

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version
11.0

Revision Date:
2025/06/17

SDS Number:
1642413-00023

Date of last issue: 2025/04/14
Date of first issue: 2017/05/09

1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name : Amitraz Liquid Formulation

Supplier's company name, address and phone number

Company name of supplier : MSD

Address : 1-13-12, Kudan-kita, Chiyoda-ku, Tokyo, Japan

Telephone : 03-6272-1099

E-mail address : EHSDATASTEWARD@msd.com

Emergency telephone number : +1-908-423-6000

Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product

Restrictions on use : Not applicable

2. HAZARDS IDENTIFICATION

GHS classification of chemical product

Flammable liquids : Category 3

Skin corrosion/irritation : Category 2

Skin sensitisation : Category 1

Germ cell mutagenicity : Category 1B

Carcinogenicity : Category 1B

Reproductive toxicity : Category 2

Specific target organ toxicity - single exposure : Category 3

Specific target organ toxicity - repeated exposure : Category 2 (Liver, Central nervous system)

Aspiration hazard : Category 1

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

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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.
H317 May cause an allergic skin reaction.
H336 May cause drowsiness or dizziness.
H340 May cause genetic defects.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs (Liver, Central nervous system) 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, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
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.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.

SAFETY DATA SHEET



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Version
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P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

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

Important symptoms and outlines of the emergency assumed : Vapours may form explosive mixture with air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

| Chemical name | CAS-No. | Concentration (% w/w) | ENCS No. |
|---|-------------|-----------------------|----------|
| Solvent naphtha (petroleum), light aromatic | 64742-95-6 | >= 60 - <= 70 | 9-1700 |
| 4-Nonylphenol, branched, ethoxylated | 127087-87-0 | 20 | 7-172 |
| amitraz (ISO) | 33089-61-1 | 13 | - |
| 7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate | 2386-87-0 | >= 2.5 - < 10 | 3-2452 |

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 : Flush eyes with water as a precaution.

SAFETY DATA SHEET



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Version
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| | |
|---|---|
| If swallowed | Get medical attention if irritation develops and persists. : If swallowed, DO NOT induce vomiting. If vomiting occurs have person lean forward. Call a physician or poison control centre immediately. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. |
| Most important symptoms and effects, both acute and delayed | : May be fatal if swallowed and enters airways. Causes skin irritation. May cause an allergic skin reaction. May cause drowsiness or dizziness. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child. May cause 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. |

5. FIREFIGHTING MEASURES

| | |
|---|---|
| Suitable extinguishing media | : Water spray Alcohol-resistant foam Carbon dioxide (CO ₂) 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. Vapours may form explosive mixtures with air. Exposure to combustion products may be a hazard to health. |
| Hazardous combustion products | : Carbon oxides |
| 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, protection : Remove all sources of ignition.

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version
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tive 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

- : Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapours/mists with a water spray jet. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items 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.

7. HANDLING AND STORAGE

Handling

Technical measures

- : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation

- : If sufficient ventilation is unavailable, use with local exhaust ventilation. Use explosion-proof electrical, ventilating and lighting equipment.

Advice on safe handling

- : Do not get on skin or clothing. Do not breathe mist or vapours. Do not swallow. Avoid contact with 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.

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version
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Avoidance of contact
Hygiene measures

Take care to prevent spills, waste and minimize release to the environment.

- : Oxidizing agents
- : 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.
Contaminated work clothing should not be allowed out of the workplace.
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.

Storage

Conditions for safe storage

- : Keep in properly labelled containers.
Store locked up.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
Keep away from heat and sources of ignition.

Materials to avoid

- : Do not store with the following product types:
Oxidizing solids
Oxidizing liquids

Packaging material

- : Unsuitable material: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Threshold limit value and permissible exposure limits for each component in the work environment

| Components | CAS-No. | Value type (Form of exposure) | Control parame- ters / Concentra- tion standard / Permissible con- centration | Basis |
|--|------------|-------------------------------------|---|----------|
| Solvent naphtha (petroleum), light aromatic | 64742-95-6 | TWA | 200 mg/m ³ (total hydrocarbon vapor) | ACGIH |
| amitraz (ISO) | 33089-61-1 | TWA | 10 µg/m ³ (OEB 3) | Internal |
| | | Wipe limit | 1250 µg/100 cm ² | Internal |

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

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version
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Revision Date:
2025/06/17

SDS Number:
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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 | : 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. Impermeable protective gloves |
| 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. |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|----------------------------|
| Physical state | : liquid |
| Colour | : Colorless to pale yellow |
| Odour | : No data available |
| Odour Threshold | : No data available |
| Melting point/freezing point | : No data available |
| Boiling point, initial boiling point and boiling range | : No data available |
| Flammability (solid, gas) | : Not applicable |
| Flammability (liquids) | : Not applicable |

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version
11.0

Revision Date:
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Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit / Up- : No data available
per flammability limit

Lower explosion limit / : No data available
Lower flammability limit

Flash point : 56 °C

Decomposition temperature : No data available

pH : No data available

Evaporation rate : No data available

Auto-ignition temperature : No data available

Viscosity
Viscosity, kinematic : No data available

Solubility(ies)
Water solubility : No data available

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

Vapour pressure : No data available

Density and / or relative density
Relative density : No data available

Density : 0.92 - 1.20 g/cm³

Relative vapour density : No data available

Explosive properties : Not explosive

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

Molecular weight : Not applicable

Particle characteristics
Particle size : No data available

10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reac- : Flammable liquid and vapour.

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version 11.0 Revision Date: 2025/06/17 SDS Number: 1642413-00023 Date of last issue: 2025/04/14 Date of first issue: 2017/05/09

tions 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): > 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

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Acute oral toxicity : LD50 (Rat, male): > 2,959 - 5,000 mg/kg

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version 11.0 Revision Date: 2025/06/17 SDS Number: 1642413-00023 Date of last issue: 2025/04/14 Date of first issue: 2017/05/09

Method: OECD Test Guideline 401

| | | |
|---------------------------|---|--|
| Acute inhalation toxicity | : | LC50 (Rat): >= 5.19 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 436 Assessment: The substance or mixture has no acute inhalation toxicity |
| 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

Causes skin irritation.

Components:

Solvent naphtha (petroleum), light aromatic:

| | | |
|---------|---|-------------------------|
| Species | : | Rabbit |
| Method | : | OECD Test Guideline 404 |
| Result | : | Skin irritation |

4-Nonylphenol, branched, ethoxylated:

| | | |
|---------|---|--------------------------------------|
| Species | : | Rabbit |
| Method | : | OECD Test Guideline 404 |
| Result | : | No skin irritation |
| Remarks | : | Based on data from similar materials |

amitraz (ISO):

| | | |
|---------|---|--------------------|
| Species | : | Rabbit |
| Result | : | No skin irritation |

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

| | | |
|---------|---|-------------------------|
| Species | : | Rabbit |
| Method | : | OECD Test Guideline 404 |
| Result | : | No skin irritation |

Serious eye damage/eye irritation

Not classified based on available information.

Components:

Solvent naphtha (petroleum), light aromatic:

| | | |
|---------|---|-------------------------|
| Species | : | Rabbit |
| Result | : | No eye irritation |
| Method | : | OECD Test Guideline 405 |

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version 11.0 Revision Date: 2025/06/17 SDS Number: 1642413-00023 Date of last issue: 2025/04/14
Date of first issue: 2017/05/09

4-Nonylphenol, branched, ethoxylated:

| | | |
|---------|---|--------------------------------------|
| Species | : | Rabbit |
| Result | : | No eye irritation |
| Method | : | OECD Test Guideline 405 |
| Remarks | : | Based on data from similar materials |

amitraz (ISO):

| | | |
|---------|---|-------------------|
| Species | : | Rabbit |
| Result | : | No eye irritation |

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

| | | |
|---------|---|-------------------------|
| Species | : | Rabbit |
| Result | : | No eye irritation |
| Method | : | OECD Test Guideline 405 |

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

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 |

4-Nonylphenol, branched, ethoxylated:

| | | |
|-----------------|---|--------------------------------------|
| Test Type | : | Maximisation Test |
| Exposure routes | : | Skin contact |
| Species | : | Guinea pig |
| Result | : | negative |
| Remarks | : | Based on data from similar materials |

amitraz (ISO):

| | | |
|-----------------|---|------------------------|
| Test Type | : | Maximisation Test |
| Exposure routes | : | Dermal |
| Species | : | Guinea pig |
| Result | : | Not a skin sensitizer. |

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

| | | |
|-----------------|---|-------------------|
| Test Type | : | Maximisation Test |
| Exposure routes | : | Skin contact |
| Species | : | Guinea pig |

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version 11.0 Revision Date: 2025/06/17 SDS Number: 1642413-00023 Date of last issue: 2025/04/14 Date of first issue: 2017/05/09

| | |
|------------|---|
| Result | : positive |
| Assessment | : Probability or evidence of skin sensitisation in humans |

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 spermatogonia 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 |

4-Nonylphenol, branched, ethoxylated:

| | |
|-----------------------|---|
| Genotoxicity in vitro | : Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative Remarks: Based on data from similar materials |
| | : Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: negative Remarks: Based on data from similar materials |
| | : Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative Remarks: Based on data from similar materials |

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 |

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version
11.0

Revision Date:
2025/06/17

SDS Number:
1642413-00023

Date of last issue: 2025/04/14
Date of first issue: 2017/05/09

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

| | |
|-------------------------------------|---|
| Genotoxicity in vitro | : Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: positive |
| | Test Type: In vitro mammalian cell gene mutation test Result: positive |
| | Test Type: In vitro sister chromatid exchange assay in mammalian cells Result: positive |
| | Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro) Result: positive |
| Genotoxicity in vivo | : Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo Species: Rat Application Route: Ingestion Method: OECD Test Guideline 486 Result: negative |
| | Test Type: Micronucleus test Species: Mouse Application Route: Intraperitoneal injection Result: negative |
| | Test Type: Transgenic rodent somatic cell gene mutation assay Species: Mouse Application Route: Ingestion Method: OECD Test Guideline 488 Result: positive |
| Germ cell mutagenicity - Assessment | : Positive result(s) from in vivo mammalian somatic cell mutagenicity tests. |

Carcinogenicity

May cause cancer.

Components:

Solvent naphtha (petroleum), light aromatic:

| | |
|-------------------|----------------|
| Species | : Mouse |
| Application Route | : Skin contact |
| Exposure time | : 2 Years |

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version 11.0 Revision Date: 2025/06/17 SDS Number: 1642413-00023 Date of last issue: 2025/04/14 Date of first issue: 2017/05/09

| | |
|------------------------------|--|
| Result | : positive |
| Carcinogenicity - Assessment | : Sufficient evidence of carcinogenicity in animal experiments |
| 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 |

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

| | |
|-------------------|----------------|
| Species | : Mouse |
| Application Route | : Skin contact |
| Exposure time | : 29 Months |
| Result | : negative |

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

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 |

4-Nonylphenol, branched, ethoxylated:

| | |
|------------------------------------|--|
| Reproductive toxicity - Assessment | : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments. |
|------------------------------------|--|

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 |
|----------------------|---|

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version
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Revision Date:
2025/06/17

SDS Number:
1642413-00023

Date of last issue: 2025/04/14
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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

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Effects on foetal development

: Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative

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 (Liver, Central nervous system) through prolonged or repeated exposure.

Components:

amitraz (ISO):

Target Organs
Assessment

: Liver, Central nervous system
: May cause damage to organs through prolonged or repeated exposure.

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Exposure routes
Target Organs
Assessment

: Ingestion
: nasal cavity
: Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version
11.0

Revision Date:
2025/06/17

SDS Number:
1642413-00023

Date of last issue: 2025/04/14
Date of first issue: 2017/05/09

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 | : | 150 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 90 Days |
| Method | : | OPPTS 870.3100 |
| 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 |

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

| | | |
|-------------------|---|-------------------------|
| Species | : | Rat |
| NOAEL | : | 5 mg/kg |
| LOAEL | : | 50 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 90 Days |
| Method | : | OECD Test Guideline 408 |

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.

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version
11.0

Revision Date:
2025/06/17

SDS Number:
1642413-00023

Date of last issue: 2025/04/14
Date of first issue: 2017/05/09

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
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
Remarks: Based on data from similar materials

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version 11.0 Revision Date: 2025/06/17 SDS Number: 1642413-00023 Date of last issue: 2025/04/14 Date of first issue: 2017/05/09

| | | |
|--|---|---|
| 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 |
| M-Factor (Acute aquatic toxicity) | : | 1 |
| 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 |
| M-Factor (Chronic aquatic toxicity) | : | 10 |

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 |

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version 11.0 Revision Date: 2025/06/17 SDS Number: 1642413-00023 Date of last issue: 2025/04/14 Date of first issue: 2017/05/09

| | |
|---|--|
| Toxicity to fish | : LC50 (Oncorhynchus mykiss (rainbow trout)): 24 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): 40 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : ErC50 (Raphidocelis subcapitata (freshwater green alga)): > 110 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Raphidocelis subcapitata (freshwater green alga)): 30 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 |
| Toxicity to microorganisms | : EC10 (activated sludge): 409 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 |
|------------------|---|

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

| | |
|------------------|---|
| Biodegradability | : Result: Not readily biodegradable. Biodegradation: 71 % 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- | : log Pow: 5.5 |

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version 11.0 Revision Date: 2025/06/17 SDS Number: 1642413-00023 Date of last issue: 2025/04/14
Date of first issue: 2017/05/09

octanol/water

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Partition coefficient: n-octanol/water : log Pow: 1.34
Method: OECD Test Guideline 107

Mobility in soil

Components:

amitraz (ISO):

Distribution among environmental compartments : log Koc: 3.3

Hazardous to the ozone layer

Not applicable

Other adverse effects

No data available

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.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 1993
Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(Solvent naphtha (petroleum), light aromatic)
Class : 3
Packing group : III
Labels : 3
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 1993
Proper shipping name : Flammable liquid, n.o.s.
(Solvent naphtha (petroleum), light aromatic)
Class : 3
Packing group : III

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version 11.0 Revision Date: 2025/06/17 SDS Number: 1642413-00023 Date of last issue: 2025/04/14
Date of first issue: 2017/05/09

Labels : Flammable Liquids
Packing instruction (cargo aircraft) : 366
Packing instruction (passenger aircraft) : 355
Environmentally hazardous : yes

IMDG-Code

UN number : UN 1993
Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(Solvent naphtha (petroleum), light aromatic, amitraz (ISO))
Class : 3
Packing group : III
Labels : 3
EmS Code : F-E, S-E
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

Refer to section 15 for specific national regulation.

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.

ERG Code : 128

15. REGULATORY INFORMATION

Related Regulations

Fire Service Law

Group 4, Type 2 petroleums, Water insoluble liquid, (1000 litre), Hazardous rank III

Chemical Substance Control Law

Priority Assessment Chemical Substance

| Chemical name | Number |
|--|--------|
| alpha-(Nonylphenyl)-omega-hydroxypoly(oxyethylene) | 86 |

Industrial Safety and Health Law

Harmful Substances Prohibited from Manufacture

Not applicable

Harmful Substances Required Permission for Manufacture

Not applicable

Substances Prevented From Impairment of Health

Not applicable

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version
11.0

Revision Date:
2025/06/17

SDS Number:
1642413-00023

Date of last issue: 2025/04/14
Date of first issue: 2017/05/09

Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity

Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity

Not applicable

Substances Subject to be Notified Names

Law Article 57-2 (Ministerial Order Article 34-2 Appended Table 2)

| Chemical name | Concentration (%) | Remarks |
|--|-------------------|----------------------|
| Petroleum naphtha | >=60 - <=70 | - |
| 3-Methyl-1,5-di(2,4-xylyl)-1,3,5-triazapenta-1,4-diene | >=10 - <20 | From April 1st, 2025 |

Substances Subject to be Indicated Names

Law Article 57 (Ministerial Order Article 30 Appended Table 2)

| Chemical name | Remarks |
|--|----------------------|
| Petroleum naphtha | - |
| 3-Methyl-1,5-di(2,4-xylyl)-1,3,5-triazapenta-1,4-diene | From April 1st, 2025 |

Skin and Eye Damage Substances (ISHL MO Art. 594-2)

| Chemical name |
|--|
| 3-methyl-1,5-di(2,4-xylyl)-1,3,5-triazapenta-1,4-diene |

Carcinogenic Substances (Article 577-2 of the Occupational Health and Safety Regulations)

Not applicable

Ordinance on Prevention of Hazards Due to Specified Chemical Substances

Not applicable

Ordinance on Prevention of Lead Poisoning

Not applicable

Ordinance on Prevention of Tetraalkyl Lead Poisoning

Not applicable

Ordinance on Prevention of Organic Solvent Poisoning

Organic Solvents Class 3

Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)

Inflammable Substance

Poisonous and Deleterious Substances Control Law

Not applicable

Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

Class I Designated Chemical Substances

| Chemical name | Administration number | Concentration (%) |
|---|-----------------------|-------------------|
| Poly(oxyethylene) alkylphenyl ether (limited to those the alkyl group is C=9) | 410 | 20 |

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version
11.0

Revision Date:
2025/06/17

SDS Number:
1642413-00023

Date of last issue: 2025/04/14
Date of first issue: 2017/05/09

Class II Designated Chemical Substances

| Chemical name | Administration number | Concentration (%) |
|--|-----------------------|-------------------|
| 3-Methyl-1,5-di(2,4-xylyl)-1,3,5-triazapenta-1,4-diene | 432 | 13 |

High Pressure Gas Safety Act

Not applicable

Explosive Control Law

Not applicable

Vessel Safety Law

Flammable liquids (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

Aviation Law

Flammable liquid (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)

Marine Pollution and Sea Disaster Prevention etc Law

Bulk transportation : Noxious liquid substance(Category Y)

Pack transportation : Classified as marine pollutant

Narcotics and Psychotropics Control Act

Narcotic or Psychotropic Raw Material (Export / Import Permission)

Not applicable

Specific Narcotic or Psychotropic Raw Material (Export / Import permission)

Not applicable

Waste Disposal and Public Cleansing Law

Specially Controlled Industrial Waste

The components of this product are reported in the following inventories:

AICS : not determined

DSL : not determined

IECSC : not determined

16. OTHER INFORMATION

In this SDS, if the concentration of substances subject to notification under the Industrial Safety and Health Law is indicated as a range, it includes cases where it is a trade secret.

Further information

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

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

SAFETY DATA SHEET



Amitraz Liquid Formulation

Version
11.0

Revision Date:
2025/06/17

SDS Number:
1642413-00023

Date of last issue: 2025/04/14
Date of first issue: 2017/05/09

Date format : yyyy/mm/dd

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA : 8-hour, time-weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

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.

JP / EN