

Ambitine® Feed Additive

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Date of issue: 05/27/2016 Revision: 05/01/18 Version: 4.0



Performance Minded.™

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Ambitine® Feed Additive

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

Use of the substance/mixture : Feed Additive Product - see product label and specification sheet for directions of use

1.3. Details of the supplier of the safety data sheet

PMI
4001 Lexington Avenue North
Arden Hills, MN 55126
T Non-Emergency Business Inquiries: 1-800-328-9680 Mon – Fri 8am – 5pm (Central Standard Time)

1.4. Emergency telephone number

Emergency number : MEDICAL EMERGENCY TELEPHONE NUMBER: 1-800-704-9215 (24hrs)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

| | | |
|---------------|--------|---|
| Skin Irrit. 2 | H315 - | Causes skin irritation |
| Eye Dam. 1 | H318 - | Causes serious eye damage |
| STOT RE 1 | H372 - | Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation) |

Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS05



GHS08

| | |
|-----------------------------------|--|
| Signal word (GHS-US) | : Danger |
| Contains | : Benzoic acid; Propanoic acid; Ammonium hydroxide |
| Hazard statements (GHS-US) | : H315 - Causes skin irritation H318 - Causes serious eye damage H372 - Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation) |
| Precautionary statements (GHS-US) | : P260 - Do not breathe dust P264 - Wash hands thoroughly after handling P270 - Do not eat, drink or smoke when using this product P280 - Wear eye protection, protective clothing, protective gloves P302+P352 - If on skin: Wash with plenty of water P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P310 - Immediately call a doctor P332+P313 - If skin irritation occurs: Get medical advice/attention P362+P364 - Take off contaminated clothing and wash it before reuse P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation |

2.3. Other hazards

Other hazards not contributing to the classification : None.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substance

Not applicable

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3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|--------------------|--------------------|--------|---|
| Fumaric acid | (CAS No) 110-17-8 | < 50 | Eye Irrit. 2A, H319 |
| Benzoic acid | (CAS No) 65-85-0 | < 50 | Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT RE 1, H372 |
| Propanoic acid | (CAS No) 79-09-4 | < 15 | Flam. Liq. 3, H226 Acute Tox. 3 (Dermal), H311 Skin Corr. 1B, H314 |
| Ammonium hydroxide | (CAS No) 1336-21-6 | 1 - 10 | Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Aquatic Acute 1, H400 |

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Get medical advice/attention if you feel unwell.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.
- First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
- First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

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

- Symptoms/injuries after skin contact : Irritation.
- Symptoms/injuries after eye contact : Serious damage to eyes.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

- Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. Do not breathe dust. Avoid contact with skin and eyes.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Sweep up, shovel or vacuum. This material and its container must be disposed of in a safe way, and as per local legislation.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Do not breathe dust. Avoid contact with skin and eyes. Wear personal protective equipment. Avoid dust formation.
- Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Ambitine® Feed Additive | | |
|--------------------------------|------------------------|------------------------|
| DNEL | DNEL | < |
| Fumaric acid (110-17-8) | | |
| Not applicable | | |
| Benzoic acid (65-85-0) | | |
| Not applicable | | |
| Propanoic acid (79-09-4) | | |
| ACGIH | ACGIH TWA (ppm) | 10 ppm |
| Ammonium hydroxide (1336-21-6) | | |
| Not applicable | | |
| Distiller's Grains | | |
| ACGIH | ACGIH TWA (mg/m³) | 4 mg/m³ as grain dust |
| OSHA | OSHA PEL (TWA) (mg/m³) | 10 mg/m³ as grain dust |

8.2. Exposure controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Hand protection : Protective gloves.
- Eye protection : Chemical goggles or safety glasses.
- Skin and body protection : Wear suitable protective clothing.
- Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.
- Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Solid
- Appearance : Powder.
- Color : tan
- Odor : characteristic
- Odor threshold : No data available
- pH : No data available
- Melting point : No data available
- Freezing point : Not applicable
- Boiling point : No data available
- Flash point : Not applicable
- Relative evaporation rate (butyl acetate=1) : No data available
- Flammability (solid, gas) : No data available
- Explosion limits : Not applicable
- Explosive properties : No data available
- Oxidizing properties : No data available

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| | |
|---------------------------------|---------------------|
| Vapor pressure | : No data available |
| Relative density | : Not applicable |
| Relative vapor density at 20 °C | : No data available |
| Solubility | : No data available |
| Log Pow | : No data available |
| Auto-ignition temperature | : Not applicable |
| Decomposition temperature | : No data available |
| Viscosity | : No data available |
| Viscosity, kinematic | : Not applicable |
| Viscosity, dynamic | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Oxidizing agent. Reducing agents. Strong bases. Amines.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. On combustion, forms: carbon oxides (CO and CO₂). ammonia. irritating fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Skin and eye contact; Inhalation

Acute toxicity : Not classified

| Fumaric acid (110-17-8) | |
|--------------------------------|---|
| LD50 oral rat | 9300 mg/kg |
| LD50 dermal rabbit | > 20000 mg/kg |
| ATE US (oral) | 9300.000 mg/kg body weight |
| Benzoic acid (65-85-0) | |
| LD50 oral rat | 1700 mg/kg |
| LC50 inhalation rat (mg/l) | > 26 mg/m ³ (Exposure time: 1 h) |
| Propanoic acid (79-09-4) | |
| LD50 oral rat | 2600 mg/kg |
| LD50 dermal rabbit | 496 mg/kg |
| LC50 inhalation rat (ppm) | 4650 ppm (Exposure time: 8 h) |
| ATE US (oral) | 2600.000 mg/kg body weight |
| ATE US (dermal) | 496.000 mg/kg body weight |
| Ammonium hydroxide (1336-21-6) | |
| LD50 oral rat | 350 mg/kg |
| ATE US (oral) | 350.000 mg/kg body weight |

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye damage.

Respiratory or skin sensitization : Not classified

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| | |
|--|--|
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity (single exposure) | : Not classified |
| Specific target organ toxicity (repeated exposure) | : Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation). |
| Aspiration hazard | : Not classified |
| Symptoms/injuries after skin contact | : Irritation. |
| Symptoms/injuries after eye contact | : Serious damage to eyes. |

SECTION 12: Ecological information

12.1. Toxicity

| | |
|-------------------|--|
| Ecology - general | : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment. |
|-------------------|--|

| | |
|---------------------------------------|--|
| Fumaric acid (110-17-8) | |
| EC50 Daphnia 1 | 204 - 220 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| Benzoic acid (65-85-0) | |
| EC50 Daphnia 1 | 860 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static]) |
| Propanoic acid (79-09-4) | |
| LC50 fish 1 | > 1 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| LC50 fish 2 | 73 - 99.7 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static]) |
| Ammonium hydroxide (1336-21-6) | |
| LC50 fish 1 | 8.2 mg/l (Exposure time: 96 h - Species: Pimephales promelas) |
| EC50 Daphnia 1 | 0.66 mg/l (Exposure time: 48 h - Species: water flea) |
| EC50 Daphnia 2 | 0.66 mg/l (Exposure time: 48 h - Species: Daphnia pulex) |

12.2. Persistence and degradability

| | |
|--------------------------------|------------------|
| Ambitine® Feed Additive | |
| Persistence and degradability | Not established. |

12.3. Bioaccumulative potential

| | |
|---------------------------------|------------------|
| Ambitine® Feed Additive | |
| Bioaccumulative potential | Not established. |
| Fumaric acid (110-17-8) | |
| Log Pow | 0.33 (at 23 °C) |
| Benzoic acid (65-85-0) | |
| Log Pow | 1.93 |
| Propanoic acid (79-09-4) | |
| Log Pow | 0.25 - 0.33 |

12.4. Mobility in soil

| | |
|--------------------------------|------------------|
| Ambitine® Feed Additive | |
| Ecology - soil | Not established. |

12.5. Other adverse effects

| | |
|--------------------------|--|
| Effect on global warming | : No known ecological damage caused by this product. |
|--------------------------|--|

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|-------------------------|---|
| Waste treatment methods | : Dispose of contents/container in accordance with licensed collector's sorting instructions. |
|-------------------------|---|

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SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport

TDG

No additional information available

Transport by sea

Class (IMDG) : Not regulated for transport

Air transport

Class (IATA) : Not regulated for transport

SECTION 15: Regulatory information

15.1. US Federal regulations

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Fumaric acid (110-17-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag

Y2 - Y2 - indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule

Benzoic acid (65-85-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag

Y2 - Y2 - indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule

Silica, amorphous (7631-86-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Propanoic acid (79-09-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Ammonium hydroxide (1336-21-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

National regulations

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All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Fumaric acid (110-17-8)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

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Benzoic acid (65-85-0)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

Silica, amorphous (7631-86-9)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

Propanoic acid (79-09-4)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

Ammonium hydroxide (1336-21-6)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Poisonous and Deleterious Substances Control Law
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Fumaric acid (110-17-8)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Benzoic acid (65-85-0)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Silica, amorphous (7631-86-9)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

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Propanoic acid (79-09-4)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Ammonium hydroxide (1336-21-6)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Full text of H-phrases:

| | |
|------|--|
| H226 | Flammable liquid and vapor |
| H302 | Harmful if swallowed |
| H311 | Toxic in contact with skin |
| H314 | Causes severe skin burns and eye damage |
| H315 | Causes skin irritation |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H372 | Causes damage to organs through prolonged or repeated exposure |
| H400 | Very toxic to aquatic life |

SDS GHS US CUSTOM BLUE

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product