

# Radiate Plus

## Safety Data Sheet



### SECTION 1: Identification

#### 1.1. Product identifier

Product name : Radiate Plus  
SDS # : 911  
Product type : Liquid

#### 1.2. Recommended use and restrictions on use

Recommended uses and restrictions : Liquid fertilizer with agricultural plant growth regulators

#### 1.3. Supplier

Loveland Products Canada, Inc.  
789 Donnybrook Drive  
Dorchester, Ontario  
N0L 1G5  
Telephone: 1-800-328-4678 (Customer Service)  
Email: [retail-SDS2@nutrien.com](mailto:retail-SDS2@nutrien.com)

#### 1.4. Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC (24 hrs) 1-800-424-9300 or +1-703-527-3887

### SECTION 2: Hazard identification

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

##### Classification (GHS CA)

Not classified

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

##### GHS CA labeling

No labeling applicable

#### 2.3. Other hazards

No additional information available

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

No additional information available

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	%
Borax (B <sub>4</sub> Na <sub>2</sub> O <sub>7</sub> ·10H <sub>2</sub> O)	CAS-No.: 1303-96-4	0.01 – 0.1
3-Indolebutyric acid	CAS-No.: 133-32-4	0.01 – 0.1
1H-Purin-6-amine, N-(2-furanylmethyl)-	CAS-No.: 525-79-1	0.01 – 0.1

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. 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.
First-aid measures after skin contact	: Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.
First-aid measures after eye contact	: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
First-aid measures after ingestion	: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

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

Symptoms/effects after skin contact	: No known significant effects or critical hazards
Symptoms/effects after eye contact	: No known significant effects or critical hazards
Symptoms/effects after inhalation	: No known significant effects or critical hazards
Symptoms/effects after ingestion	: No known significant effects or critical hazards

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

Other medical advice or treatment	: 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.
-----------------------------------	---

## SECTION 5: Fire-fighting measures

### 5.1. Suitable extinguishing media

Suitable extinguishing media	: Use suitable extinguishing media for surrounding fire.
------------------------------	--

### 5.2. Unsuitable extinguishing media

Unsuitable extinguishing media	: Do not use a heavy water stream.
--------------------------------	------------------------------------

### 5.3. Specific hazards arising from the hazardous product

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
--	--------------------------------

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

Firefighting instructions	: Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## SECTION 6: Accidental release measures

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

For non-emergency personnel	: No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
-----------------------------	--

# Radiate Plus

## Safety Data Sheet



For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

### 6.2. Methods and materials for containment and cleaning up

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

### 6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Put on appropriate personal protective equipment (see Section 8).  
Hygiene measures : 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. See also Section 8 for additional information on hygiene measures.

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

Storage conditions : Do not store below the following temperature: 10°C (50°F). 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.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

<b>Borax (B<sub>4</sub>Na<sub>2</sub>O<sub>7</sub>·10H<sub>2</sub>O) (1303-96-4)</b>	
<b>Canada (Alberta) - Occupational Exposure Limits</b>	
OEL TWA	1 mg/m <sup>3</sup>
OEL STEL	3 ppm
<b>Canada (Quebec) - Occupational Exposure Limits</b>	
VEMP (OEL TWAEV)	5 mg/m <sup>3</sup>
<b>Canada (British Columbia) - Occupational Exposure Limits</b>	
OEL TWA	2 mg/m <sup>3</sup> (inhalable)
OEL STEL	6 mg/m <sup>3</sup> (inhalable)
<b>Canada (Manitoba) - Occupational Exposure Limits</b>	
OEL TWA	2 mg/m <sup>3</sup> (inhalable particulate matter)

<b>Borax (B<sub>4</sub>Na<sub>2</sub>O<sub>7</sub>·10H<sub>2</sub>O) (1303-96-4)</b>	
OEL STEL	6 mg/m <sup>3</sup> (inhalable particulate matter)
<b>Canada (New Brunswick) - Occupational Exposure Limits</b>	
OEL TWA	5 mg/m <sup>3</sup>
<b>Canada (Newfoundland and Labrador) - Occupational Exposure Limits</b>	
OEL TWA	2 mg/m <sup>3</sup> (inhalable particulate matter)
OEL STEL	6 mg/m <sup>3</sup> (inhalable particulate matter)
<b>Canada (Nova Scotia) - Occupational Exposure Limits</b>	
OEL TWA	2 mg/m <sup>3</sup> (inhalable particulate matter)
OEL STEL	6 mg/m <sup>3</sup> (inhalable particulate matter)
<b>Canada (Nunavut) - Occupational Exposure Limits</b>	
OEL TWA	2 mg/m <sup>3</sup> (inhalable fraction)
OEL STEL	6 mg/m <sup>3</sup> (inhalable fraction)
<b>Canada (Northwest Territories) - Occupational Exposure Limits</b>	
OEL TWA	2 mg/m <sup>3</sup> (inhalable fraction)
OEL STEL	6 mg/m <sup>3</sup> (inhalable fraction)
<b>Canada (Ontario) - Occupational Exposure Limits</b>	
OEL TWAEV	2 mg/m <sup>3</sup> (inhalable)
	6 mg/m <sup>3</sup> (inhalable)
<b>Canada (Prince Edward Island) - Occupational Exposure Limits</b>	
OEL TWA	2 mg/m <sup>3</sup> (inhalable particulate matter)
OEL STEL	6 mg/m <sup>3</sup> (inhalable particulate matter)
<b>Canada (Saskatchewan) - Occupational Exposure Limits</b>	
OEL TWA	2 mg/m <sup>3</sup> (inhalable fraction)
OEL STEL	6 mg/m <sup>3</sup> (inhalable fraction)
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	2 mg/m <sup>3</sup> (inhalable particulate matter)
ACGIH OEL STEL	6 mg/m <sup>3</sup> (inhalable particulate matter)
ACGIH chemical category	Not Classifiable as a Human Carcinogen

### 8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

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

#### Personal protective equipment:

Avoid all unnecessary exposure.

# Radiate Plus

## Safety Data Sheet



### Hand protection:

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.

### Eye protection:

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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

### Skin and body protection:

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.

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

### Respiratory protection:

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

### 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.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Color	: Green
Odor	: None
Odor threshold	: No data available
pH	: 6 – 6.5
Relative evaporation rate (butyl acetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: 1.32
Solubility	: Soluble in water
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Explosion limits	: No data available

### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	: Not established.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: None.
Incompatible materials	: None known.
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)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

#### Borax (B<sub>4</sub>Na<sub>2</sub>O<sub>7</sub>·10H<sub>2</sub>O) (1303-96-4)

LD50 oral rat	3493 mg/kg
LD50 dermal rabbit	> 10000 mg/kg
LC50 Inhalation - Rat	> 2 mg/m <sup>3</sup> (Exposure time: 4 h)

#### 1H-Purin-6-amine, N-(2-furanylmethyl)- (525-79-1)

LD50 oral rat	> 5 g/kg
LD50 dermal rabbit	> 2 g/kg

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general	: Not classified
-------------------	------------------

#### 12.2. Persistence and degradability

##### Radiate Plus

Persistence and degradability	Not established.
-------------------------------	------------------

##### Borax (B<sub>4</sub>Na<sub>2</sub>O<sub>7</sub>·10H<sub>2</sub>O) (1303-96-4)

Persistence and degradability	Rapidly degradable
-------------------------------	--------------------

##### 3-Indolebutyric acid (133-32-4)

Persistence and degradability	Rapidly degradable
-------------------------------	--------------------

# Radiate Plus

## Safety Data Sheet



### 1H-Purin-6-amine, N-(2-furanylmethyl)- (525-79-1)

Persistence and degradability	Rapidly degradable
-------------------------------	--------------------

### 12.3. Bioaccumulative potential

#### Radiate Plus

Bioaccumulative potential	Not established.
---------------------------	------------------

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Product/Packaging disposal recommendations : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

In accordance with TDG / DOT / IMDG / IATA

### 14.1. UN number

UN-No. (TDG)	: Not applicable
UN-No.(DOT)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable

### 14.2. UN proper shipping name

Proper Shipping Name (TDG)	: Not applicable
Proper Shipping Name (DOT)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable

### 14.3. Transport hazard class(es)

**TDG**  
Transport hazard class(es) (TDG) : Not applicable

**DOT**  
Transport hazard class(es) (DOT) : Not applicable

**IMDG**  
Transport hazard class(es) (IMDG) : Not applicable

**IATA**  
Transport hazard class(es) (IATA) : Not applicable

#### 14.4. Packing group

Packing group (TDG) : Not applicable  
Packing group (DOT) : Not applicable  
Packing group (IMDG) : Not applicable  
Packing group (IATA) : Not applicable

#### 14.5. Environmental hazards

Other information : No supplementary information available.

#### 14.6. Special precautions for user

**TDG**  
Not applicable

**DOT**  
Not applicable

**IMDG**  
Not applicable

**IATA**  
Not applicable

#### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

### SECTION 15: Regulatory information

#### 15.1. National regulations

##### Borax (B<sub>4</sub>Na<sub>2</sub>O<sub>7</sub>·10H<sub>2</sub>O) (1303-96-4)

Listed on the Canadian DSL (Domestic Substances List)

##### 3-Indolebutyric acid (133-32-4)

Listed on the Canadian DSL (Domestic Substances List)

##### 1H-Purin-6-amine, N-(2-furanylmethyl)- (525-79-1)

Listed on the Canadian DSL (Domestic Substances List)

### SECTION 16: Other information

Date of Issue: 2/27/2025  
Date of Previous Issue: -  
Version: 1

# Radiate Plus

## Safety Data Sheet



---

### Notice to reader

Supply chain partners must ensure they pass this SDS, and all other relevant safety information to their customers

### DISCLAIMER AND LIMITATION OF LIABILITY

The information and recommendations contained in this Safety Data Sheet ("SDS") relate only to the specific material referred to herein (the "Material") and do not relate to the use of such Material in combination with any other material or process. The information and recommendations contained herein are believed to be current and correct as of the date of this SDS. **HOWEVER, THE INFORMATION AND RECOMMENDATIONS ARE PRESENTED WITHOUT WARRANTY, REPRESENTATION OR LICENSE OF ANY KIND, EXPRESS OR IMPLIED, WITH RESPECT TO THEIR ACCURACY, CORRECTNESS OR COMPLETENESS, AND THE SELLER, SUPPLIER AND MANUFACTURER OF THE MATERIAL AND THEIR RESPECTIVE AFFILIATES (COLLECTIVELY, THE "SUPPLIER") DISCLAIM ALL LIABILITY FOR RELIANCE ON SUCH INFORMATION AND RECOMMENDATIONS.** This SDS is not a guarantee of safety. A buyer or user of the Material (a "Recipient") is responsible for ensuring that it has all current information necessary to safely use the Material for its specific purpose.

**FURTHERMORE, THE RECIPIENT ASSUMES ALL RISK IN CONNECTION WITH THE USE OF THE MATERIAL. THE RECIPIENT ASSUMES ALL RESPONSIBILITY FOR ENSURING THE MATERIAL IS USED IN A SAFE MANNER IN COMPLIANCE WITH APPLICABLE ENVIRONMENTAL, HEALTH, SAFETY AND SECURITY LAWS, POLICIES AND GUIDELINES. THE SUPPLIER DOES NOT WARRANT THE MERCHANTABILITY OF THE MATERIAL OR THE FITNESS OF THE MATERIAL FOR ANY PARTICULAR USE AND ASSUMES NO RESPONSIBILITY FOR INJURY OR DAMAGE CAUSED DIRECTLY OR INDIRECTLY BY OR RELATED TO THE USE OF THE MATERIAL.**