SAFETY DATA SHEET

Amitraz (5%) Formulation

Version: 3.0
Revision Date: 23.03.2020
SDS Number: 1829208-00007
Date of last issue: 13.09.2019
Date of first issue: 11.07.2017

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Amitraz (5%) Formulation

Manufacturer or supplier’s details
Company: MSD
Address: 50 Tuas West Drive
          Singapore - Singapore 638408
Telephone: 908-740-4000
Emergency telephone number: 65 6697 2111 (24/7/365)
E-mail address: EHSDATASTEWARD@msd.com
Telefax: 908-735-1496

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

2. HAZARDS IDENTIFICATION

GHS Classification
Flammable liquids: Category 3
Skin corrosion/irritation: Category 2
Serious eye damage/eye irritation: Category 1
Germ cell mutagenicity: Category 1B
Carcinogenicity: Category 1B
Reproductive toxicity: Category 1B
Specific target organ toxicity - single exposure: Category 3
Specific target organ toxicity - repeated exposure: Category 2 (Kidney, Heart, Gastrointestinal tract, Lymph nodes)
Aspiration hazard: Category 1
Short-term (acute) aquatic hazard: Category 1
Long-term (chronic) aquatic hazard: Category 1
SAFETY DATA SHEET

Amitraz (5%) Formulation

Version 3.0  Revision Date: 23.03.2020  SDS Number: 1829208-00007  Date of last issue: 13.09.2019  Date of first issue: 11.07.2017

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :
H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H336 May cause drowsiness or dizziness.
H340 May cause genetic defects.
H350 May cause cancer.
H360F May damage fertility.
H373 May cause damage to organs (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.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233 Keep container tightly closed.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
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.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P332 + P313 If skin irritation occurs: Get medical advice/ atten-
SAFETY DATA SHEET

Amitraz (5%) Formulation

Version 3.0  Revision Date: 23.03.2020  SDS Number: 1829208-00007  Date of last issue: 13.09.2019
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Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

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

Other hazards which do not result in classification
Vapours may form explosive mixture with air.

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>Solvent naphtha (petroleum), light aromatic</td>
<td>64742-95-6</td>
<td>&gt;= 70 - &lt; 90</td>
</tr>
<tr>
<td>4-Nonylphenol, branched, ethoxylated</td>
<td>127087-87-0</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>Amitraz (ISO)</td>
<td>33089-61-1</td>
<td>&gt;= 2.5 - &lt; 10</td>
</tr>
<tr>
<td>bis(2,6-diisopropylphenyl)carbodiimide</td>
<td>2162-74-5</td>
<td>&gt;= 1 - &lt; 10</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>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
for at least 15 minutes while removing 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 : May be fatal if swallowed and enters airways.
5. FIREFIGHTING MEASURES

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

Unsuitable extinguishing media: High volume water jet

Specific hazards during firefighting: Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapours may form explosive mixtures with air. 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: Remove all sources of ignition. 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: Non-sparking tools should be used.
## 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.
If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof 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
- Non-sparking tools should be used.
- Keep container tightly closed.
- Keep away from heat and sources of ignition.
- Take precautionary measures against static discharges.
- Take care to prevent spills, waste and minimize release to the environment.

### 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.
- Keep away from heat and sources of ignition.

### Materials to avoid
- Do not store with the following product types:
  - Self-reactive substances and mixtures
  - Organic peroxides
  - Oxidizing agents
  - Flammable gases
  - Pyrophoric liquids
  - Pyrophoric solids
  - Self-heating substances and mixtures
  - Poisonous gases
  - Explosives
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>Solvent naphtha (petroleum), light aromatic</td>
<td>64742-95-6</td>
<td>TWA</td>
<td>200 mg/m³ (total hydrocarbon vapor)</td>
<td>ACGIH</td>
</tr>
<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**: Combined particulates and organic vapour type

**Hand protection**

**Material**: Chemical-resistant gloves

**Remarks**: Consider double gloving. Take note that the product is flammable, which may impact the selection of hand protection.

**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.

**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
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>
<tr>
<td>Flash point</td>
<td>53 °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>7 %(V)</td>
</tr>
<tr>
<td>Lower explosion limit / Lower flammability limit</td>
<td>0.8 %(V)</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>emulsifiable</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>
</tbody>
</table>
SAFETY DATA SHEET

Amitraz (5%) Formulation

Version: 3.0  Revision Date: 23.03.2020
SDS Number: 1829208-00007  Date of last issue: 13.09.2019
Date of first issue: 11.07.2017

Viscosity, kinematic: No data available
Explosive properties: Not explosive
Oxidizing properties: The substance or mixture is not classified as oxidizing.
Molecular weight: Not applicable
Particle size: Not applicable

10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions:
- Vapours may form explosive mixture with air.
- Can react with strong oxidizing agents.
Conditions to avoid: Heat, flames and sparks.
Incompatible materials: Oxidizing agents
Hazardous decomposition products: No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

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

Acute toxicity:
Not classified based on available information.

Product:
Acute oral toxicity: Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Components:

Solvent naphtha (petroleum), light aromatic:
Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity: LC50 (Rat): > 5.61 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Acute dermal toxicity: LD50 (Rabbit): > 2,000 mg/kg

4-Nonylphenol, branched, ethoxylated:
Acute oral toxicity: LD50 (Rat): 1,310 mg/kg
Acute dermal toxicity: LD50 (Rabbit): > 2,000 mg/kg
### Amitraz (ISO):

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>LD50 (Rat): &gt; 400 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50 (Mouse): &gt; 1,085 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50 (Guinea pig): &gt; 400 mg/kg</td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td>Remarks: No data available</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>LD50 (Rat): &gt; 1,600 mg/kg</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>LD50 (Rat): &gt; 300 - 2,000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 423</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>LD50 (Rat): &gt; 2,000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 402</td>
</tr>
<tr>
<td></td>
<td>Assessment: The substance or mixture has no acute dermal toxicity</td>
</tr>
</tbody>
</table>

### Skin corrosion/irritation

Causes skin irritation.

### Components:

### Solvent naphtha (petroleum), light aromatic:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>OECD Test Guideline 404</td>
</tr>
<tr>
<td>Result</td>
<td>Skin irritation</td>
</tr>
</tbody>
</table>

### Amitraz (ISO):

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>No skin irritation</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>No skin irritation</td>
</tr>
</tbody>
</table>

### Serious eye damage/eye irritation

Causes serious eye damage.

### Components:

### Solvent naphtha (petroleum), light aromatic:

<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>

### 4-Nonylphenol, branched, ethoxylated:

| Species                  | Rabbit                          |
SAFETY DATA SHEET

Amitraz (5%) Formulation

Version 3.0  Revision Date: 23.03.2020  SDS Number: 1829208-00007  Date of last issue: 13.09.2019
Date of first issue: 11.07.2017

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:

Solvent naphtha (petroleum), light aromatic:
Test Type : Buehler Test
Exposure routes : Skin contact
Species : Guinea pig
Result : negative

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
May cause genetic defects.

Components:

Solvent naphtha (petroleum), light aromatic:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: positive
### Genotoxicity in vivo

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sister chromatid exchange analysis in spermatogonia</td>
<td>Species: Mouse Application Route: Intraperitoneal injection Result: positive</td>
</tr>
</tbody>
</table>

### Germ cell mutagenicity - Assessment

Positive result(s) from in vivo heritable germ cell mutagenicity tests in mammals

### 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

### bis(2,6-diisoproplyphenyl)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

May cause cancer.

### Components:

#### Solvent naphtha (petroleum), light aromatic:

<table>
<thead>
<tr>
<th>Species</th>
<th>Mouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Route</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Exposure time</td>
<td>2 Years</td>
</tr>
<tr>
<td>Result</td>
<td>positive</td>
</tr>
</tbody>
</table>

#### Amitraz (ISO):

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
</table>
SAFETY DATA SHEET

Amitraz (5%) Formulation

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:

Solvent naphtha (petroleum), light aromatic:

Effects on fertility: Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development: Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

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:

Solvent naphtha (petroleum), light aromatic:
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure
May cause damage to organs (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.

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:

Solvent naphtha (petroleum), light aromatic:
Species: Rat
LOAEL: 500 mg/kg
Application Route: Ingestion
Exposure time: 28 Days

Amitraz (ISO):
SAFETY DATA SHEET

Amitraz (5%) Formulation

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

Species: Rat
NOAEL: 4 mg/kg
LOAEL: 16 mg/kg
Application Route: Ingestion
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:
Solvent naphtha (petroleum), light aromatic:
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:
Solvent naphtha (petroleum), light aromatic:
Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): 8.2 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction

Toxicity to daphnia and other aquatic invertebrates: EL50 (Daphnia magna (Water flea)): 4.5 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants:
- EL50 (Pseudokirchneriella subcapitata (microalgae)): 3.1 mg/l
  Exposure time: 96 h
- NOELR (Pseudokirchneriella subcapitata (microalgae)): 0.5 mg/l
  Exposure time: 96 h

Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
- NOELR (Daphnia magna (Water flea)): 2.6 mg/l
  Exposure time: 21 d

Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 211

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
bis(2,6-diisopropylphenyl)carbodiimide:

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

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

Persistence and degradability

Components:

Solvent naphtha (petroleum), light aromatic:

Biodegradability: Result: Inherently biodegradable.  
Biodegradation: 94 %  
Exposure time: 25 d

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
10 octanol/water

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. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG
UN number: UN 3295
Proper shipping name: HYDROCARBONS, LIQUID, N.O.S.
Class: 3
Packing group: III
Labels: 3

IATA-DGR
UN/ID No.: UN 3295
Proper shipping name: Hydrocarbons, liquid, n.o.s.
Class: 3
Packing group: III
Labels: Flammable Liquids
Packing instruction (cargo aircraft): 366
Packing instruction (passenger aircraft): 355

IMDG-Code
UN number: UN 3295
Proper shipping name: HYDROCARBONS, LIQUID, N.O.S. (Amitraz (ISO))
Class: 3
Packing group: III
Labels: 3
EmS Code: F-E, S-D
Marine pollutant: yes
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

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

15. **REGULATORY INFORMATION**

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

Workplace Safety and Health Act and Workplace Safety and Health (General Provisions) Regulations: This product is subjected to the SDS, labelling, PEL and other requirements in the Act/Regulations.

| Environmental Protection and Management Act and Environmental Protection and Management (Hazardous Substances) Regulations | : Amitraz |
| Fire Safety (Petroleum and Flammable Materials) Regulations | : Kerosene Petroleum distillates Petroleum oil |

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
Sources of key data used to compile the Safety Data Sheet:

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

Date format : dd.mm.yyyy

Full text of other abbreviations

- ACGIH : USA. ACGIH Threshold Limit Values (TLV)
- ACGIH / TWA : 8-hour, time-weighted average
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.

SG / EN