1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Amitraz (12.5%) 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: liquid
Colour: yellow
Odour: characteristic, aromatic, hydrocarbon-like

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. Very toxic to aquatic life with long lasting effects.

GHS Classification
Acute toxicity (Oral): Category 5
Serious eye damage/eye irritation: Category 1
Reproductive toxicity: Category 1B
Specific target organ toxicity - single exposure: Category 3
Specific target organ toxicity - repeated exposure: Category 2
Aspiration hazard: Category 1
Short-term (acute) aquatic hazard: Category 1
Long-term (chronic) aquatic hazard: Category 1
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Amitraz (12.5%) Formulation

Version 2.5  Revision Date: 2020/03/23  SDS Number: 1829144-00008  Date of last issue: 2019/09/13

Date of first issue: 2017/07/11

GHS label elements
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 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 mist or vapours.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
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.
P312 Call a POISON CENTER/ doctor if you feel unwell.
P331 Do NOT induce vomiting.
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
May be harmful if swallowed. Causes serious eye damage. May damage fertility. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways.

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

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C10, aromatics, &lt;1% naphthalene</td>
<td>Chemical name: Hydrocarbons, C10, aromatics, &lt;1% naphthalene</td>
</tr>
<tr>
<td>4-Nonylphenol, branched, ethoxylated</td>
<td>Chemical name: 4-Nonylphenol, branched, ethoxylated</td>
</tr>
<tr>
<td>Amitraz (ISO)</td>
<td>Chemical name: Amitraz (ISO)</td>
</tr>
<tr>
<td>bis(2,6-diisopropylphenyl)carbodiimide</td>
<td>Chemical name: bis(2,6-diisopropylphenyl)carbodiimide</td>
</tr>
</tbody>
</table>

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>Alternative CAS Number(s): 68412-54-4</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. 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. If vomiting occurs have person lean forward. Call a physician or poison control centre 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.

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

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 dyking or other appropriate containment to keep material from spreading. If dyked 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
7. HANDLING AND STORAGE

Handling
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 vapours 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.

Avoidance of contact : Oxidizing agents

Storage
Conditions for safe storage : Keep in properly labelled 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

Packaging material : Unsuitable material: None known.

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>
</tbody>
</table>

Engineering measures : Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., dripless 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: Combined particulates and organic vapour type

Eye/face 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.

Hand protection

Material: Chemical-resistant gloves

Remarks: Consider double gloving.

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.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic, aromatic, hydrocarbon-like</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>Not applicable</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Amitraz (12.5%) Formulation

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>106 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (liquids)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper explosion limit / Upper flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit / Lower flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>The substance or mixture is not classified as oxidizing.</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>No data available</td>
</tr>
<tr>
<td>Particle size</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>Not classified as a reactivity hazard.</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>Stable under normal conditions.</td>
</tr>
<tr>
<td>Possibility of hazardous reac-tions</td>
<td>Can react with strong oxidizing agents.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>None known.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Oxidizing agents</td>
</tr>
</tbody>
</table>
11. TOXICOLOGICAL INFORMATION

Exposure routes: 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

Acute dermal toxicity: LD50 (Rabbit): > 2,000 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
**Amitraz (12.5%) Formulation**

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue</th>
<th>Date of first issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>2020/03/23</td>
<td>1829144-00008</td>
<td>2019/09/13</td>
<td>2017/07/11</td>
</tr>
</tbody>
</table>

**bis(2,6-diisopropylphenyl)carbodiimide:**
- **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

**bis(2,6-diisopropylphenyl)carbodiimide:**
- 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

**bis(2,6-diisopropylphenyl)carbodiimide:**
- Species: Rabbit
- Result: No eye irritation
- Method: OECD Test Guideline 405
Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

**Components:**

**Hydrocarbons, C10, aromatics, <1% naphthalene:**
Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative
Remarks: Based on data from similar materials

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

**bis(2,6-diisopropylphenyl)carbodiimide:**
Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

**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 cyogenetic test, chromosomal analysis)
Species: Rat
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

**Amitraz (ISO):**
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Amitraz (12.5%) Formulation

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

bis(2,6-diisopropylphenyl)carbodiimide:
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
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials
Effects on foetal development: Test Type: Embryo-foetal 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 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  

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

bis(2,6-diisopropylphenyl)carbodiimide:
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 foetal 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.

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 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.

**bis(2,6-diisopropylphenyl)carbodiimide:**

- **Exposure routes:** 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

**bis(2,6-diisopropylphenyl)carbodiimide:**

- **Species:** Rat
- **NOAEL:** 4 mg/kg
- **LOAEL:** 16 mg/kg
- **Application Route:** Ingestion
Amitraz (12.5%) Formulation

Exposure time: 28 Days
Method: OECD Test Guideline 407

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

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
Amitraz (12.5%) Formulation

<table>
<thead>
<tr>
<th>Remarks: Based on data from similar materials</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toxicity to daphnia and other aquatic invertebrates</strong></td>
</tr>
<tr>
<td>EC50: &gt; 1 - 10 mg/l</td>
</tr>
<tr>
<td>Exposure time: 48 h</td>
</tr>
<tr>
<td>Remarks: Based on data from similar materials</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remarks: Based on data from similar materials</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toxicity to algae/aquatic plants</strong></td>
</tr>
<tr>
<td>NOEC: 20 mg/l</td>
</tr>
<tr>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td>Remarks: Based on data from similar materials</td>
</tr>
</tbody>
</table>

### Amitraz (ISO):

#### Toxicity to fish

<table>
<thead>
<tr>
<th>Remarks: No toxicity at the limit of solubility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toxicity to daphnia and other aquatic invertebrates</strong></td>
</tr>
<tr>
<td>EC50 (Daphnia magna (Water flea)): 0.035 mg/l</td>
</tr>
<tr>
<td>Exposure time: 48 h</td>
</tr>
</tbody>
</table>

#### Toxicity to algae/aquatic plants

<table>
<thead>
<tr>
<th>Remarks: No toxicity at the limit of solubility</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOEC (Pseudokirchneriella subcapitata (green algae)): 0.04 mg/l</td>
</tr>
<tr>
<td>Exposure time: 91 h</td>
</tr>
</tbody>
</table>

#### 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 |

### bis(2,6-diisopropylphenyl)carbodiimide:

#### Toxicity to fish

<table>
<thead>
<tr>
<th>Remarks: No toxicity at the limit of solubility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toxicity to daphnia and other aquatic invertebrates</strong></td>
</tr>
<tr>
<td>LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.45 mg/l</td>
</tr>
<tr>
<td>Exposure time: 96 h</td>
</tr>
</tbody>
</table>

#### Toxicity to algae/aquatic plants

<table>
<thead>
<tr>
<th>Remarks: No toxicity at the limit of solubility</th>
</tr>
</thead>
<tbody>
<tr>
<td>ErC50 (Desmodesmus subspicatus (green algae)): &gt; 1 mg/l</td>
</tr>
<tr>
<td>Exposure time: 72 h</td>
</tr>
</tbody>
</table>

#### Toxicity to microorganisms

| EC50: > 1,000 mg/l |

### Method

OECD Test Guideline 203

### Remarks

OECD Test Guideline 202

### Remarks

OECD Test Guideline 201

### Remarks

OECD Test Guideline 201
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

**bis(2,6-diisopropylphenyl)carbodiimide:**
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

**bis(2,6-diisopropylphenyl)carbodiimide:**
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

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.
**SAFETY DATA SHEET**

according to GB/T 16483 and GB/T 17519

### Amitraz (12.5%) Formulation

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue: 2019/09/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>2020/03/23</td>
<td>1829144-00008</td>
<td>Date of first issue: 2017/07/11</td>
</tr>
</tbody>
</table>

If not otherwise specified: Dispose of as unused product.

#### 14. TRANSPORT INFORMATION

**International Regulations**

**UNRTDG**

<table>
<thead>
<tr>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Class</th>
<th>Packing group</th>
<th>Labels</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN 3082</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Amitraz (ISO))</td>
<td>9</td>
<td>III</td>
<td>9</td>
</tr>
</tbody>
</table>

**IATA-DGR**

<table>
<thead>
<tr>
<th>UN/ID No.</th>
<th>Proper shipping name</th>
<th>Class</th>
<th>Packing group</th>
<th>Labels</th>
<th>Packing instruction (cargo aircraft)</th>
<th>Packing instruction (passenger aircraft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN 3082</td>
<td>Environmentally hazardous substance, liquid, n.o.s. (Amitraz (ISO))</td>
<td>9</td>
<td>III</td>
<td>Miscellaneous</td>
<td>964</td>
<td>964</td>
</tr>
</tbody>
</table>

**IMDG-Code**

<table>
<thead>
<tr>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Class</th>
<th>Packing group</th>
<th>Labels</th>
<th>EmS Code</th>
<th>Marine pollutant</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN 3082</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Amitraz (ISO))</td>
<td>9</td>
<td>III</td>
<td>9</td>
<td>F-A, S-F</td>
<td>yes</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Class</th>
<th>Packing group</th>
<th>Labels</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN 3082</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Amitraz (ISO))</td>
<td>9</td>
<td>III</td>
<td>9</td>
</tr>
</tbody>
</table>

**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.
Amitraz (12.5%) Formulation

Version: 2.5  Revision Date: 2020/03/23  SDS Number: 1829144-00008  Date of last issue: 2019/09/13  Date of first issue: 2017/07/11

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

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 Standardisation; 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, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Amitraz (12.5%) Formulation

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue</th>
<th>Date of first issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>2020/03/23</td>
<td>1829144-00008</td>
<td>2019/09/13</td>
<td>2017/07/11</td>
</tr>
</tbody>
</table>

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.

CN / EN