SAFETY DATA SHEET

Amitraz Solid Formulation

Version 2.1  Revision Date: 02.10.2020  SDS Number: 1732056-00008  Date of last issue: 23.03.2020
Date of first issue: 06.06.2017

Section 1: Identification

Product name: Amitraz Solid Formulation

Manufacturer or supplier’s details
Company: MSD
Address: 33 Whakatiki Street - Private Bag 908 Upper Hutt - New Zealand
Telephone: 908-740-4000
Emergency telephone number: 1-908-423-6000
E-mail address: EHSDATASTEWARD@msd.com
Telefax: 908-735-1496

Recommended use of the chemical and restrictions on use
Recommended use: Veterinary product

Section 2: Hazard identification

GHS Classification
Acute toxicity (Oral): Category 4
Serious eye damage/eye irritation: Category 1
Skin sensitisation: Category 1
Germ cell mutagenicity: Category 2
Carcinogenicity: Category 1B
Specific target organ toxicity - repeated exposure: Category 2 (Liver, Central nervous system)

GHS label elements
Hazard pictograms: 🚨 ⚠️ ⭐
Signal word: Danger
Hazard statements: H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
SAFETY DATA SHEET

Amitraz Solid Formulation

Version 2.1  Revision Date: 02.10.2020  SDS Number: 1732056-00008  Date of last issue: 23.03.2020  Date of first issue: 06.06.2017

H373 May cause damage to organs (Liver, Central nervous system) through prolonged or repeated exposure.

Precautionary statements :

Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.
P281 Use personal protective equipment as required.

Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.

Storage:
P405 Store locked up.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Additional Labelling
The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 10 %

Other hazards which do not result in classification
May form explosive dust-air mixture during processing, handling or other means.

Section 3: Composition/information on ingredients

Substance / Mixture : Mixture

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amitraz (ISO)</td>
<td>33089-61-1</td>
<td>50</td>
</tr>
<tr>
<td>Aluminium silicate</td>
<td>12141-46-7</td>
<td>&gt;= 10 &lt;= 20</td>
</tr>
<tr>
<td>Calcium carbonate</td>
<td>471-34-1</td>
<td>&gt;= 10 &lt;= 20</td>
</tr>
<tr>
<td>Paraformaldehyde</td>
<td>30525-89-4</td>
<td>2.55</td>
</tr>
<tr>
<td>Sodium bis(2-ethylhexyl)sulfosuccinate</td>
<td>577-11-7</td>
<td>1</td>
</tr>
</tbody>
</table>
**SAFETY DATA SHEET**

**Amitraz Solid Formulation**

Version 2.1  
Revision Date: 02.10.2020  
SDS Number: 1732056-00008  
Date of last issue: 23.03.2020  
Date of first issue: 06.06.2017

---

### Section 4: First-aid measures

**General advice**: In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.

- **If inhaled**: If inhaled, remove to fresh air. Get medical attention.
- **In case of skin contact**: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
- **In case of eye contact**: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention immediately.
- **If swallowed**: If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed**:
- Harmful if swallowed. May cause an allergic skin reaction. Causes serious eye damage. Suspected of causing genetic defects. May cause cancer. May cause damage to organs through prolonged or repeated exposure.

**Protection of first-aiders**: First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

**Notes to physician**: Treat symptomatically and supportively.

---

### Section 5: Fire-fighting measures

**Suitable extinguishing media**:
- Water spray
- Alcohol-resistant foam
- Carbon dioxide (CO2)
- Dry chemical

**Unsuitable extinguishing media** : None known.

**Specific hazards during firefighting**:
- Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Exposure to combustion products may be a hazard to health.

**Hazardous combustion products**:
- Carbon oxides
- Silicon oxides
- Metal oxides
- Nitrogen oxides (NOx)
- Sulphur oxides
Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up: Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

Section 7: Handling and storage

Technical measures: Static electricity may accumulate and ignite suspended dust causing an explosion. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Local/Total ventilation: If sufficient ventilation is unavailable, use with local exhaust ventilation.

Advice on safe handling: Do not get on skin or clothing. Do not breathe dust. Do not swallow. Do not get in eyes. Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Keep container tightly closed. Keep away from water.
Protect from moisture. 
Minimize dust generation and accumulation. 
Keep container closed when not in use. 
Keep away from heat and sources of ignition. 
Take precautionary measures against static discharges. 
Do not eat, drink or smoke when using this product. 
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures: If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. 
When using do not eat, drink or smoke. 
Contaminated work clothing should not be allowed out of the workplace. 
Wash contaminated clothing before re-use.

Conditions for safe storage: Keep in properly labelled containers. 
Store locked up. 
Keep tightly closed. 
Store in accordance with the particular national regulations.

Materials to avoid: Do not store with the following product types: Strong oxidizing agents

### Section 8: Exposure controls/personal protection

#### Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amitraz (ISO)</td>
<td>33089-61-1</td>
<td>TWA</td>
<td>20 µg/m³ (OEB 3)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wipe limit 200 µg/100 cm²</td>
<td>Internal</td>
</tr>
<tr>
<td>Aluminium silicate</td>
<td>12141-46-7</td>
<td>TWA (Respirable particulate matter)</td>
<td>1 mg/m³ (Aluminium)</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Calcium carbonate</td>
<td>471-34-1</td>
<td>WES-TWA</td>
<td>10 mg/m³ (Calcium carbonate)</td>
<td>NZ OEL</td>
</tr>
</tbody>
</table>

#### Occupational exposure limits of decomposition products

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formaldehyde</td>
<td>50-00-0</td>
<td>WES-TWA</td>
<td>0.5 ppm</td>
<td>NZ OEL</td>
</tr>
</tbody>
</table>

Further information: Carcinogen - known or presumed human carcinogen

<table>
<thead>
<tr>
<th>WES-TWA</th>
<th>0.33 ppm</th>
<th>NZ OEL</th>
</tr>
</thead>
</table>

Further information: Carcinogen - known or presumed human carcinogen

<table>
<thead>
<tr>
<th>WES-Ceiling</th>
<th>1 ppm</th>
<th>NZ OEL</th>
</tr>
</thead>
</table>

Further information: Carcinogen - known or presumed human carcinogen

<table>
<thead>
<tr>
<th>TWA</th>
<th>0.1 ppm</th>
<th>ACGIH</th>
</tr>
</thead>
</table>
SAFETY DATA SHEET

Amitraz Solid Formulation

Engineering measures:
- Processing may form hazardous compounds (see section 10).
- Minimize workplace exposure concentrations.
- Apply measures to prevent dust explosions.
- Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).
- If sufficient ventilation is unavailable, use with local exhaust ventilation.

Personal protective equipment

Respiratory protection:
- If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
  
Filter type: Combined particulates and inorganic gas/vapour type

Hand protection

Material:
- Chemical-resistant gloves

Remarks:
- Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection:
- Wear the following personal protective equipment:
  - Chemical resistant goggles must be worn.
  - If splashes are likely to occur, wear:
    - Face-shield

Skin and body protection:
- Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
- Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Section 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>powder</td>
</tr>
<tr>
<td>Colour</td>
<td>white</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Panel 1: Flash point

- Not applicable

Panel 2: Evaporation rate

- No data available

Panel 3: Flammability (solid, gas)

- May form explosive dust-air mixture during processing, handling or other means.

Panel 4: Flammability (liquids)

- No data available

Panel 5: Upper explosion limit / Upper flammability limit

- No data available

Panel 6: Lower explosion limit / Lower flammability limit

- No data available

Panel 7: Vapour pressure

- No data available

Panel 8: Relative vapour density

- No data available

Panel 9: Relative density

- No data available

Panel 10: Density

- No data available

Panel 11: Solubility(ies)

Water solubility:

- insoluble

Panel 12: Partition coefficient: n-octanol/water

- No data available

Panel 13: Auto-ignition temperature

- No data available

Panel 14: Decomposition temperature

- No data available

Panel 15: Viscosity

Viscosity, kinematic:

- No data available

Panel 16: Explosive properties

- Not explosive

Panel 17: Oxidizing properties

- The substance or mixture is not classified as oxidizing.

Panel 18: Molecular weight

- Not applicable

Panel 19: Particle size

- No data available

Section 10: Stability and reactivity

Reactivity:

- Not classified as a reactivity hazard.

Chemical stability:

- Stable under normal conditions.

Possibility of hazardous reactions:

- May form explosive dust-air mixture during processing, handling or other means. Can react with strong oxidizing agents. Hazardous decomposition products will be formed upon contact with water or humid air.
Conditions to avoid: Exposure to moisture
Heat, flames and sparks.
Avoid dust formation.

Incompatible materials: Oxidizing agents
Water

Hazardous decomposition products:
Contact with water or humid air: Formaldehyde

Section 11: Toxicological information

Exposure routes:
Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity:
Harmful if swallowed.

Product:
Acute oral toxicity: Acute toxicity estimate: 958.7 mg/kg
Method: Calculation method

Acute inhalation toxicity: Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Components:

Amitraz (ISO):
Acute oral toxicity: LD50 (Rat): > 400 mg/kg
LD50 (Mouse): > 1,085 mg/kg
LD50 (Guinea pig): > 400 mg/kg

Acute inhalation toxicity: Remarks: No data available

Acute dermal toxicity: LD50 (Rat): > 1,600 mg/kg

Aluminium silicate:
Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity: LC50 (Rat): 50 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Remarks: Based on data from similar materials

Acute dermal toxicity: LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

**Calcium carbonate:**

**Acute oral toxicity**
: LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 420
Assessment: The substance or mixture has no acute oral toxicity

**Acute inhalation toxicity**
: LC50 (Rat): > 3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

**Acute dermal toxicity**
: LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

**Paraformaldehyde:**

**Acute oral toxicity**
: LD50 (Rat, male): 592 mg/kg

**Acute inhalation toxicity**
: LC50 (Rat): 1.07 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

**Acute dermal toxicity**
: LD50 (Rat): > 10,000 mg/kg

**Sodium bis(2-ethylhexyl)sulfosuccinate:**

**Acute oral toxicity**
: LD50 (Rat): 3,080 mg/kg

**Acute dermal toxicity**
: LD50 (Rabbit): > 5,000 mg/kg

**Skin corrosion/irritation**
Not classified based on available information.

**Components:**

**Amitraz (ISO):**
Species: Rabbit
Result: No skin irritation

**Aluminium silicate:**
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
Remarks: Based on data from similar materials
Calcium carbonate:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Paraformaldehyde:
Species: Rabbit
Result: Skin irritation

Sodium bis(2-ethylhexyl)sulfosuccinate:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

Serious eye damage/eye irritation
Causes serious eye damage.

Components:

Amitraz (ISO):
Species: Rabbit
Result: No eye irritation

Aluminium silicate:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
Remarks: Based on data from similar materials

Calcium carbonate:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

Paraformaldehyde:
Species: Rabbit
Result: Irreversible effects on the eye

Sodium bis(2-ethylhexyl)sulfosuccinate:
Species: Rabbit
Result: Irreversible effects on the eye
Method: OECD Test Guideline 405

Respiratory or skin sensitisation

Skin sensitisation
May cause an allergic skin reaction.

Respiratory sensitisation
Not classified based on available information.
Components:

Amitraz (ISO):
- Test Type: Maximisation Test
- Exposure routes: Dermal
- Species: Guinea pig
- Result: Not a skin sensitizer.

Aluminium silicate:
- Test Type: Local lymph node assay (LLNA)
- Exposure routes: Skin contact
- Species: Mouse
- Method: OECD Test Guideline 429
- Result: negative
- Remarks: Based on data from similar materials

Calcium carbonate:
- Test Type: Local lymph node assay (LLNA)
- Exposure routes: Skin contact
- Species: Mouse
- Method: OECD Test Guideline 429
- Result: negative

Paraformaldehyde:
- Test Type: Local lymph node assay (LLNA)
- Exposure routes: Skin contact
- Species: Mouse
- Result: positive
- Remarks: Based on data from similar materials
- Assessment: Probability or evidence of high skin sensitisation rate in humans

Sodium bis(2-ethylhexyl)sulfosuccinate:
- Test Type: Human repeat insult patch test (HRIPT)
- Exposure routes: Skin contact
- Species: Humans
- Result: negative

Chronic toxicity

Germ cell mutagenicity
Suspected of causing genetic defects.

Components:

Amitraz (ISO):
- Gene toxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
  Result: negative
  Test Type: In vitro mammalian cell gene mutation test
  Result: negative
Aluminium silicate:
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Calcium carbonate:
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials
Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Paraformaldehyde:
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Result: positive
Remarks: Based on data from similar materials
Test Type: In vitro mammalian cell gene mutation test
Result: positive
Remarks: Based on data from similar materials
Test Type: In vitro micronucleus test
Result: positive
Remarks: Based on data from similar materials
Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: positive
Remarks: Based on data from similar materials
Test Type: In vitro sister chromatid exchange assay in mammalian cells
Result: positive
Remarks: Based on data from similar materials

Genotoxicity in vivo: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
SAFETY DATA SHEET

Amitraz Solid Formulation

Application Route: inhalation (vapour)
Result: positive
Remarks: Based on data from similar materials

Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: Ingestion
Result: positive
Remarks: Based on data from similar materials

Germ cell mutagenicity assessment: Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.

**Sodium bis(2-ethylhexyl)sulfosuccinate:**

Genotoxicity in vitro:
- Test Type: Bacterial reverse mutation assay (AMES)
  Method: OECD Test Guideline 471
  Result: negative
- Test Type: Chromosome aberration test in vitro
  Method: OECD Test Guideline 473
  Result: equivocal
- Test Type: In vitro mammalian cell gene mutation test
  Method: OECD Test Guideline 476
  Result: negative
Remarks: Based on data from similar materials

**Carcinogenicity**
May cause cancer.

**Components:**

**Amitraz (ISO):**
- Species: Rat
- Application Route: Oral
- Exposure time: 2 Years
- NOAEL: > 10.18 mg/kg body weight
- Result: negative
- Species: Mouse
- Exposure time: 2 Years
- LOAEL: 2.3 mg/kg body weight
- Result: positive
- Target Organs: Liver, Stomach

**Paraformaldehyde:**
- Species: Rat
- Application Route: Ingestion
- Exposure time: 105 weeks
- Result: negative
- Species: Rat
Application Route: Inhalation  
Exposure time: 28 Months  
Result: positive  
Remarks: Based on data from similar materials

Carcinogenicity - Assessment: Sufficient evidence of carcinogenicity in animal experiments

**Reproductive toxicity**

Not classified based on available information.

**Components:**

**Amitraz (ISO):**

- **Effects on fertility**
  - Test Type: Three-generation reproduction toxicity study  
  - Species: Rat  
  - Application Route: Oral  
  - Fertility: NOAEL: > 4.8 mg/kg body weight  
  - Result: No significant adverse effects were reported

- **Effects on foetal development**
  - Test Type: Embryo-foetal development  
  - Species: Rat  
  - Application Route: Oral  
  - Developmental Toxicity: NOAEL: 3 mg/kg body weight  
  - Remarks: No significant adverse effects were reported

**Aluminium silicate:**

- **Effects on foetal development**
  - Test Type: Embryo-foetal development  
  - Species: Rat  
  - Application Route: Ingestion  
  - Result: negative  
  - Remarks: Based on data from similar materials

**Calcium carbonate:**

- **Effects on fertility**
  - Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
  - Species: Rat  
  - Application Route: Ingestion  
  - Method: OECD Test Guideline 422  
  - Result: negative

- **Effects on foetal development**
  - Test Type: Embryo-foetal development  
  - Species: Rat  
  - Application Route: Ingestion  
  - Method: OECD Test Guideline 414  
  - Result: negative

**Sodium bis(2-ethylhexyl)sulfosuccinate:**
Effects on fertility : Test Type: Three-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative

STOT - single exposure  
Not classified based on available information.

Components:

Parafomaldehyde:
Assessment : May cause respiratory irritation.

STOT - repeated exposure  
May cause damage to organs (Liver, Central nervous system) through prolonged or repeated exposure.

Components:

Amitraz (ISO):
Target Organs : Liver, Central nervous system  
Assessment : May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Amitraz (ISO):
Species : Mouse  
NOAEL : 3 mg/kg  
Application Route : Oral  
Exposure time : 90 Days  
Target Organs : Liver

Species : Dog  
NOAEL : 0.25 mg/kg  
Application Route : Oral  
Exposure time : 90 Days  
Target Organs : Central nervous system, Liver

Aluminium silicate:
Species : Rat  
NOAEL : >= 1,000 mg/kg  
Application Route : Ingestion  
Exposure time : 28 Days  
Remarks : Based on data from similar materials
Calcium carbonate:
Species: Rat
NOAEL: > 1,000 mg/kg
Application Route: Ingestion
Exposure time: 28 Days
Method: OECD Test Guideline 422

Paraformaldehyde:
Species: Rat, male
NOAEL: 15 mg/kg
Application Route: Ingestion
Exposure time: 105 Weeks
Remarks: Based on data from similar materials

Sodium bis(2-ethylhexyl)sulfosuccinate:
Species: Rat
NOAEL: 750 mg/kg
Application Route: Ingestion
Exposure time: 90 Days

Aspiration toxicity
Not classified based on available information.

Experience with human exposure

Components:

Amitraz (ISO):
Ingestion: Target Organs: Central nervous system

Section 12: Ecological information

Ecotoxicity

Components:

Amitraz (ISO):
Toxicity to fish: LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.45 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 0.035 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants: NOEC (Pseudokirchneriella subcapitata (green algae)): 0.04 mg/l
Exposure time: 91 h

Toxicity to fish (Chronic toxicity): NOEC (Pimephales promelas (fathead minnow)): 0.00148 mg/l
Exposure time: 32 d

Toxicity to daphnia and other: NOEC (Daphnia magna (Water flea)): 0.0011 mg/l
Toxicity to daphnia and other aquatic invertebrates:
- EC50 (Daphnia magna (Water flea)): > 100 mg/l
  - Exposure time: 48 h
  - Method: OECD Test Guideline 202
  - Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants:
- EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
  - Exposure time: 72 h
  - Method: OECD Test Guideline 201
  - Remarks: Based on data from similar materials

Toxicity to microorganisms:
- EC50: > 1,000 mg/l
  - Exposure time: 3 h
  - Method: OECD Test Guideline 209
  - Remarks: Based on data from similar materials

Calcium carbonate:
- LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
  - Exposure time: 96 h
  - Test substance: Water Accommodated Fraction
  - Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates:
- EL50 (Daphnia magna (Water flea)): > 100 mg/l
  - Exposure time: 48 h
  - Test substance: Water Accommodated Fraction
  - Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants:
- NOELR (Pseudokirchneriella subcapitata (green algae)): 50 mg/l
  - Exposure time: 72 h
  - Test substance: Water Accommodated Fraction
  - Method: OECD Test Guideline 201

- EL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
  - Exposure time: 72 h
  - Test substance: Water Accommodated Fraction
  - Method: OECD Test Guideline 201

Toxicity to microorganisms:
- NOEC: 1,000 mg/l
  - Exposure time: 3 h
  - Method: OECD Test Guideline 209

- EC50: > 1,000 mg/l
  - Exposure time: 3 h
  - Method: OECD Test Guideline 209

Paraformaldehyde:
- LC50: > 1 mg/l
  - Exposure time: 96 h
  - Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia pulex (Water flea)): > 1 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants: ErC50 (Desmodesmus subspicatus (green algae)): > 1 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to fish (Chronic toxicity): NOEC (Oryzias latipes (Orange-red killifish)): > 1 mg/l
Exposure time: 28 d
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC (Daphnia magna (Water flea)): > 1 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

Toxicity to microorganisms: EC50: > 10 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

Sodium bis(2-ethylhexyl)sulfosuccinate:
Toxicity to fish: LC50 (Danio rerio (zebra fish)): 49 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 6.6 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants: ErC50 (Desmodesmus subspicatus (green algae)): 82.5 mg/l
Exposure time: 72 h
EC10 (Desmodesmus subspicatus (green algae)): 22 mg/l
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): EC10 (Daphnia magna (Water flea)): 9 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Toxicity to microorganisms: EC50 (Pseudomonas putida): 164 mg/l
Exposure time: 16 h

Persistence and degradability

Components:
Paraformaldehyde: Result: Readily biodegradable.
Biodegradability: Remarks: Based on data from similar materials
SAFETY DATA SHEET

Amitraz Solid Formulation

Sodium bis(2-ethylhexyl)sulfosuccinate:
Biodegradability: Result: Readily biodegradable.
Biodegradation: 91.2 %
Exposure time: 28 d

Bioaccumulative potential

Components:

Amitraz (ISO):
Bioaccumulation: Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 1,333

Partition coefficient: n-octanol/water
Log Pow: 5.5

Paraformaldehyde:
Partition coefficient: n-octanol/water
Log Pow: -1.40
Remarks: Calculation

Sodium bis(2-ethylhexyl)sulfosuccinate:
Partition coefficient: n-octanol/water
Log Pow: 1.998
Remarks: Calculation

Mobility in soil

Components:

Amitraz (ISO):
Distribution among environmental compartments
Log Koc: 3.3

Other adverse effects
No data available

Section 13: Disposal considerations

Disposal methods
Waste from residues: Dispose of in accordance with local regulations.
Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.

Section 14: Transport information

International Regulations

UNRTDG
UN number: UN 3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Amitraz (ISO))
Class: 9
SAFETY DATA SHEET

Amitraz Solid Formulation

Version 2.1  Revision Date: 02.10.2020  SDS Number: 1732056-00008  Date of last issue: 23.03.2020  Date of first issue: 06.06.2017

Packing group: III
Labels: 9

IATA-DGR
UN/ID No.: UN 3077
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Amitraz (ISO))
Class: 9
Packing group: III
Labels: Miscellaneous
Packing instruction (cargo aircraft): 956
Packing instruction (passenger aircraft): 956
Environmentally hazardous: yes

IMDG-Code
UN number: UN 3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Amitraz (ISO))
Class: 9
Packing group: III
Labels: 9
EmS Code: F-A, S-F
Marine pollutant: yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

NZS 5433
UN number: UN 3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Amitraz (ISO))
Class: 9
Packing group: III
Labels: 9
Hazchem Code: 2Z

Special precautions for user
The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

Section 15: Regulatory information

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

HSNO Approval Number
HSR100759 Veterinary Medicines Non dispersive Open System Application Group Standard 2017
HSW Controls
Certified handler certificate not required.
Tracking hazardous substance not required.
Refer to the Health and Safety at Work (Hazardous Substances) Regulations 2017, for further information.

The components of this product are reported in the following inventories:
- AICS: not determined
- DSL: not determined
- IECSC: not determined

Section 16: Other information

Further information
Date format: dd.mm.yyyy

Full text of other abbreviations
- ACGIH: USA. ACGIH Threshold Limit Values (TLV)
- NZ OEL: New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
- ACGIH / TWA: 8-hour, time-weighted average
- ACGIH / STEL: Short-term exposure limit
- NZ OEL / WES-TWA: Workplace Exposure Standard - Time Weighted average
- NZ OEL / WES-Ceiling: Workplace Exposure Standard - Ceiling

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumu-
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

NZ / EN