SAFETY DATA SHEET

Amitraz (12.5%) Formulation

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Amitraz (12.5%) Formulation

Manufacturer or supplier’s details
Company : MSD
Address : Rua Coronel Bento Soares, 530 Cruzeiro - Sao Paulo - Brazil CEP 12730-340
Telephone : 908-740-4000
Emergency telephone : 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. HAZARDS IDENTIFICATION

GHS Classification in accordance with ABNT NBR 14725 Standard
Acute toxicity (Oral) : Category 5
Serious eye damage : Category 1
Reproductive toxicity : Category 1B
Specific target organ toxicity - single exposure : Category 3
Specific target organ toxicity - repeated exposure : Category 2 (Liver, Central nervous system, Kidney, Heart, Gastrointestinal tract, Lymph nodes)
Aspiration hazard : Category 1
Short-term (acute) aquatic hazard : Category 1
Long-term (chronic) aquatic hazard : Category 1

GHS label elements in accordance with ABNT NBR 14725 Standard
Hazard pictograms :
Signal Word : Danger

Hazard Statements : H303 May be harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H318 Causes serious eye damage.
H336 May cause drowsiness or dizziness.
H360F May damage fertility.
H373 May cause damage to organs (Liver, Central nervous system, Kidney, Heart, Gastrointestinal tract, Lymph nodes) through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements : Prevention:
P201 Obtain special instructions before use.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
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.
P391 Collect spillage.

Other hazards which do not result in classification
Repeated exposure may cause skin dryness or cracking.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C10, aromatics, &lt;1% naphthalene</td>
<td>64742-94-5</td>
<td>Flammable liquids, Category 4 Specific target organ toxicity - single exposure, Category 3 Aspiration hazard, Category 1 Short-term (acute) aquatic hazard, Category 2 Long-term (chronic) aquatic hazard, Category 2</td>
<td>&gt;= 50 &lt; 70</td>
</tr>
<tr>
<td>4-Nonylphenol, branched, ethoxylated</td>
<td>127087-87-0</td>
<td>Acute toxicity (Oral), Category 4 Serious eye damage, Category 1</td>
<td>&gt;= 10 &lt; 20</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Amitraz (12.5%) Formulation

Version 4.0  Revision Date: 23.03.2020  SDS Number: 1829147-00008  Date of last issue: 13.09.2019  Date of first issue: 11.07.2017

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Alternative CAS Number(s)</th>
<th>Acute toxicity (Oral), Category</th>
<th>Specific target organ toxicity - repeated exposure (Liver, Central nervous system), Category 2</th>
<th>Long-term (chronic) aquatic hazard, Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amitraz (ISO)</td>
<td>33089-61-1</td>
<td>Acute toxicity (Oral), Category 4</td>
<td>Specific target organ toxicity - repeated exposure (Liver, Central nervous system), Category 2</td>
<td>Long-term (chronic) aquatic hazard, Category 2</td>
</tr>
<tr>
<td>2,2',6,6'-Tetraisopropylidiphenylcarbodiimide</td>
<td>2162-74-5</td>
<td>Acute toxicity (Oral), Category 4</td>
<td>Reproductive toxicity, Category 1B Specific target organ toxicity - repeated exposure (Kidney, Heart, Gastrointestinal tract, Lymph nodes), Category 1 Long-term (chronic) aquatic hazard, Category 2</td>
<td></td>
</tr>
</tbody>
</table>

>= 10 - < 20

>= 1 - < 2,5

Alternative CAS Numbers for some regions

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Alternative CAS Number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Nonylphenol, branched, ethoxylated</td>
<td>68412-54-4</td>
</tr>
</tbody>
</table>

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.
SAFETY DATA SHEET

Amitraz (12.5%) Formulation

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. If vomiting occurs have person lean forward. Call a physician or poison control center immediately. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: May be harmful if swallowed. May be fatal if swallowed and enters airways. Causes serious eye damage. May cause drowsiness or dizziness. May damage fertility. May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact may dry skin and cause irritation.

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 fire fighting: Exposure to combustion products may be a hazard to health.

Hazardous combustion products: Carbon oxides
Nitrogen oxides (NOx)

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 fire-fighters: 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 and personal protective equipment recommendations.

Environmental precautions: Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g., by containment or oil barriers).
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:
- Soak up with inert absorbent material.
- For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.
- Clean up remaining materials from spill with suitable absorbent.
- 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:
- See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

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 vapors or spray mist.
- Do not swallow.
- Do not get in eyes.
- Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment.
- Keep container tightly closed.
- 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.
- Wash contaminated clothing before re-use.
- The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

Conditions for safe storage:
- Keep in properly labeled containers.
- Store locked up.
- Keep tightly closed.
- Keep in a cool, well-ventilated place.
- Store in accordance with the particular national regulations.

Materials to avoid:
- Do not store with the following product types:
  - Strong oxidizing agents
  - Organic peroxides
  - Explosives
  - Gases
SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients 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>
</tbody>
</table>

Engineering measures: Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections). All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment. Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices). Minimize open handling.

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

Hand protection: Combined particulates and organic vapor type

Material: Chemical-resistant gloves

Remarks: Consider double gloving.

Eye protection: Wear safety glasses with side shields or goggles. If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles. Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection: Work uniform or laboratory coat. Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces. Use appropriate degowning techniques to remove potentially contaminated clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: liquid

Color: yellow

Odor: characteristic, aromatic, hydrocarbon-like
### Odor Threshold
- No data available

### pH
- No data available

### Melting point/freezing point
- Not applicable

### Initial boiling point and boiling range
- No data available

### Flash point
- 106 °C

### Evaporation rate
- No data available

### Flammability (solid, gas)
- Not applicable

### Flammability (liquids)
- Not applicable

### Upper explosion limit / Upper flammability limit
- No data available

### Lower explosion limit / Lower flammability limit
- No data available

### Vapor pressure
- No data available

### Relative vapor density
- No data available

### Relative density
- No data available

### Density
- No data available

### Solubility(ies)
- Water solubility
  - No data available

### Partition coefficient: n-octanol/water
- No data available

### Autoignition temperature
- No data available

### Decomposition temperature
- No data available

### Viscosity
- Viscosity, kinematic
  - No data available

### Explosive properties
- Not explosive

### Oxidizing properties
- The substance or mixture is not classified as oxidizing.

### Molecular weight
- No data available

### Particle size
- Not applicable

---

**SECTION 10. STABILITY AND REACTIVITY**
SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:
- Inhalation
- Skin contact
- Ingestion
- Eye contact

Acute toxicity:
May be harmful if swallowed.

Product:
Acute oral toxicity: Acute toxicity estimate: 2.384 mg/kg
Method: Calculation method

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:
- Acute oral toxicity: LD50 (Rat): > 5.000 mg/kg
  Method: OECD Test Guideline 420
  Remarks: Based on data from similar materials

- Acute inhalation toxicity: LC50 (Rat): > 4.778 mg/l
  Exposure time: 4 h
  Test atmosphere: dust/mist
  Method: OECD Test Guideline 403
  Remarks: Based on data from similar materials

- Acute dermal toxicity: LD50 (Rabbit): > 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

4-Nonylphenol, branched, ethoxylated:
- Acute oral toxicity: LD50 (Rat): 1.310 mg/kg

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

2,2',6,6'-Tetraisopropyldiphenylcarbodiimide:

Acute oral toxicity: LD50 (Rat): > 300 - 2.000 mg/kg
Method: OECD Test Guideline 423

Acute dermal toxicity: LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation
Not classified based on available information.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

Assessment: Repeated exposure may cause skin dryness or cracking.

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

2,2',6,6'-Tetraisopropyldiphenylcarbodiimide:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Serious eye damage/eye irritation
Causes serious eye damage.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:
Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

4-Nonylphenol, branched, ethoxylated:
Species: Rabbit
Result: Irreversible effects on the eye
Remarks: Based on data from similar materials

Amitraz (ISO):
Species: Rabbit
Result: No eye irritation
2,2',6,6'-Tetraisopropyldiphenylcarbodiimide:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>No eye irritation</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 405</td>
</tr>
</tbody>
</table>

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Maximization Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routes of exposure</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Species</td>
<td>Guinea pig</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

Amitraz (ISO):

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Maximization Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routes of exposure</td>
<td>Dermal</td>
</tr>
<tr>
<td>Species</td>
<td>Guinea pig</td>
</tr>
<tr>
<td>Result</td>
<td>Not a skin sensitizer.</td>
</tr>
</tbody>
</table>

2,2',6,6'-Tetraisopropyldiphenylcarbodiimide:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Maximization Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routes of exposure</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Species</td>
<td>Guinea pig</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 406</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

Germ cell mutagenicity

Not classified based on available information.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

Genotoxicity in vitro: Test Type: In vitro sister chromatid exchange assay in mammalian cells

Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo: Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: inhalation (vapor)
Result: negative
Remarks: Based on data from similar materials
SAFETY DATA SHEET

Amitraz (12.5%) Formulation

Amitraz (ISO):
- Genotoxicity in vitro:
  - Test Type: Bacterial reverse mutation assay (AMES)
    Result: negative
  - Test Type: In vitro mammalian cell gene mutation test
    Result: negative
  - Test Type: Chromosome aberration test in vitro
    Result: negative
  - Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
    Result: negative

2,2',6,6'-Tetraisopropylidiphenylcarbodiimide:
- 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: negative
  - Test Type: In vitro mammalian cell gene mutation test
    Method: OECD Test Guideline 476
    Result: negative

Carcinogenicity
- Not classified based on available information.

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

Reproductive toxicity
- May damage fertility.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:
- Effects on fertility:
  - Test Type: Three-generation reproduction toxicity study
  - Species: Rat
Amitraz (12.5%) Formulation

Application Route: inhalation (vapor)
Result: negative
Remarks: Based on data from similar materials

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

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

Test Type: Embryo-fetal development
Species: Rabbit
Application Route: Oral
Developmental Toxicity: NOAEL: 5 mg/kg body weight
Result: Effects on fetal development.

2,2',6,6'-Tetraisopropylidiphenylcarbodiimide:

Effects on fertility
Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 421
Result: positive

Test Type: Fertility
Species: Rat
Application Route: Ingestion
Result: positive

Effects on fetal development
Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 421
Result: equivocal

Reproductive toxicity - Assessment
Clear evidence of adverse effects on sexual function and fertility, based on animal experiments.
SAFETY DATA SHEET

Amitraz (12.5%) Formulation

STOT-single exposure
May cause drowsiness or dizziness.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:
Assessment : May cause drowsiness or dizziness.
Remarks : Based on data from similar materials

STOT-repeated exposure
May cause damage to organs (Liver, Central nervous system, Kidney, Heart, Gastrointestinal tract, Lymph nodes) 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.

2,2'6,6'-Tetraisopropyldiphenylcarbodiimide:
Routes of exposure : Ingestion
Target Organs : Kidney, Heart, Gastrointestinal tract, Lymph nodes
Assessment : Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:
Species : Rat
NOAEL : 300 mg/kg
Application Route : Ingestion
Exposure time : 13 Weeks
Remarks : Based on data from similar materials

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

2,2'6,6'-Tetraisopropyldiphenylcarbodiimide:
Species : Rat
**Aspiration toxicity**

- May be fatal if swallowed and enters airways.

**Product:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

**Components:**

**Hydrocarbons, C10, aromatics, <1% naphthalene:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

**Experience with human exposure**

**Components:**

**Amitraz (ISO):**

- Ingestion: Target Organs: Central nervous system

---

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Components:**

**Hydrocarbons, C10, aromatics, <1% naphthalene:**

- **Toxicity to fish:** LL50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l
  - Exposure time: 96 h
  - Test substance: Water Accommodated Fraction
  - Method: OECD Test Guideline 203
  - Remarks: Based on data from similar materials

- **Toxicity to daphnia and other aquatic invertebrates:** EL50 (Daphnia magna (Water flea)): 3 - 10 mg/l
  - Exposure time: 48 h
  - Test substance: Water Accommodated Fraction
  - Method: OECD Test Guideline 202
  - Remarks: Based on data from similar materials

- **Toxicity to algae/aquatic plants:** EL50 (Pseudokirchneriella subcapitata (green algae)): > 1 - 3 mg/l
  - Exposure time: 72 h
  - Test substance: Water Accommodated Fraction
  - Method: OECD Test Guideline 201
  - Remarks: Based on data from similar materials

**4-Nonylphenol, branched, ethoxylated:**

---
### Toxicity to Fish

- **LC50**: > 1 - 10 mg/l
- **Exposure time**: 96 h
- **Remarks**: Based on data from similar materials

### Toxicity to Daphnia and Other Aquatic Invertebrates

- **EC50**: > 1 - 10 mg/l
- **Exposure time**: 48 h
- **Remarks**: Based on data from similar materials

### Toxicity to Algae/Aquatic Plants

- **NOEC**: 20 mg/l
- **Exposure time**: 96 h
- **Remarks**: Based on data from similar materials

### 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

### 2,2',6,6'-Tetraisopropyldiphenylcarbodiimide:

- **Toxicity to Fish**
  - **LC50** (Oncorhynchus mykiss (rainbow trout)): > 0,1 mg/l
  - **Exposure time**: 96 h
  - **Method**: OECD Test Guideline 203
  - **Remarks**: No toxicity at the limit of solubility.

- **Toxicity to Daphnia and Other Aquatic Invertebrates**
  - **EC50** (Daphnia magna (Water flea)): > 1 mg/l
  - **Exposure time**: 48 h
  - **Method**: OECD Test Guideline 202
  - **Remarks**: No toxicity at the limit of solubility.

- **Toxicity to Algae/Aquatic Plants**
  - **ErC50** (Desmodesmus subspicatus (green algae)): > 1 mg/l
  - **Exposure time**: 72 h
  - **Method**: OECD Test Guideline 201
  - **Remarks**: No toxicity at the limit of solubility.

  - **NOEC** (Desmodesmus subspicatus (green algae)): > 1 mg/l
  - **Exposure time**: 72 h
  - **Method**: OECD Test Guideline 201
SAFETY DATA SHEET

Amitraz (12.5%) Formulation

Toxicity to microorganisms:

- EC50: > 1.000 mg/l
- Exposure time: 3 h
- Method: OECD Test Guideline 209

Persistence and degradability

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

- Biodegradability: Result: Not readily biodegradable.
  - Biodegradation: 49.56 %
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301F

2,2',6,6'-Tetraisopropyldiphenylcarbodiimide:

- Biodegradability: Result: Not readily biodegradable.
  - Biodegradation: 3 %
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301B

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

2,2',6,6'-Tetraisopropyldiphenylcarbodiimide:

- Bioaccumulation: Bioconcentration factor (BCF): > 500
- Partition coefficient: n-octanol/water: log Pow: > 6.2

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.
SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Amitraz (ISO))
Class : 9
Packing group : III
Labels : 9

IATA-DGR
UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (Amitraz (ISO))
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 964
Packing instruction (passenger aircraft) : 964
Environmentally hazardous : yes

IMDG-Code
UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, 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.

Domestic regulation

ANTT
UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Amitraz (ISO))
Class : 9
Packing group : III
Labels : 9
Hazard Identification Number : 90

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.
### SECTION 15. REGULATORY INFORMATION

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

<table>
<thead>
<tr>
<th>National List of Carcinogenic Agents for Humans (LINACH)</th>
<th>: Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil. List of chemicals controlled by the Federal Police</td>
<td>: Not applicable</td>
</tr>
</tbody>
</table>

**International Regulations**

**The ingredients of this product are reported in the following inventories:**

- **AICS**: not determined
- **DSL**: not determined
- **IECSC**: not determined

### SECTION 16. OTHER INFORMATION

**Further information**


Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

**Full text of other abbreviations**

AICS - Australian Inventory of Chemical Substances; 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;
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.