

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

1.1. Product identifier

Product name: Double Nickel 55
Registration No: 70051-108
Product Type: Wettable Granule
Active Ingredient: *Bacillus amyloliquefaciens* strain D747
CAS No.: 68038-60-8

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

Identified uses: Biofungicide/bactericide
Uses advised against: Not labeled uses

1.3. Details of the supplier of the safety data sheet

Name: Certis U.S.A., LLC
Address: 9145 Guilford Road, Suite 175
Columbia, Maryland 21046
U.S.A.
Phone Number: +01 (800) 255-3924
Website: <http://www.certisusa.com>

1.4. Emergency telephone number

Emergency number: +1 800 255-3924

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Hazard Classification: Not classified by OSHA
EPA Signal Word: Caution (see Section 15)
Hazard Statements: None
Pictogram: None
Precautionary Statements: Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with eyes and clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking chewing gum, using tobacco and using the toilet.

2.2 Other Hazards: Do not apply directly to water or to areas where surface water is present, or to intertidal areas below mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply when weather conditions favor drift or runoff from treated areas.

SECTION 3: Composition/information on ingredients

3.1. Substances

Active Ingredient	CAS No.	Wt. %
<i>B. amyloliquefaciens</i>	Not applicable	25

SECTION 4: First aid measures

4.1. Description of first aid measures

Generic measures

Eye Contact:	Immediately flush with water holding eye open for 15-20 minutes. Remove contact lenses after 5 minutes if present and continue rinsing eye. Seek medical attention if irritation persists.
Skin Contact:	Remove contaminated clothing and wash affected area with plenty of soap and water. If irritation persists call poison control or doctor for treatment advice
Inhalation:	Remove individual to fresh air. If person is not breathing call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth if possible. Call poison control center or doctor for further advice. Have the product label with you when calling a poison control center or doctor.

4.2. Most important symptoms and effects, both acute and delayed

May cause eye irritation

4.3. Indication of any immediate medical attention and special treatment needed

None specified

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media:	All methods
Unsuitable Extinguishing Media:	None known

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products: None known

5.3. Advice for firefighters

Protection of Firefighters: None known

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: To avoid exposure wear long sleeved shirt, long pants, waterproof gloves, shoes and socks.
Applicators must wear a dust/mist filtering respirator meeting at least NIOSH standards N-95, R-95 or P-95.

For emergency responders: Same as above

6.2. Environmental precautions:

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 wash waters or rinsate. Do not apply when conditions favor drift or runoff from treated areas.

6.3. Methods and material for containment and cleaning up

Methods for Containment: Use absorbent material to minimize runoff of spilled product.

Methods for Clean-Up: Unused material should be disposed of in an approved waste facility following all federal, state and local regulations.

Other Information: If a significant spill occurs, contact CHEM-TEL (800) 255 3924.

6.4. Reference to other sections

See Section 8 for occupational exposure limits and risk management measures. Refer to Section 13 for disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

See Section 8 for occupational exposure limits, risk management measures and personal protection equipment. Refer to Section 13 for disposal considerations.

7.2. Conditions for safe storage, including any incompatibilities

Do not contaminate water, food or feed during disposal. Store this product in a dry area inaccessible to children and pets. Store in original container only. Keep container closed when not in use.

7.3. Specific end use(s)

Use according to label

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

OSHA Permissible Exposure Limits (PELs): None determined

ACGIH Threshold Limit Values: None determined

Other Exposure Limits: None determined

8.2. Exposure controls

Engineering Controls: None

Personal Protective Equipment

Eye/Face Protection: None specified

Skin Protection: Long-sleeved shirt and long pants
Shoes and socks

Hand Protection: Waterproof gloves

Body Protection: Long-sleeved shirt and long pants

Respiratory Protection: Mixers and loaders must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95 or P-95. Repeated exposure to high concentration of microbial proteins can cause allergic sensitization.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance: Brown granules
Odour: Earthy
Odour Threshold: Not available
pH 1% dilution: 7.0-9.0
Melting Point / Freezing Point: Not applicable
Initial Boiling Point: Not applicable
Boiling Range: Not applicable
Flash Point: Not available
Evaporation Rate: Not applicable
Flammability (solid, gas): Not available
Lower & Upper Flammability Limits: Not available
Vapour Pressure: Not available
Vapour Density: Not available
Density: 0.74-0.81 g/cc (CIPAC MT 186)
Solubility: Not available
Partition Coefficient (n-octanol/water): Not available
Auto-ignition Temperature: 376°C (@ atmospheric pressure)
Decomposition Temperature: Not available

Viscosity: Not applicable
Other relevant properties: None

9.2. Other information

Not available.

SECTION 10: Stability and reactivity

<u>10.1. Reactivity</u>	No known hazardous reactions when handled and stored according to stated provisions.
<u>10.2. Chemical stability</u>	Stable when handled and stored according to stated provisions.
<u>10.3. Possibility of hazardous reactions</u>	No known hazardous reactions.
<u>10.4. Conditions to avoid</u>	No known conditions to avoid when handled and stored according to stated provisions.
<u>10.5. Incompatible materials</u>	No known incompatible materials.
<u>10.6. Hazardous decomposition products</u>	No known hazardous decomposition products at temperatures above 250°C.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Toxicological information on the substance or mixture:

LD₅₀ (oral)	LD ₅₀ > 5000 mg/kg body weight rat
LD₅₀ (dermal)	LD ₅₀ > 5050 mg/kg body weight rat
LC₅₀ (inhalation)	LC ₅₀ > 2.18 mg/L

Skin corrosion / irritation:	Non-irritating.
Eye irritation:	Mildly irritating.
Respiratory or skin sensitization:	Not sensitizing to guinea pigs.

Other information on adverse health effects:

Carcinogenicity

NTP Listed:	Not applicable.
IARC Listed:	Not applicable.
OSHA:	Not applicable.

11.2 Reference to other sections

See Section 4 for symptoms and acute and delayed effects.

SECTION 12: Ecological information

12.1. Toxicity

Test species	Test method	Test substance	LC ₅₀
Northern Bobwhite	Acute oral toxicity	<i>B. amyloliquefaciens</i> strain D747	LD ₅₀ > 2250 mg/kg body weight
<i>Oncorhynchus mykiss</i>	30 days	<i>B. amyloliquefaciens</i> strain D747	LC ₅₀ > 8.1 x 10 ¹⁰ CFU/L
<i>Daphnia magna</i>	21 days	<i>B. amyloliquefaciens</i> strain D747	EC ₅₀ > 2.3 x 10 ¹⁰ CFU/L
<i>Desmodesmus subspicatus</i>	72 hours	Double Nickel 55	EC ₅₀ > 2.3 x 10 ¹⁰ CFU/L
<i>Apis mellifera</i> L	48-h, dose response test	Double Nickel 55	LD ₅₀ Oral > 446.63 µg/bee LD ₅₀ Contact > 320 µg/bee

12.2. Persistence and degradability

The active substance *B. amyloliquefaciens* D747 populations spreading to the environment during or after field application will rapidly decline to naturally occurring background levels.

12.3. Bioaccumulative potential

The active substance *B. amyloliquefaciens* D747 does not multiply and accumulate in animals and humans.

12.4. Mobility in soil

The active substance *B. amyloliquefaciens* D747 spores readily adsorb to the clay fractions in soils and show no evidence of leaching. Therefore the risk of ground water contamination is considered negligible.

12.5. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal Instructions: Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage: Store in a dry area inaccessible to children. Store in original containers only. Keep container closed when not in use.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of onsite or at an approved waste disposal facility.

Container Handling: Non-refillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

SECTION 14: Transportation information

14.1. UN number

Not regulated.

14.3. Transport hazard class(es)

Not regulated.

14.5. Environmental hazards

Not regulated.

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

Not regulated.

14.2. UN proper shipping name

Not regulated.

14.4. Packing group

Not regulated.

14.6. Special precautions for user

Not regulated.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EPA: This product is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticidal chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION, KEEP OUT OF REACH OF CHILDREN

Causes moderate eye irritation.

Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

<u>OSHA:</u>	N/A
<u>TSCA Status:</u>	Exempt
<u>CERCLA Reportable Quantity:</u>	N/A
<u>SARA Title III:</u>	
Section 302:	N/A
Section 311/312:	N/A
Section 313:	N/A
<u>RCRA Status:</u>	N/A

SECTION 16: Other information

Disclaimer:

To the best of our knowledge, the information contained herein is accurate. However, neither Certis USA nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All material may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

SDS Authoring Information:

Revision date: March 23, 2015
Date of Previous version: October 19, 2014
Reason for Revision: OSHA Hazard Communication Standard 2012
SDS Prepared by: Certis U.S.A. L.L.C.