SAFETY DATA SHEET
according to the OSHA Hazard Communication Standard

Amitraz (12.5%) Formulation

Version 7.1  Revision Date: 09/30/2023  SDS Number: 1829157-00016  Date of last issue: 04/04/2023
Date of first issue: 07/11/2017

SECTION 1. IDENTIFICATION

Product name: Amitraz (12.5%) Formulation

Manufacturer or supplier’s details

Company name of supplier: Merck & Co., Inc
Address: 126 E. Lincoln Avenue
Rahway, New Jersey U.S.A. 07065
Telephone: 908-740-4000
Emergency telephone: 1-908-423-6000
E-mail address: EHSDATASTEWARD@merck.com

Recommended use of the chemical and restrictions on use

Recommended use: Veterinary product
Restrictions on use: Not applicable

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Oral) : Category 4
Eye irritation : Category 2A
Reproductive toxicity : Category 1B
Specific target organ toxicity - single exposure : Category 3
Specific target organ toxicity - repeated exposure : Category 1 (Kidney, Heart, Gastrointestinal tract, Lymph nodes)
Specific target organ toxicity - repeated exposure : Category 2 (Liver, Central nervous system)
Aspiration hazard : Category 1

GHS label elements

Hazard pictograms :

Signal Word : Danger
Hazard Statements :
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H360F May damage fertility.
H372 Causes damage to organs (Kidney, Heart, Gastrointesti-
nal tract, Lymph nodes) through prolonged or repeated exposure.
H373 May cause damage to organs (Liver, Central nervous system) through prolonged or repeated exposure.

Precautionary Statements

Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves, protective clothing, eye protection and face protection.

Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical attention.
P331 Do NOT induce vomiting.
P337 + P313 If eye irritation persists: Get medical attention.

Storage:
P405 Store locked up.

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

Other hazards
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>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C10, aromatics, &lt;1% naphthalene</td>
<td>64742-94-5</td>
<td>&gt;= 50 - &lt; 70</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;= 10 - &lt; 20</td>
</tr>
<tr>
<td>Bis(2,6-diisopropylphenyl)carbodiimide</td>
<td>2162-74-5</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
</tbody>
</table>

Actual concentration is withheld as a trade secret
SECTION 4. FIRST AID MEASURES

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

If inhaled: If inhaled, remove to fresh air. Get medical attention.

In case of skin contact: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

In case of eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention.

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: Harmful if swallowed. May be fatal if swallowed and enters airways. Causes serious eye irritation. May cause drowsiness or dizziness. May damage fertility. Causes 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 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 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 (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. 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 mist or vapors. Do not swallow. Do not get in eyes. Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Keep container tightly closed.
Do not eat, drink or smoke when using this product. Take care to prevent spills, waste and minimize release to the environment.

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
  - Self-reactive substances and mixtures
  - 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>Hydrocarbons, C10, aromatics, &lt;1% naphthalene</td>
<td>64742-94-5</td>
<td>TWA (Inhalable particulate matter)</td>
<td>5 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ST (Mist)</td>
<td>10 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>500 ppm</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2,000 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Amitraz (ISO)</td>
<td>33089-61-1</td>
<td>TWA</td>
<td>10 µg/m³ (OEB 3)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>1250 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:
- General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn.
- Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air
supplied respirator if there is any potential for uncontrolled
release, exposure levels are unknown, or any other
circumstance where air purifying respirators may not provide
adequate protection.

Hand protection
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.

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.

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 : 223 °F / 106 °C
Evaporation rate : No data available
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**Amitraz (12.5%) Formulation**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Version</td>
<td>7.1</td>
</tr>
<tr>
<td>Revision Date</td>
<td>09/30/2023</td>
</tr>
<tr>
<td>SDS Number</td>
<td>1829157-00016</td>
</tr>
<tr>
<td>Date of last issue</td>
<td>04/04/2023</td>
</tr>
<tr>
<td>Date of first issue</td>
<td>07/11/2017</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (liquids)</td>
<td>Not applicable</td>
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<td>Upper explosion limit / Upper flammability limit</td>
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<tr>
<td>Lower explosion limit / Lower flammability limit</td>
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<td>Vapor pressure</td>
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<td>Relative vapor density</td>
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<tr>
<td>Relative density</td>
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<td>Density</td>
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<tr>
<td>Solubility(ies)</td>
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<tr>
<td>Water solubility</td>
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<td>Partition coefficient: n-octanol/water</td>
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<td>Autoignition temperature</td>
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<tr>
<td>Decomposition temperature</td>
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<td>Viscosity</td>
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</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
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<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
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<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>
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<tr>
<td>Particle size</td>
<td>Not applicable</td>
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</tbody>
</table>

**SECTION 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 reactions</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>
<tr>
<td>Hazardous decomposition products</td>
<td>No hazardous decomposition products are known.</td>
</tr>
</tbody>
</table>
SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity
Harmful if swallowed.

Product:
Acute oral toxicity : Acute toxicity estimate: 1,505 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): > 300 - 2,000 mg/kg
Remarks: Based on data from similar materials

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
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**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 irritation.

**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**: Irritation to eyes, reversing within 21 days

**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 sensitization

Skin sensitization
Not classified based on available information.

Respiratory sensitization
Not classified based on available information.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:
Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : negative
Remarks : Based on data from similar materials

4-Nonylphenol, branched, ethoxylated:
Test Type : Human repeat insult patch test (HRIPT)
Routes of exposure : Skin contact
Result : negative
Remarks : Based on data from similar materials

Amitraz (ISO):
Test Type : Maximization Test
Routes of exposure : Dermal
Species : Guinea pig
Result : Not a skin sensitizer.

Bis(2,6-diisopropylphenyl)carbodiimide:
Test Type : Maximization Test
Routes of exposure : 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 cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: inhalation (vapor)
Result: negative
Remarks: Based on data from similar materials

4-Nonylphenol, branched, ethoxylated:
Genotoxicity in vitro:
- Test Type: Bacterial reverse mutation assay (AMES)
  - Result: negative
- Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
  - Result: negative

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:
Not classified based on available information.

Components:

4-Nonylphenol, branched, ethoxylated:
- Species: Rat
- Application Route: Ingestion
- Exposure time: 2 Years
- Result: negative
- Remarks: Based on data from similar materials
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**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

**IARC**
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA**
No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.

**NTP**
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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

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
Causes damage to organs (Kidney, Heart, Gastrointestinal tract, Lymph nodes) through prolonged or repeated exposure.
May cause damage to organs (Liver, Central nervous system) through prolonged or repeated exposure.

Components:

Amitraz (ISO):
Target Organ: Liver, Central nervous system
Assessment: May cause damage to organs through prolonged or repeated exposure.
Bis(2,6-diisopropylphenyl)carbodiimide:
- 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

**4-Nonylphenol, branched, ethoxylated:**
- Species: Rat
- LOAEL: > 100 mg/kg
- Application Route: Ingestion
- Exposure time: 90 Days
- 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
- Exposure time: 28 Days
- Method: OECD Test Guideline 407

**Aspiration toxicity**
- May be fatal if swallowed and enters airways.
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Product:
The substance or mixture is known to cause human aspiration toxicity hazards or has to be re-
garded 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 re-
garded 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 (Pimephales promelas (fathead minnow)): > 0.1 - 1 mg/l
  Exposure time: 96 h
  Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates:
  EC50 (Ceriodaphnia dubia (water flea)): > 0.1 - 1 mg/l
  Exposure time: 48 h
  Remarks: Based on data from similar materials
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<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
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<tbody>
<tr>
<td>7.1</td>
<td>09/30/2023</td>
<td>1829157-00016</td>
<td>04/04/2023</td>
<td>07/11/2017</td>
</tr>
</tbody>
</table>

#### Toxicity to algae/aquatic plants:
- **ErC50** (Selenastrum capricornutum (green algae)): > 1 - 10 mg/l
  - Exposure time: 72 h
  - Method: OECD Test Guideline 201
  - Remarks: Based on data from similar materials
- **EC10** (Selenastrum capricornutum (green algae)): > 1 mg/l
  - Exposure time: 72 h
  - Method: OECD Test Guideline 201
  - Remarks: Based on data from similar materials

#### Toxicity to fish (Chronic toxicity):
- NOEC (Oryzias latipes (Japanese medaka)): > 0.1 - 1 mg/l
  - Exposure time: 100 d
  - Remarks: Based on data from similar materials

#### Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
- NOEC (Mysisidopsis bahia (opossum shrimp)): > 0.001 - 0.01 mg/l
  - Exposure time: 28 d
  - 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

#### 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

### 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:**

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

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

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

Biodegradability: Result: Not readily biodegradable.
Remarks: Based on data from similar materials

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

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

**Bioaccumulative potential**

**Components:**

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

Partition coefficient: n-octanol/water: log Pow: < 4

**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

SECTION 13. DISPOSAL CONSIDERATIONS

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

SECTION 14. TRANSPORT INFORMATION

International Regulations

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

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
SAFETY DATA SHEET
counting to the OSHA Hazard Communication Standard

Amitraz (12.5%) Formulation

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

49 CFR
UN/ID/NA number : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (Amitraz (ISO))
Class : 9
Packing group : III
Labels : CLASS 9
ERG Code : 171
Marine pollutant : yes (Amitraz (ISO))
Remarks : Above applies only to containers over 119 gallons or 450 liters.

Shipment by ground under DOT is non-regulated; however it may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

Special precautions for user

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

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)
Aspiration hazard
Serious eye damage or eye irritation

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

<table>
<thead>
<tr>
<th>Component</th>
<th>DOT Code</th>
<th>Reporting Level</th>
</tr>
</thead>
<tbody>
<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;= 10 - &lt; 20 %</td>
</tr>
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</table>
SAFETY DATA SHEET
according to the OSHA Hazard Communication Standard

Amitraz (12.5%) Formulation

Version 7.1  Revision Date: 09/30/2023  SDS Number: 1829157-00016  Date of last issue: 04/04/2023
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US State Regulations

Pennsylvania Right To Know
Hydrocarbons, C10, aromatics, <1% naphthalene 64742-94-5
4-Nonylphenol, branched, ethoxylated 127087-87-0
Amitraz (ISO) 33089-61-1

California Prop. 65
WARNING: This product can expose you to chemicals including Amitraz (ISO), which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances
Hydrocarbons, C10, aromatics, <1% naphthalene 64742-94-5

California Permissible Exposure Limits for Chemical Contaminants
Hydrocarbons, C10, aromatics, <1% naphthalene 64742-94-5

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

NFPA 704:

Flammability Instability

Health

HMIS® IV:

HEALTH  *  3

FLAMMABILITY  1

PHYSICAL HAZARD  0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations
ACGIH: USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL: USA. NIOSH Recommended Exposure Limits
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OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA : 8-hour, time-weighted average
NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST : STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA Z-1 / TWA : 8-hour time weighted average


Revision Date : 09/30/2023

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.