SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Amitraz Solid Formulation

Version 3.1 Revision Date: 2020/10/02 SDS Number: 1732046-00008 Date of last issue: 2020/03/23
Date of first issue: 2017/06/06

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Amitraz Solid Formulation

Manufacturer or supplier’s details
Company: MSD
Address: No. 485 Jing Tai Road
Pu Tuo District - Shanghai - China 200331
Telephone: 908-740-4000
Emergency telephone number: 86-571-87268110
E-mail address: EHSDATASTEWARD@msd.com

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

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: powder
Colour: white
Odour: No data available

Harmful if swallowed. Causes mild skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Suspected of causing genetic defects. May cause cancer. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

GHS Classification
Acute toxicity (Oral): Category 4
Skin corrosion/irritation: Category 3
Serious eye damage/eye irritation: Category 1
Skin sensitisation: Category 1
Germ cell mutagenicity: Category 2
Carcinogenicity: Category 1B
Specific target organ toxicity - single exposure: Category 2
Specific target organ toxicity - repeated exposure: Category 2
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Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

GHS label elements
Hazard pictograms :

Signal word : Danger

Hazard statements :
H302 Harmful if swallowed.
H316 Causes mild skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H371 May cause damage to organs.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

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.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of 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/ doctor.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.
Storage:
P405 Store locked up.

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

Physical and chemical hazards
Not classified based on available information.

Health hazards
Harmful if swallowed. Causes mild skin irritation. Causes serious eye damage. May cause an allergic skin reaction. Suspected of causing genetic defects. May cause cancer. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure.

Environmental hazards
Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Additional Labelling
The following percentage of the mixture consists of ingredient(s) with unknown acute oral toxicity: 10%
The following percentage of the mixture consists of ingredient(s) with unknown acute dermal toxicity: 10%
The following percentage of the mixture consists of ingredient(s) with unknown acute inhalation toxicity: 10%
The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 10%

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

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>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>

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.
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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.
Causes mild skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
Suspected of causing genetic defects.
May cause cancer.
May cause damage to organs.
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.

5. FIREFIGHTING 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.

6. ACCIDENTAL RELEASE MEASURES
## 7. HANDLING AND STORAGE

### Handling

**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.

**Avoidance of contact**: Oxidizing agents

- Water
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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>Wipe limit</td>
<td>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>
</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>MAC</td>
<td>0.5 mg/m³</td>
<td>CN OEL</td>
</tr>
</tbody>
</table>

Further information: G1 - Carcinogenic to humans, Sensitizing

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>TWA</th>
<th>0.1 ppm</th>
<th>ACGIH</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEL</td>
<td></td>
<td></td>
<td>0.3 ppm</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>

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

Filter type

Eye/face protection

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Combined particulates and inorganic gas/vapour type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Wear the following personal protective equipment: Chemical resistant goggles must be worn. If splashes are likely to occur, wear: Face-shield</td>
</tr>
</tbody>
</table>
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).

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.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: powder

Colour: white

Odour: No data available

Odour Threshold: No data available

pH: No data available

Melting point/freezing point: No data available

Initial boiling point and boiling range: No data available

Flash point: Not applicable

Evaporation rate: No data available

Flammability (solid, gas): May form explosive dust-air mixture during processing, handling or other means.

Flammability (liquids): No data available

Upper explosion limit / Upper flammability limit: No data available
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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
11. TOXICOLOGICAL INFORMATION

Exposure routes: Inhalation, Skin contact, Ingestion, Eye contact

Acute toxicity
Harmful if swallowed.

Product:

Acute oral toxicity: Acute toxicity estimate: 955.73 mg/kg
Method: Calculation method

Acute inhalation toxicity: Acute toxicity estimate: > 10 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

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**
Causes mild skin irritation.

**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

**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
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

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
**Germ cell mutagenicity**
Suspected of causing genetic defects.

**Components:**

**Amitraz (ISO):**

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Bacterial reverse mutation assay (AMES)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Result: negative</td>
</tr>
<tr>
<td></td>
<td>Test Type: In vitro mammalian cell gene mutation test</td>
</tr>
<tr>
<td></td>
<td>Result: negative</td>
</tr>
<tr>
<td></td>
<td>Test Type: Chromosome aberration test in vitro</td>
</tr>
<tr>
<td></td>
<td>Result: negative</td>
</tr>
<tr>
<td></td>
<td>Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)</td>
</tr>
<tr>
<td></td>
<td>Result: negative</td>
</tr>
</tbody>
</table>

**Aluminium silicate:**

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Bacterial reverse mutation assay (AMES)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Method: OECD Test Guideline 471</td>
</tr>
<tr>
<td></td>
<td>Result: negative</td>
</tr>
<tr>
<td></td>
<td>Remarks: Based on data from similar materials</td>
</tr>
</tbody>
</table>

**Paraformaldehyde:**

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Bacterial reverse mutation assay (AMES)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Result: positive</td>
</tr>
<tr>
<td></td>
<td>Remarks: Based on data from similar materials</td>
</tr>
<tr>
<td></td>
<td>Test Type: In vitro mammalian cell gene mutation test</td>
</tr>
<tr>
<td></td>
<td>Result: positive</td>
</tr>
<tr>
<td></td>
<td>Remarks: Based on data from similar materials</td>
</tr>
<tr>
<td></td>
<td>Test Type: in vitro micronucleus test</td>
</tr>
<tr>
<td></td>
<td>Result: positive</td>
</tr>
<tr>
<td></td>
<td>Remarks: Based on data from similar materials</td>
</tr>
<tr>
<td></td>
<td>Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)</td>
</tr>
<tr>
<td></td>
<td>Result: positive</td>
</tr>
<tr>
<td></td>
<td>Remarks: Based on data from similar materials</td>
</tr>
<tr>
<td></td>
<td>Test Type: In vitro sister chromatid exchange assay in mammalian cells</td>
</tr>
<tr>
<td></td>
<td>Result: positive</td>
</tr>
<tr>
<td></td>
<td>Remarks: Based on data from similar materials</td>
</tr>
</tbody>
</table>

**Genotoxicity in vivo:**

<table>
<thead>
<tr>
<th>Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species: Rat</td>
</tr>
<tr>
<td>Application Route: inhalation (vapour)</td>
</tr>
<tr>
<td>Result: positive</td>
</tr>
</tbody>
</table>
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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
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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

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
May cause damage to organs.
## Components:

### Paraformaldehyde:
- **Assessment**: May cause respiratory irritation.
- **Assessment**: Causes damage to organs.

### STOT - repeated exposure
May cause damage to organs 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

**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
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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

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
M-Factor (Acute aquatic toxicity): 10
Toxicity to fish (Chronic toxicity): NOEC (Pimephales promelas (fathead minnow)): 0.00148 mg/l
Exposure time: 32 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC (Daphnia magna (Water flea)): 0.0011 mg/l
Exposure time: 21 d
M-Factor (Chronic aquatic toxicity): 10

Aluminium silicate:
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

### Paraformaldehyde:

#### Toxicity to fish

- **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**: > 0.1 - 1 mg/l  
  Exposure time: 21 d  
  Remarks: Based on the Catalogue of Hazardous Chemicals of China

#### 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:
Biodegradability: Result: Readily biodegradable.
Remarks: Based on data from similar materials

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

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 han-
Amitraz Solid Formulation

14. TRANSPORT INFORMATION

International Regulations

UNRTDG
UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Amitraz (ISO))
Class : 9
Packing group : III
Labels :

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

GB 6944/12268
UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Amitraz (ISO))
Class : 9
Packing group : III
Labels : 9
Special precautions for use
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.

15. REGULATORY INFORMATION

National regulatory information
Law on the Prevention and Control of Occupational Diseases

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

16. OTHER INFORMATION

Further information
Date format : yyyy/mm/dd

Full text of other abbreviations
ACGIH : USA. ACGIH Threshold Limit Values (TLV)
CN OEL : Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.
ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit
CN OEL / MAC : Maximum allowable concentration

AIIIC - 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 Con-
centration 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, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Disclaimer
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.

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