SAFETY DATA SHEET
according to the OSHA Hazard Communication Standard

Amitraz (5%) Formulation

SECTION 1. IDENTIFICATION

Product name : Amitraz (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)

Flammable liquids : Category 3
Skin irritation : Category 2
Eye irritation : Category 2A
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 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 : ![Flammable](image1), ![Health](image2), ![Danger](image3)

Signal Word : Danger
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Hazard Statements:
- H226 Flammable liquid and vapor.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.
- H340 May cause genetic defects.
- H350 May cause cancer.
- H360F May damage fertility.
- H372 Causes damage to organs (Kidney, Heart, Gastrointestinal 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.
- P210 Keep away from heat, sparks, open flame and hot surfaces. No smoking.
- P233 Keep container tightly closed.
- P241 Use explosion-proof electrical, ventilating and lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- 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.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
- 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.
- P332 + P313 If skin irritation occurs: Get medical attention.
- P337 + P313 If eye irritation persists: Get medical attention.
- P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage:
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.
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**Disposal:**
P501 Dispose of contents and container to an approved waste disposal plant.

**Other hazards**
Vapors may form explosive mixture with air.

### 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>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;= 5 - &lt; 10</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*

**Alternative CAS Numbers for some regions**

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

### SECTION 4. FIRST AID MEASURES

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

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

**In case of skin contact:**
- In case of contact, immediately flush skin with plenty of water 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.

**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**
- May be fatal if swallowed and enters airways.
- Causes skin irritation.
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delayed

Causes serious eye irritation.
May cause drowsiness or dizziness.
May cause genetic defects.
May cause cancer.
May damage fertility.
Causes damage to organs through prolonged or repeated exposure.

Protection of first-aiders

First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician

Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media

High volume water jet

Specific hazards during fire fighting

Do not use a solid water stream as it may scatter and spread fire.
Flash back possible over considerable distance.
Vapors 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 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

Remove all sources of ignition.
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

Non-sparking tools should be used.
containment and cleaning up
Soak up with inert absorbent material. Suppress (knock down) gases/vapors/mists with a water spray jet. 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. Use explosion-proof electrical, ventilating and lighting equipment.

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. Non-sparking tools should be used. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product. Take care to prevent spills, waste and minimize release to the environment.

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. Keep away from heat and sources of ignition.

Materials to avoid:
Do not store with the following product types: Strong oxidizing agents Self-reactive substances and mixtures Organic peroxides Flammable solids Pyrophoric liquids Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures which in contact with water emit flammable gases
Explosives
Gases
Very acutely toxic substances and mixtures

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>Solvent naphtha (petroleum), light aromatic</td>
<td>64742-95-6</td>
<td>TWA</td>
<td>500 ppm 2,000 mg/m³</td>
<td>OSHA Z-1</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.
Use explosion-proof electrical, ventilating and lighting equipment.

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: Chemical-resistant gloves
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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 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: 127 °F / 53 °C
Evaporation rate: No data available
Flammability (solid, gas): Not applicable
Flammability (liquids): Not applicable
Upper explosion limit / Upper: 7 %(V)
flammmability limit

Lower explosion limit / Lower flammmability limit : 0.8%(V)

Vapor pressure : No data available
Relative vapor density : No data available
Relative density : No data available
Density : No data available

Solubility(ies)
Water solubility : emulsifiable

Partition coefficient: n-octanol/water : No data available
Autoignition temperature : No data available
Decomposition temperature : No data available

Viscosity
Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.
Molecular weight : Not applicable
Particle size : Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reac-
tions : Flammable liquid and vapor.
Vapors 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.
SECTION 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: 2,375 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: vapor

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

4-Nonylphenol, branched, ethoxylated:
Acute oral toxicity : LD50 (Rat): > 300 - 2,000 mg/kg
Remarks: Based on data from similar materials

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 (Rabbit): > 2,000 mg/kg

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
Skin corrosion/irritation
Causes skin irritation.

Components:

Solvent naphtha (petroleum), light aromatic:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

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:

Solvent naphtha (petroleum), light aromatic:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

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:

Solvent naphtha (petroleum), light aromatic:
Test Type: Buehler Test
Routes of exposure: Skin contact
Species: Guinea pig
Result: negative

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-diisoproplyphenyl)carbodiimide:
Test Type: Maximization Test
Routes of exposure: 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: Test Type: Sister chromatid exchange analysis in spermato-
                                         gonia
                                         Species: Mouse
                                         Application Route: Intraperitoneal injection
                                         Result: positive
Germ cell mutagenicity - Assessment: Positive result(s) from in vivo heritable germ cell mutagenicity
tests in mammals
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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
  Method: OECD Test Guideline 476
  Result: negative
- Test Type: Chromosome aberration test in vitro
  Method: OECD Test Guideline 473
  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
May cause cancer.

Components:

Solvent naphtha (petroleum), light aromatic:
Species: Mouse
Application Route: Skin contact
Exposure time: 2 Years
Result: positive

Carcinogenicity - Assessment: Sufficient evidence of carcinogenicity in animal experiments

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

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:

Solvent naphtha (petroleum), light aromatic:
Effects on fertility: Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: inhalation (vapor)
Result: negative

Effects on fetal development: Test Type: Embryo-fetal development
Species: Rat
Application Route: inhalation (vapor)
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 fetal development: Test Type: Embryo-fetal development
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<table>
<thead>
<tr>
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<tr>
<td>5.1</td>
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<td>1829207-00016</td>
<td>04/04/2023</td>
<td>07/11/2017</td>
</tr>
</tbody>
</table>

Species: Rat
Application Route: Oral
Developmental Toxicity: NOAEL: 3 mg/kg body weight
Remarks: No significant adverse effects were reported

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

**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:**

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

**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 Organs: 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:

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

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.
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

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

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 (Pimephales promelas (fathead minnow)): > 0.1 - 1 mg/l
Exposure time: 96 h
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

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 (Mysidopsis 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
- NOEC (Desmodesmus subspicatus (green algae)): > 1 mg/l
  Exposure time: 72 h
  Method: OECD Test Guideline 201
  Remarks: No toxicity at the limit of solubility.

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

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

Mobility in soil

Component:
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.
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.

SECTION 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
Environmentally hazardous : no

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.
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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.

Domestic regulation

49 CFR
UN/ID/NA number: UN 3295
Proper shipping name: Hydrocarbons, liquid, n.o.s.
Class: 3
Packing group: III
Labels: FLAMMABLE LIQUID
ERG Code: 128
Marine pollutant: yes (Amitraz (ISO))
Remarks: THE COMBUSTIBLE LIQUID EXCEPTION MAY BE USED FOR PACKAGES <119 GAL.

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: Flammable (gases, aerosols, liquids, or solids)
Germ cell mutagenicity
Carcinogenicity
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)
Aspiration hazard
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313: The following components are subject to reporting levels established by SARA Title III, Section 313:
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Amitraz (5%) Formulation

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Date of first issue: 07/11/2017

4-Nonylphenol, branched, ethoxylated 127087-87-0  >= 10 - < 20 %
Amitraz (ISO) 33089-61-1  >= 5 - < 10 %

US State Regulations
Pennsylvania Right To Know
Solvent naphtha (petroleum), light aromatic 64742-95-6
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.

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:

HMIS® IV:

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)
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generated to the OSHA Hazard Communication Standard

Amitraz (5%) Formulation

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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
OSHA Z-1 / TWA : 8-hour time weighted average

AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RO - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; 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


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.