC 6/2008	-	-	0.2	-	-	-	-	-	-	
	ON 6/2008	-	-	0.2	-	-	-	-	-	-	
	QC 6/2008	-	-	5	-	-	-	-	-	-	[a]
	US ACGIH 1/2008	-	-	0.2	-	-	-	-	-	-	
manganese oxide, as manganese	AB 6/2008	-	-	1	-	-	-	-	-	-	
	BC 6/2008	-	-	0.2	-	-	-	-	-	-	
manganese oxide, as Mn	ON 6/2008	-	-	0.2	-	-	-	-	-	-	
	QC 6/2008	-	-	5	-	-	-	-	-	-	[a]
diiron trioxide	US ACGIH 1/2008	-	-	5	-	-	-	-	-	-	[b]
	AB 6/2008	-	-	5	-	-	-	-	-	-	[c]
diiron trioxide, as Fe	-	-	-	10	-	-	-	-	-	-	
	BC 6/2008	-	-	5	-	-	-	-	-	-	[d]
	-	-	-	5	-	10	-	-	-	-	[e]
	-	-	-	3	-	-	-	-	-	-	[f]
diiron trioxide	-	-	-	10	-	-	-	-	-	-	[g]
	ON 6/2008	-	-	5	-	-	-	-	-	-	[h]
diiron trioxide, as Fe	-	-	-	10	-	-	-	-	-	-	[i]
	QC 6/2008	-	-	5	-	-	-	-	-	-	[j]

## 8 . Exposure Controls / Personal Protection

urea | US AIHA 1/2008 | - | - | 10 | - | - | - | - | - | - | - |

**Form:** [a]Total dust. [b]Respirable fraction [c]Dust and fumes [d]Dust [e]Fume [f]Respirable dust [g]Total dust [h]The notation "respirable" following the name of an agent in this Schedule means that size fraction of the airborne particulate deposited in the gas-exchange region of the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the American Conference of Governmental Industrial Hygienists (ACGIH) particle size-selective criteria; and (b) has the cut point of 4 microns at 50 per cent collective efficiency. [i]total dust [j]dust and fume

### Mexico

Ingredient	Exposure limits
manganese sulfate, monohydrate	<b>ACGIH TLV (United States, 1/2008).</b> TWA: 0.2 mg/m <sup>3</sup> , (as Mn) 8 hour(s).
manganese oxide	<b>NOM-010-STPS (Mexico, 9/2000).</b> LMPE-PPT: 0.2 mg/m <sup>3</sup> , (as Mn) 8 hour(s).
diiron trioxide	<b>NOM-010-STPS (Mexico, 9/2000).</b> LMPE-CT: 10 mg/m <sup>3</sup> , (as Fe) 15 minute(s). LMPE-PPT: 5 mg/m <sup>3</sup> , (as Fe) 8 hour(s).

### Consult local authorities for acceptable exposure limits.

#### Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

#### Engineering measures

If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

#### Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protection

#### Respiratory

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

#### Hands

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

#### Eyes

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

#### Skin

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

### Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9 . Physical and Chemical Properties

Physical state                      Solid.

## 10 . Stability and Reactivity

Chemical stability                      The product is stable.

Possibility of hazardous reactions                      Under normal conditions of storage and use, hazardous reactions will not occur.

Hazardous polymerization                      Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid                      No specific data.

Materials to avoid                      No specific data.

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

## 11 . Toxicological Information

### United States

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
manganese sulfate, monohydrate	TDLo Intravenous	Rat	4.5 mg/kg	-
urea	LD50 Intratracheal	Rat	567 mg/kg	-
	LD50 Oral	Rat	8471 mg/kg	-

#### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
diiron trioxide	A4	3	-	-	-	-

### Canada

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
manganese sulfate, monohydrate	TDLo Intravenous	Rat	4.5 mg/kg	-
urea	LD50 Intratracheal	Rat	567 mg/kg	-
	LD50 Oral	Rat	8471 mg/kg	-

## 11 . Toxicological Information

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
diiron trioxide	A4	3	-	-	-	-

### Mexico

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
manganese sulfate, monohydrate	TDL <sub>0</sub> Intravenous	Rat	4.5 mg/kg	-

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
diiron trioxide	A4	3	-	-	-	-

## 12 . Ecological Information

**Environmental effects** No known significant effects or critical hazards.

### United States

#### Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
urea	-	Acute LC50 66800 to 70500 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 22500 ug/L	Fish - Mozambique tilapia - Tilapia mossambica	96 hours

### Canada

#### Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
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## 12 . Ecological Information

urea	-	Acute LC50 66800 to 70500 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 22500 ug/L	Fish - Mozambique tilapia - Tilapia mossambica	96 hours
<hr/>				
<u>Mexico</u>				
<hr/>				

## 13 . Disposal Considerations

<b>Waste disposal</b>	<p>The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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 local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.</p> <p><b>Disposal should be in accordance with applicable regional, national and local laws and regulations.</b></p> <p><b>Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.</b></p>
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## 14 . Transport Information

Regulatory information	UN number	Shipping name	Classes	PG*	Label	Additional information
<b>DOT Classification</b>	Not available.	Not available.	Not available.	-		-
<b>TDG Classification</b>	Not available.	Not available.	Not available.	-		-
<b>Mexico Classification</b>	Not available.	Not available.	Not available.	-		-

PG\* : Packing group

## 15 . Regulatory Information

<u>United States</u>	
<b>HCS Classification</b>	Target organ effects
<b>U.S. Federal regulations</b>	TSCA 4(a) final test rules: biuret; Urea, reaction products with formaldehyde <b>United States inventory (TSCA 8b):</b> All components are listed or exempted. TSCA 12(b) one-time export: biuret; Urea, reaction products with formaldehyde

## 15 . Regulatory Information

**SARA 302/304/311/312 extremely hazardous substances:** No products were found.  
**SARA 302/304 emergency planning and notification:** No products were found.  
**SARA 302/304/311/312 hazardous chemicals:** diiron trioxide; iron(ii) sulfate heptahydrate; urea  
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:**  
 diiron trioxide: Delayed (chronic) health hazard; iron(ii) sulfate heptahydrate: Delayed (chronic) health hazard; urea: Immediate (acute) health hazard, Delayed (chronic) health hazard

**Clean Water Act (CWA) 307:** No products were found.

**Clean Water Act (CWA) 311:** iron(ii) sulfate heptahydrate

**Clean Air Act (CAA) 112 accidental release prevention:** No products were found.

**Clean Air Act (CAA) 112 regulated flammable substances:** No products were found.

**Clean Air Act (CAA) 112 regulated toxic substances:** No products were found.

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)** Listed

**Clean Air Act Section 602 Class I Substances** Listed

**Clean Air Act Section 602 Class II Substances** Not listed

**DEA List I Chemicals (Precursor Chemicals)** Not listed

**DEA List II Chemicals (Essential Chemicals)** Not listed

### SARA 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
<b>Form R - Reporting requirements</b>	manganese oxide	1344-43-0	15 - 40
<b>Supplier notification</b>	manganese oxide	1344-43-0	15 - 40

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

### **State regulations**

**Connecticut Carcinogen Reporting:** None of the components are listed.  
**Connecticut Hazardous Material Survey:** None of the components are listed.  
**Florida substances:** None of the components are listed.  
**Illinois Chemical Safety Act:** None of the components are listed.  
**Illinois Toxic Substances Disclosure to Employee Act:** None of the components are listed.  
**Louisiana Reporting:** None of the components are listed.  
**Louisiana Spill:** None of the components are listed.  
**Massachusetts Spill:** None of the components are listed.  
**Massachusetts Substances:** The following components are listed: IRON OXIDE DUST; FERROUS SULFATE (HEPAHYDRATE)  
**Michigan Critical Material:** None of the components are listed.  
**Minnesota Hazardous Substances:** None of the components are listed.  
**New Jersey Hazardous Substances:** The following components are listed: MANGANESE compounds, n.o.s.; MANGANESE compounds, n.o.s.; IRON OXIDE

## 15 . Regulatory Information

FUME

**New Jersey Spill:** None of the components are listed.

**New Jersey Toxic Catastrophe Prevention Act:** None of the components are listed.

**New York Acutely Hazardous Substances:** The following components are listed:

Ferrous sulfate

**New York Toxic Chemical Release Reporting:** None of the components are listed.

**Pennsylvania RTK Hazardous Substances:** The following components are listed:

MANGANESE COMPOUNDS; MANGANESE COMPOUNDS; IRON OXIDE (FE2O3);

FERROUS SULFATE

**Rhode Island Hazardous Substances:** None of the components are listed.

**United States inventory  
(TSCA 8b)**

All components are listed or exempted.

**Canada**

**WHMIS (Canada)**

Class D-2B: Material causing other toxic effects (Toxic).

**Canadian lists**

**CEPA Toxic substances:** None of the components are listed.

**Canadian ARET:** None of the components are listed.

**Canadian NPRI:** The following components are listed: Manganese; Manganese

**Alberta Designated Substances:** None of the components are listed.

**Ontario Designated Substances:** None of the components are listed.

**Quebec Designated Substances:** None of the components are listed.

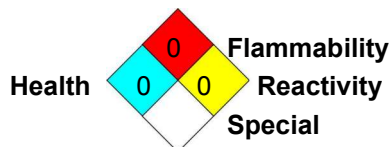
**Canada inventory**

At least one component is not listed in DSL but all such components are listed in NDSL.

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**

**Mexico**

**Classification**



**EU regulations**

**Hazard symbol or symbols**



**Risk phrases**

R48/20/22- Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases**

S2- Keep out of the reach of children.

S29- Do not empty into drains.

S46- If swallowed, seek medical advice immediately and show this container or label.

S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

**International regulations**

## 15 . Regulatory Information

<b>International lists</b>	<p><b>Australia inventory (AICS):</b> All components are listed or exempted.</p> <p><b>China inventory (IECSC):</b> Not determined.</p> <p><b>Japan inventory (ENCS):</b> Not determined.</p> <p><b>Japan inventory (ISHL):</b> Not determined.</p> <p><b>Korea inventory (KECI):</b> All components are listed or exempted.</p> <p><b>New Zealand Inventory of Chemicals (NZIoC):</b> All components are listed or exempted.</p> <p><b>Philippines inventory (PICCS):</b> Not determined.</p>
<b>Chemical Weapons Convention List Schedule I Chemicals</b>	Not listed
<b>Chemical Weapons Convention List Schedule II Chemicals</b>	Not listed
<b>Chemical Weapons Convention List Schedule III Chemicals</b>	Not listed

## 16 . Other information

**Label requirements** CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

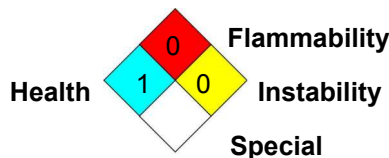
**Hazardous Material Information System (U.S.A.)**

<b>Health</b>	1
<b>Flammability</b>	0
<b>Physical hazards</b>	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material. Suggested protective clothing might not be adequate. Consult a specialist before handling this product.

**National Fire Protection Association (U.S.A.)**



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**Version** 1

☑ Indicates information that has changed from previously issued version.

## 16 . Other information

**Notice to Reader:**

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