



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

1.1. Product identifier

Product name: Avonni Seed Treatment
Product Type: Liquid Concentrate
EPA Registration No. 70051-107-279

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: Bio-fungicide

**Uses advised against:** Any use not listed on the label

1.3. Details of the supplier of the safety data sheet

Name: FMC Corporation
Address: 1735 Market Street

Philadelphia, PA U.S.A.

**Phone Number:** +01 (215) 299-6000 (General Information) **E-Mail Address:** msdsinfo@fmc.com (General Information)

1.4. Emergency telephone numbers

Medical Emergency: 1-800-331-3148 (PROSAR - USA & Canada)

Leak, Fire, spill, or accident emergencies: 1-800-424-9300 (CHEMTREC - USA);

1-703-527-3887 (CHEMTREC - Collect - All Other Countries)

SECTION 2: Hazards identification2.1. Classification of the substance or mixture

Hazard Classification: Not classified as hazardous by OSHA

**EPA Signal Word:** Caution see section 15

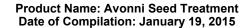
Hazard Statements: None

Pictogram: None

**Precautionary Statements:** Prolonged or frequently repeated skin contact may cause allergic reactions in

some individuals. Avoid contact with eyes, or 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:** For Terrestrial Uses: 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

Ingredient Percentage CAS#

Bacillus amyloliquefaciens strain D747 98.85 68038-60-8

#### **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 an allergic reaction in some individuals

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

**Note to Physicians:** The active ingredient contained in this product has a high affinity for activated charcoal. In case of ingestion of large amounts, administrate 5 mg/kg activated charcoal suspension (50g/400mL water).

## **SECTION 5: Firefighting measures**

#### 5.1. Extinguishing media

Suitable Extinguishing Media: All extinguishing media

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 specified

#### **SECTION 6: Accidental release measures**

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

**For non-emergency personnel:** Use personal protections as indicated in Section 8. **For emergency responders:** Use personal protection recommended in Section 8.

#### 6.2. Environmental precautions

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local and national health and environmental regulations.

# 6.3. Methods and material for containment and cleaning up

**Methods for Containment:** Recover free product. Use absorbent material to minimize runoff of

product or mixed product.

**Methods for Clean-Up:** Sweep up and place in a chemical container. Seal the container and

handle in an approved manner. Do not allow wash water to contaminate water supplies. Dispose of in accordance with Federal State and local

regulations for disposal of non-hazardous waste.

Other Information: None

#### 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:

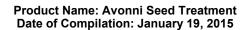
- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticides got inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

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

Store pesticide in a cool dry area that is inaccessible to children. Store in original containers only. Keep container closed when not in use.

#### 7.3. Specific end use(s)

Wastes resulting from the use of this product maybe be disposed of on site or at an approved waste disposal facility.





#### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

OSHA Permissible Exposure Limits (PELs): Not determined

**ACGIH Threshold Limit Values: Not determined** 

Other Exposure Limits: Not determined

8.2. Exposure controls

**Engineering Controls:** Use in well ventilated area

**Personal Protective Equipment** 

**Eye/Face Protection:** None specified

**Skin Protection** Long sleeved shirt and long pants

Hand Protection: Waterproof gloves

Body Protection: Shoes plus socks

**Respiratory Protection:** Mixer loaders and applicators must wear a dust/mist respirator

meeting NIOSH standards of at least N-95, R- 95, or P-95.

Thermal Hazards: None

**General Hygiene Considerations:** Repeated exposure to high concentrates of microbial proteins can

cause allergic sensitization.

Wash clothing and PPE using manufacturer's instructions

immediately after use and before reuse.

**Environmental exposure controls:** Do not apply directly to water or to areas where surface water is

present or intertidal areas below high water mark. Do not contaminate water when disposing of equipment wash water or rinsate. Do not apply when weather conditions favor drift or run

off from treated areas.

#### **SECTION 9: Physical and chemical properties**

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

Appearance: Tan liquid
Odour: Yeast like

Odour Threshold: Not determined

pH: 4.0-5.0 Melting Point / Freezing 32° F (0

Point:

32° F (0°C)

Initial Boiling Point: 212° F (100°C)

Boiling Range: Not available

Flash Point: Not available

Evaporation Rate: Not available

Flammability (solid, gas): Not available



**Lower & Upper Flammability** 

Limits:

Not available

Vapour Pressure:Not availableVapour Density:Not availableDensity:8.5-8.6 lb./gallonSolubility:Not available

**Partition Coefficient** 

Not available

(n-octanol/water):

Auto-ignition Temperature:Not availableDecomposition Temperature:Not availableViscosity:4.0-16 cPExplosive Properties:None knownOxidising Properties:None known

# 9.2. Other information

Not available.

# **SECTION 10: Stability and reactivity**

10.1. ReactivityStable10.2. Chemical stabilityStable

10.3. Possibility of hazardous reactions None known

10.4. Conditions to avoidNone known10.5. Incompatible materialsNone known

**10.6. Hazardous decomposition products** None Known

# **SECTION 11: Toxicological information**

#### 11.1. Information on toxicological effects

## **Acute Toxicity**

Toxicological information on the substance or mixture:

**LD**<sub>50</sub> (oral) LD<sub>50</sub> > 5000 mg/kg body weight rat, test results based on similar product

containing the same active ingredient.

**LD**<sub>50</sub> (**dermal**)  $LD_{50} > 5050 \text{ mg/kg body weight rat, test results based on similar product$ 

containing the same active ingredient.

**LC**<sub>50</sub> (inhalation)  $LC_{50} > 2.18 \text{ mg/L}$ , test results based on similar product containing the same

active ingredient



Skin corrosion /

Non-irritating, Toxicity Category IV

irritation:

**Eye irritation:** No positive effects exhibited in any eyes after treatment Practically non-

irritating, Toxicity Category IV

Respiratory or skin

sensitization:

No data available.

#### 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 <sub>50</sub>
Northern Bobwhite	Acute oral toxicity	B. amyloliquefaciens strain D747	LD <sub>50</sub> > 2250 mg/kg body weight
Oncorhynchus mykiss	30 days	B. amyloliquefaciens strain D747	LC <sub>50</sub> > 8.1 x 10 <sup>10</sup> CFU/L
Daphnia magna	21 days	B. amyloliquefaciens strain D747	EC <sub>50</sub> > 2.3 x 10 <sup>10</sup> CFU/L
Apis mellifera	48 hour	B. amyloliquefaciens strain D747	LC <sub>50</sub> > 1.0 x 10 <sup>9</sup> CFU/mL

**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.

<u>12.4. Mobility in soil</u> The active substance *B. amyloliqufaciens* 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.

- For containers equal to or less than 5 gallons

Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the contain ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

- For containers greater than 5 gallons

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

## **SECTION 14: Transportation information**

14.1. UN number 14.2. UN proper shipping name

Not regulated. Not regulated.

14.3. Transport hazard class(es) 14.4. Packing group

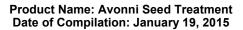
Not regulated. Not regulated.

14.5. Environmental hazards 14.6. Special precautions for user

Not regulated. Not regulated.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

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

Prolonged or frequently repeated skin contact may cause allergic reactions in some individual.

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

OSHA: N/A
TSCA Status: Exempt
CERCLA Reportable Quantity: N/A

SARA Title III:

 Section 302:
 N/A

 Section 311/312:
 N/A

 Section 313:
 N/A

 RCRA Status:
 N/A

#### **SECTION 16: Other information**

#### Disclaimer:

To the best of our knowledge, the information contained herein is accurate. However, neither FMC Corporation 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:**

Reason for Revision:

Revision date: March 23, 2015

Date of Previous April 5, 2012

version:

OSHA Hazard Communication Standard 2012

**SDS Prepared by:** FMC Corporation