



SAFETY DATA SHEET

SDS NUMBER: 2015035A-19-LPI

SDS REVISIONS: SEC. 1

DATE OF ISSUE: 02/04/19

RADIATE®
SUPERSEDES: 12/08/16

**FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL DAY OR NIGHT 1-800-561-8273 or
CHEMTREC – DAY OR NIGHT 1 800-424-9300**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 PRODUCT IDENTIFIER:

TRADE NAME: RADIATE®

1.2 RECOMMENDED USE: REDUCES TRANSPLANT SHOCK AND PROMOTES PLANT GROWTH

1.3 SUPPLIER DETAILS:

LOVELAND PRODUCTS CANADA, INC.
789 DONNYBROOK DRIVE • DORCHESTER, ONTARIO N0L 1G5

1.4 24 Hour Emergency Phone: (Chemtrec): 1-800-424-9300 (Toll Free) - **Additional Emergency Phone** 1-800-561-8273

Loveland Technical Service: 1-800-328-4678

U.S. Coast Guard National Response Center: 1-800-424-8802

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Combustible Liquid	Category 4	H227
Eye Damage/Irritation	Category 2B	H320

2.2 Label elements

None required.

Signal word: WARNING
Hazard Statement: H227 – Combustible Liquid
H320 – Causes eye irritation.

Precautionary Statement: P210 – Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
(Prevention): P280 – Wear protective gloves/eye protection/face protection.
P264 – Wash hands and face thoroughly after handling.

Precautionary Statement: P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
(Response): P337+P313 – If eye irritation persists: Get medical advice/attention.
P370+P378 – In case of fire: Use: Dry chemical, carbon dioxide (CO₂), alcohol foam, foam, water spray or fog to extinguish.

Precautionary Statement: (Storage): P403+P235 – Store in a well-ventilated place. Keep cool.

Precautionary Statement: (Disposal): P501 – Dispose of contents/container in accordance with all local and provincial requirements.

2.3 Other hazards

None known



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3. COMPOSITION, INFORMATION ON INGREDIENTS

3.1 Substances

3.2 Mixtures

Chemical Name:	CAS No.	Concentration
3-Indolebutyric Acid (IBA)	133-32-4	[%] 0.85
Cytokinin, as Kinetin	525-79-1	0.15
Other ingredients	n/a	Balance

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

General Advice: Get medical attention if symptoms occur.

Eye contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms: Eyes: Causes eye irritation.

4.3 Immediate Medical Attention and Special Treatment

Treatment: Treat symptomatically. Symptoms may be delayed.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-800-561-8273

Take container, label or product name with you when seeking medical attention.

NOTES TO PHYSICIAN: Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media: Dry chemical, carbon dioxide (CO₂), alcohol foam, foam, water spray or fog. Do not use water jet as this will spread the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting: During a fire, hazardous by-products can be released.

5.3 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Special Protective Equipment for Firefighters: Self-contained breathing apparatus and full protective gear should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Keep people away. Isolate fire and deny unnecessary entry.



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6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions: Avoid inhalation of vapours and spray mist and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing.

6.2 ENVIRONMENTAL PRECAUTIONS

Environmental Precautions: For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

Methods for Clean-Up: Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. After removal flush contaminated area thoroughly with water.
Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to Remove residual contamination.
Never return spills to original containers for re-use.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

Advice on Safe Handling: Avoid inhalation of mists, vapours / spray and contact with eyes, skin and clothing. Do not breathe mists or vapor. Wear personal protective equipment. Do not use in areas without adequate ventilation. Avoid prolonged exposure. Wash thoroughly after handling. Do not empty into drains. Handle and open container with care. Use care in handling/storage. Wash before eating, drinking and/or smoking.

7.2 CONDITIONS FOR SAFE STORAGE:

Requirements for Storage Areas and Containers: Store in original container in a cool, dry, locked place out of the reach of children. Protect from sunlight. Do not contaminate water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**8.1 CONTROL PARAMETERS:
OCCUPATIONAL EXPOSURE LIMITS**

Workplace Exposure Level TLVs

Components	Type	Value
No data available.		

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Specimen
No listings		

8.2 EXPOSURE CONTROLS:

Engineering Measures

Provide adequate general and local exhaust ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and spray mists. Provide eyewash station and safety shower.

Individual Protection Measures:

Eye / Face Protection: Goggles or shielded safety glasses are recommended.
Skin Protection: Coveralls worn over long-sleeved shirt and long pants. Chemical-resistant gloves. Chemical-resistant footwear plus socks.
Respiratory Protection: In case of inadequate ventilation or risk of inhalation of mists or vapours, use suitable respiratory equipment such as MSHA/NIOSH TC-21C or NIOSH approved respirator with N, R, P or HE filter. Wear respiratory protection during operations where spraying or misting occurs. If respirators are used, a program should be in place to assure compliance standard. Wear air supplied respiratory protection if exposure concentrations are unknown.



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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 APPEARANCE :	Liquid
ODOUR:	Negligible.
ODOUR THRESHOLD:	No data available.
COLOUR:	Light opal.
pH:	3.67 (0.1% solution) @ 25°C
MELTING POINT / FREEZING POINT:	Freezing point: < 32°F (0°C)
BOILING POINT:	212°F (100°C)
FLASH POINT:	Does not flash.
FLAMMABILITY (solid, gas):	No data available.
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:	No data available.
VAPOUR PRESSURE:	No data available.
SOLUBILITY:	Soluble
PARTITION CO-EFFICIENT, n-OCTANOL / WATER:	No data available.
AUTO-IGNITION TEMPERATURE:	No data available.
DECOMPOSITION TEMPERATURE:	No data available
VISCOSITY: (kinematic):	3.28 mm ² /second @ 20°C
SPECIFIC GRAVITY (Water = 1):	1.04 g/ml
BULK DENSITY:	1.04 kg/L

Note: These physical data are typical values based on material tested but may vary from sample to sample.
Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

10. STABILITY AND REACTIVITY

10.1 REACTIVITY

Stable

10.2 CHEMICAL STABILITY

Stable under normal temperature conditions

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No data available. Will not polymerize.

10.4 CONDITIONS TO AVOID

No data available.

10.5 INCOMPATIBLE MATERIALS

No data available.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

No data available.

11 TOXICOLOGICAL INFORMATION

11.3 LIKELY ROUTES OF EXPOSURE

Eye contact. Skin contact.

LC₅₀ (rat): >2.09 mg/L (Kinetin technical)

LD₅₀ Oral (rat): > 5,000 mg/kg (Kinetin technical)

LD₅₀ Dermal (rabbit): > 2,000 mg/kg (Kinetin technical)

Acute Toxicity Estimates: No data available

Skin Irritation (rabbit): No data available.

Eye Irritation (rabbit): Causes eye irritation

Specific Target Organ Toxicity: Single exposure: No data available.

Aspiration: No data available

Skin Sensitization (guinea pig): Not a sensitizer

Carcinogenicity: No data available

Germ Cell Mutagenicity: No data available

Interactive Effects: None known



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12 ECOLOGICAL INFORMATION

12.3 ECOTOXICITY

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. This product is not intended for use in aquatic settings.

Ecotoxicological Data

Species	Test Results
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No data available.

Drift or runoff may adversely affect non-target plants.
Do not apply directly to water.
Do not contaminate water when disposing of equipment wash water.
Do not apply when weather conditions favor drift from target area.

12.2 PERSISTENCE AND DEGRADABILITY

Biodegradability: No data available

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY IN SOIL

No data available.

12.5 OTHER ADVERSE EFFECTS

Assessment: No data available.

13 DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Do not reuse containers for any purpose. Container is recyclable, and is to be disposed of at a container collection site. Contact your local dealer/distributor for the location of the nearest collection site. Before taking container to the collection site: Triple or pressure-rinse the empty container, adding the rinsate to the spray tank. Make the empty container unsuitable for further use. If there is no container collection site in your area, dispose of the container in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Do not contaminate water, food or feed by storage or disposal.

14 TRANSPORT INFORMATION

14.3 LAND TRANSPORT

TDG/DOT Shipping Description: NOT REGULATED

U.S. Surface Freight Classification: INHIBITORS, MODIFIERS OR REGULATORS, PLANT GROWTH (NMFC 101685; CLASS: 65)

15 REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS

NFPA & HMIS Hazard Ratings:

NFPA

1	Health	0	Least
0	Flammability	1	Slight
0	Instability	2	Moderate
		3	High
		4	Severe

HMIS

1	Health
0	Flammability
0	Reactivity
B	PPE

CEPA – Domestic Substances List (DSL): All substances in this product are listed on the DSL or not required to be listed

Hazardous Products Act Information: CPR Compliance: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

WHMIS Classification: This product is exempt under WHMIS

National Fire Code of Canada: Not applicable.



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16 OTHER INFORMATION

SDS STATUS: Section 1 revised.

PREPARED BY: Product Stewardship and Regulatory Affairs

REVIEWED BY: Safety, Health and Environment

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REGISTRATION NUMBER: 2015035A FERTILIZERS ACT

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