



# Safety Data Sheet

## Radiara™

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03  
Canadian Workplace Hazardous Material Information System (WHMIS) 2015  
Mexico NOM-018-STPS-2000; NOM-018-STPS-2015  
GHS (Globally Harmonized System)

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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product name Radiara™  
Pure substance/mixture Mixture

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use Dispersing agent. Carbonate scale removal.  
Uses advised against None known

#### 1.3. Details of the supplier of the safety data sheet

Manufacturer Miller Chemical and Fertilizer, LLC  
120 Radio Rd  
Hanover, PA 17331  
Tel.: 717-632-8921  
Fax.: 717-646-1104

Internet <http://www.millerchemical.com>

E-mail [info@millerchemical.com](mailto:info@millerchemical.com)

1.4. Emergency telephone number CHEMTREC: +1 800 424 9300 or International 1+703-527-3887

### SECTION 2: Hazards identification

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

OSHA Regulatory Status This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

#### 2.2. Label elements

Symbols/Pictograms None

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Signal Word None

Hazard Statements None

## Precautionary Statements

Additional information Not applicable

Hazards not otherwise  
classified (HNOC) None known**SECTION 3: Composition/information on ingredients**

Pure substance/mixture Mixture

Chemical Name	CAS NUMBER:	Weight-%
Non-Hazardous	NONE	100

**SECTION 4: First aid measures**

## 4.1. Description of first aid measures

**General Advice** When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.**Eye Contact** Flush with water (preferably using eye wash equipment) until irritation subsides. Seek medical advice if symptoms persist.**Skin Contact** Wash the skin with water. Remove contaminated clothing.**Ingestion** Wash out mouth thoroughly and drink 1-2 glasses of water in small sips.**Inhalation** Remove to fresh air. Wash out mouth with water and blow nose thoroughly.4.2. Most important symptoms  
and effects, both acute and  
delayed None known.4.3. Indication of any immediate  
medical attention and special  
treatment needed None known.**SECTION 5: Firefighting measures**

## 5.1. Extinguishing media

**Suitable Extinguishing  
Media**

Water spray (fog).

**Unsuitable Extinguishing Media**

None known.

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**5.2. Special hazards arising from the substance or mixture**

None known.

**5.3. Advice for firefighters****Special protective equipment for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing.

**Fire-fighting measures**

Water mist may be used to cool closed containers. No special fire protection measures are necessary. Standard procedure for chemical fires.

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

Keep unauthorized personnel away. Avoid dust formation. Ensure adequate ventilation. Use personal protection recommended in Section 8. In case of fire: Stop leak if safe to do so.

**For non-emergency personnel**

Keep unauthorized personnel away.

**For emergency responders**

Keep unauthorized personnel away. Use personal protection recommended in Section 8.

**6.2. Environmental precautions**

Avoid unnecessary release to the environment. Prevent spillage from entering drains and/or surface water.

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

Neutralize with alkaline material (Lime, crushed limestone, sodium bicarbonate or soda ash). Flush area with water

**6.4. Reference to other sections**

See Section 8 for exposure controls and personal protection. See Section 13 for additional waste treatment information.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

No special requirements. Avoid contact with eyes and skin.

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

Keep container tightly closed and dry. Store away from incompatible materials. Keep out of reach of children.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational exposure limits** No information available**Biological Limit Values**

No information available

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**8.2. Exposure controls****Engineering Measures**

Provide a good standard of controlled ventilation (5 to 10 air changes per hour).  
Use exhaust ventilation to keep airborne concentrations below exposure limits. In case of insufficient ventilation, wear suitable respiratory equipment.

**Personal protective equipment****Eye/Face Protection**

Wear safety glasses with side shields (or goggles).

**Skin and Body Protection**

Wear suitable protective clothing.

**Hand Protection**

For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.

**Respiratory Protection**

In case of inadequate ventilation wear respiratory protection. In case of risk of formation of spray mist, wear respiratory protective equipment with P2 filter

**Environmental Exposure Controls**

Dispose of in accordance with local regulations.

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

Physical State	Liquid.
Color	Brown
Odor	Mild
Odor Threshold	Not applicable
pH	2.0 - 3.0 (solution for use)
Melting point / Freezing point	Not applicable
Boiling Point / Boiling Range	104 °C
Freezing Point	-2 °C
Flash Point	Not applicable
Evaporation Rate	Not determined
Flammability (solid, gas)	Not determined
Vapor Pressure	Not determined
Vapor Density	Not determined
Density	No data available
Water Solubility	Water Soluble
Partition coefficient	No information available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	< 600 cSt.
Kinematic viscosity	No data available
Oxidizing Properties	Not applicable
Particle Size	No information available
Specific Gravity	1.25
Percent Volatile	Not determined
VOC Content (%)	Not applicable

**9.2. Other information****9.2.1. Information with regard to physical hazard classes**

No data available

**9.2.2. Other safety characteristics**

Not applicable

**SECTION 10: Stability and reactivity**

10.1. Reactivity	Not reactive
10.2. Chemical stability	Stable under normal conditions
10.3. Possibility of hazardous reactions	May react with metals (iron, zinc, aluminum) to form highly flammable hydrogen gas which can form explosive mixtures with air
10.4. Conditions to avoid	None known
10.5. Incompatible materials	Strong oxidizers Metals (hydrogen formation)
10.6. Hazardous decomposition	On contact with certain metals, hydrogen is formed which, together with air, may

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products form an explosive mixture

**SECTION 11: Toxicological information****General Information** Users are advised to consider national Occupational Exposure Limits or other equivalent values.**Information on Likely Routes of Exposure**

<b>Inhalation</b>	Avoid inhalation of the product
<b>Skin</b>	No known hazard in contact with skin
<b>Eyes</b>	Minimally irritating.
<b>Ingestion</b>	Ingestion is not a likely route of exposure

**11.1. Information on toxicological effects**

<b>Acute Toxicity</b>	LD50 Oral (rat) > 5000 mg/kg Based on available data, the classification criteria are not met.
<b>Respiratory Sensitization</b>	No data available
<b>Serious eye damage/eye irritation</b>	Minimally irritating. Based on available data, the classification criteria are not met.
<b>Skin Corrosion/Irritation</b>	No data available
<b>Skin Sensitization</b>	No data available
<b>Mutagenicity</b>	No data available
<b>Germ cell mutagenicity</b>	No data available
<b>Reproductive Toxicity</b>	No data available
<b>Carcinogenicity</b>	No data available
<b>Specific target organ toxicity - Single exposure</b>	No data available
<b>Specific target organ toxicity - Repeated exposure</b>	No data available

**11.2. Information on other hazards**

<b>11.2.1. Endocrine disrupting properties</b>	No endocrine disruptors present in concentrations $\geq 0.1\%$
<b>11.2.2. Other information</b>	Not applicable

**SECTION 12: Ecological information****12.1. Toxicity** Not considered to be harmful to aquatic life

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<b>12.2. Persistence and degradability</b>	Partially biodegradable
<b>12.3. Bioaccumulative potential</b>	No bioaccumulation expected
<b>12.4. Mobility in soil</b>	Soluble in water Completely miscible
<b>12.5. Results of PBT and vPvB assessment</b>	No data available
<b>12.6. Endocrine disrupting properties</b>	No endocrine disruptors present in concentrations $\geq 0.1\%$
<b>12.7. Other Adverse Effects</b>	None known

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<b>Disposal Methods</b>	If uncontaminated, recover and reuse as product. If contaminated with other materials, the nature and extend of contamination may require use of specialized disposal methods. Disposal should be in accordance with applicable regional, national and local laws and regulations.
<b>Contaminated Packaging</b>	Product residue may remain in empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## SECTION 14: Transport information

### Mode of Transportation (Road, Water, Air, Rail)

DOT	Not regulated
ADR	Not regulated
RID	Not regulated
ADN	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated
ICAO	Not regulated

<b>14.1. UN number or ID number</b>	None
<b>14.2. UN proper shipping name</b>	None
<b>14.3. Transport hazard class(es)</b>	None
<b>14.4. Packing group</b>	None
<b>14.5. Environmental hazards</b>	No
<b>14.6. Special precautions for user</b>	Not applicable

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**14.7. Maritime transport in bulk according to IMO instruments**

Not applicable

**SECTION 15: Regulatory information****Global Inventories****Pure substance/mixture**

Mixture

Chemical Name	CAS Number	Canada (DSL)	Mexico	TSCA: United States
Non-Hazardous	-	Y	N	A

Y: Complies ; A: Active ; - / N: Exempt / Not Listed

**EPA****CWA (Clean Water Act)**

Not regulated

**CAA (Clean Air Act)**

Not regulated

**U.S. State Right-to-Know Regulations**

Chemical Name	CAS Number	California Proposition 65	Massachusetts	Minnesota	New Jersey	Pennsylvania
Non-Hazardous	-	N	N	N	N	N

Y: Listed ; N: Not Listed

**CANADA****WHMIS**

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

**SECTION 16: Other information****Prepared by**

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**Reason for Version**

New Format. OSHA (Occupational Safety and Health Administration of the US Department of Labor).

**Abbreviations and acronyms**

OSHA (Occupational Safety and Health Administration of the US Department of Labor)  
WHMIS (Workplace Hazardous Materials Information System)  
GHS (Globally Harmonized System)  
IARC (International Agency for Research on Cancer)  
PPE (Personal Protection Equipment)  
TWA (Time-Weighted Average)  
TLV® (Threshold Limit Value)  
STEL (Short Term Exposure Limit)  
RQ (Reportable Quantity) (RQ/% in mixture)  
DOT (Department of Transportation)



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TDG (Transport of Dangerous Goods) Canada  
IATA (International Air Transport Association)  
IMDG (International Maritime Dangerous Goods)  
ICAO (International Civil Aviation Organization)

**Disclaimer**

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**End of Safety Data Sheet**