

Amitraz (12.5%) Formulation

| | | | |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 2023/04/04 |
| 7.0 | 2023/09/30 | 1829151-00016 | Date of first issue: 2017/07/11 |

1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name : Amitraz (12.5%) Formulation

Supplier's company name, address and phone number

Company name of supplier : MSD

Address : Kumagaya, Saitama Prefecture , Xicheng 810 MSD Co., Ltd.
Menuuma factory

Telephone : 048-588-8411

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

Acute toxicity (Oral) : Category 4

Serious eye damage/eye irritation : Category 2A

Reproductive toxicity : Category 1B

Specific target organ toxicity - single exposure : Category 3

Specific target organ toxicity - repeated exposure : Category 2 (Liver, Central nervous system, Kidney, Heart, Gastrointestinal tract, Lymph nodes)

Aspiration hazard : Category 1


Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

GHS label elements

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- 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.
H373 May cause damage to organs (Liver, Central nervous system, Kidney, Heart, Gastrointestinal tract, Lymph nodes) through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.
- Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist or vapours.
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.
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.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338 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 advice/ attention.
P331 Do NOT induce vomiting.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P391 Collect spillage.
- Storage:**
P405 Store locked up.
- Disposal:**
P501 Dispose of contents/ container to an approved waste disposal plant.

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Other hazards which do not result in classification

Important symptoms and outcomes of the emergency assumed : Repeated exposure may cause skin dryness or cracking.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

| Chemical name | CAS-No. | Concentration (% w/w) | ENCS No. |
|---|-------------|-----------------------|-------------|
| Hydrocarbons, C10, aromatics, <1% naphthalene | 64742-94-5 | >= 60 - < 70 | 9-1691, 3-7 |
| 4-Nonylphenol, branched, ethoxylated | 127087-87-0 | 19.81 | 7-172 |
| amitraz (ISO) | 33089-61-1 | 12.38 | |
| Bis(2,6-diisopropylphenyl)carbodiimide | 2162-74-5 | >= 1 - < 2.5 | 3-142 |

Alternative CAS Numbers for some regions

| Chemical name | Alternative CAS Number(s) |
|--------------------------------------|---------------------------|
| 4-Nonylphenol, branched, ethoxylated | 68412-54-4 |

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 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 : Harmful if swallowed.
 May be fatal if swallowed and enters airways.
 Causes serious eye irritation.
 May cause drowsiness or dizziness.

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May damage fertility.
May cause damage to organs through prolonged or repeated exposure.
Prolonged or repeated contact may dry skin and cause irritation.

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

Notes to physician : Treat symptomatically and supportively.

5. FIREFIGHTING MEASURES

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

Unsuitable extinguishing media : None known.

Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NO_x)

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Follow safe handling advice (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 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 dis-

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posal 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. |
| Advice on safe handling | : | Do not get on skin or clothing. Do not breathe mist or vapours. 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. |
| Avoidance of contact | : | Oxidizing agents |
| 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. |

Storage

- | | | |
|-----------------------------|---|--|
| Conditions for safe storage | : | Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. |
| Materials to avoid | : | Do not store with the following product types: Oxidizing solids Oxidizing liquids |
| Packaging material | : | Unsuitable material: None known. |

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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 parameters / Reference concentration / Permissible concentration | Basis |
|--|------------|------------------------------------|--|----------------|
| Hydrocarbons, C10, aromatics, <1% naphthalene | 64742-94-5 | OEL-M (Mist) | 3 mg/m ³ | JP OEL JSOH |
| Further information: Group 1: carcinogenic to humans | | | | |
| | | TWA (Inhalable particulate matter) | 5 mg/m ³ | 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 are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).
 Minimize open handling.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Combined particulates and organic vapour type

Hand protection

Material : Chemical-resistant gloves

Remarks

Eye protection

: Consider double gloving.
 : 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

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contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|--|---|--|
| Physical state | : | liquid |
| Colour | : | yellow |
| Odour | : | characteristic, aromatic, hydrocarbon-like |
| Odour Threshold | : | No data available |
| Melting point/freezing point | : | Not applicable |
| Boiling point, initial boiling point and boiling range | : | No data available |
| Flammability (solid, gas) | : | Not applicable |
| Flammability (liquids) | : | Not applicable |
| Lower explosion limit and upper explosion limit / flammability limit | : | |
| Upper explosion limit / Upper per flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Flash point | : | 106 °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 |

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| | | |
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| Density | : | No data available |
| Relative vapour density | : | No data available |
| Explosive properties | : | Not explosive |
| Oxidizing properties | : | The substance or mixture is not classified as oxidizing. |
| Molecular weight | : | No data available |
| Particle characteristics | : | |
| Particle size | : | Not applicable |

10. STABILITY AND REACTIVITY

| | | |
|------------------------------------|---|--|
| Reactivity | : | Not classified as a reactivity hazard. |
| Chemical stability | : | Stable under normal conditions. |
| Possibility of hazardous reactions | : | Can react with strong oxidizing agents. |
| Conditions to avoid | : | None known. |
| 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

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 |

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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

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

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| | |
|--------|---------------------------|
| 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 sensitisation**Skin sensitisation**

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

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

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

4-Nonylphenol, branched, ethoxylated:

| | |
|-----------------|--|
| Test Type | : Human repeat insult patch test (HRIPT) |
| Exposure routes | : Skin contact |
| Result | : negative |
| Remarks | : Based on data from similar materials |

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amitraz (ISO):

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

Bis(2,6-diisopropylphenyl)carbodiimide:

| | |
|-----------------|---------------------------|
| Test Type | : Maximisation Test |
| Exposure routes | : Skin contact |
| Species | : Guinea pig |
| Method | : OECD Test Guideline 406 |
| Result | : negative |

Germ cell mutagenicity

Not classified based on available information.

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

| | |
|-----------------------|---|
| Genotoxicity in vitro | : Test Type: In vitro sister chromatid exchange assay in mammalian cells Result: negative Remarks: Based on data from similar materials |
| Genotoxicity in vivo | : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) Species: Rat Application Route: inhalation (vapour) 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 |

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

Bis(2,6-diisopropylphenyl)carbodiimide:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

4-Nonylphenol, branched, ethoxylated:

Species : Rat
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

Reproductive toxicity

May damage fertility.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

Effects on fertility : Test Type: Three-generation reproduction toxicity study
Species: Rat

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| | Application Route: inhalation (vapour) Result: negative Remarks: Based on data from similar materials |
| Effects on foetal development | : Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Result: negative Remarks: Based on data from similar materials |

amitraz (ISO):

| | |
|-------------------------------|---|
| Effects on fertility | : Test Type: Three-generation reproduction toxicity study Species: Rat Application Route: Oral Fertility: NOAEL: > 4.8 mg/kg body weight Result: No significant adverse effects were reported |
| Effects on foetal development | : Test Type: Embryo-foetal development Species: Rat Application Route: Oral Developmental Toxicity: NOAEL: 3 mg/kg body weight Remarks: No significant adverse effects were reported |
| | Test Type: Embryo-foetal development Species: Rabbit Application Route: Oral Developmental Toxicity: NOAEL: 5 mg/kg body weight Result: Effects on foetal development |

Bis(2,6-diisopropylphenyl)carbodiimide:

| | |
|------------------------------------|---|
| Effects on fertility | : Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 421 Result: positive |
| | Test Type: Fertility Species: Rat Application Route: Ingestion Result: positive |
| Effects on foetal development | : Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 421 Result: equivocal |
| Reproductive toxicity - Assessment | : Clear evidence of adverse effects on sexual function and fertility, based on animal experiments. |

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STOT - single exposure

May cause drowsiness or dizziness.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

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|------------|--|
| Assessment | : May cause drowsiness or dizziness. |
| Remarks | : Based on data from similar materials |

STOT - repeated exposure

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

Components:

amitraz (ISO):

| | |
|---------------|--|
| Target Organs | : Liver, Central nervous system |
| Assessment | : May cause damage to organs through prolonged or repeated exposure. |

Bis(2,6-diisopropylphenyl)carbodiimide:

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|-----------------|---|
| Exposure routes | : Ingestion |
| Target Organs | : Kidney, Heart, Gastrointestinal tract, Lymph nodes |
| Assessment | : Causes damage to organs through prolonged or repeated exposure. |

Repeated dose toxicity

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

| | |
|-------------------|--|
| Species | : Rat |
| NOAEL | : 300 mg/kg |
| Application Route | : Ingestion |
| Exposure time | : 13 Weeks |
| Remarks | : Based on data from similar materials |

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):

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|-------------------|-----------|
| Species | : Mouse |
| NOAEL | : 3 mg/kg |
| Application Route | : Oral |

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

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Experience with human exposure**Components:****amitraz (ISO):**

| | |
|-----------|---|
| Ingestion | : Target Organs: Central nervous system |
|-----------|---|

12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****Hydrocarbons, C10, aromatics, <1% naphthalene:**

| | |
|------------------|--|
| Toxicity to fish | : LL50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l |
| | Exposure time: 96 h |
| | Test substance: Water Accommodated Fraction |
| | Method: OECD Test Guideline 203 |
| | Remarks: Based on data from similar materials |

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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

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

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| | | |
|--|---|--|
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 0.035 mg/l Exposure time: 48 h |
| Toxicity to algae/aquatic plants | : | NOEC (Pseudokirchneriella subcapitata (green algae)): 0.04 mg/l Exposure time: 91 h |
| M-Factor (Acute aquatic toxicity) | : | 10 |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Pimephales promelas (fathead minnow)): 0.00148 mg/l Exposure time: 32 d |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 0.0011 mg/l Exposure time: 21 d |
| M-Factor (Chronic aquatic toxicity) | : | 10 |

Bis(2,6-diisopropylphenyl)carbodiimide:

| | | |
|---|---|--|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.1 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: No toxicity at the limit of solubility |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 1 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: No toxicity at the limit of solubility |
| Toxicity to algae/aquatic plants | : | ErC50 (Desmodesmus subspicatus (green algae)): > 1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: No toxicity at the limit of solubility |
| | | NOEC (Desmodesmus subspicatus (green algae)): > 1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 |
| Toxicity to microorganisms | : | EC50: > 1,000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 |

Persistence and degradability**Components:****Hydrocarbons, C10, aromatics, <1% naphthalene:**

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

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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

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.

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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.

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
 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.

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.

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ERG Code : 171

15. REGULATORY INFORMATION

Related Regulations**Fire Service Law**

Group 4, Type 3 petroleum, Water insoluble liquid, (2000 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

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

Article 57-2 (Enforcement Order Table 9)

| Chemical name | Concentration (%) | Remarks |
|-------------------|-------------------|----------------------|
| Petroleum naphtha | >=60 - <70 | - |
| amitraz | >=10 - <20 | From April 1st, 2025 |

Substances Subject to be Indicated Names

Article 57 (Enforcement Order Article 18)

| Chemical name | Remarks |
|-------------------|----------------------|
| Petroleum naphtha | - |
| amitraz | From April 1st, 2025 |

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

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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)

Not applicable

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 |

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 | 12 |

High Pressure Gas Safety Act

Not applicable

Explosive Control Law

Not applicable

Vessel Safety Law

Miscellaneous dangerous substances and articles (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

Aviation Law

Miscellaneous dangerous substances and articles (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

Industrial waste

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

AICS : not determined

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DSL : not determined

IECSC : not determined

16. OTHER INFORMATION

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.

Date format : yyyy/mm/dd

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
 JP OEL JSOH : Japan. The Japan Society for Occupational Health. Recommendation of Occupational Exposure Limits

ACGIH / TWA : 8-hour, time-weighted average
 JP OEL JSOH / OEL-M : Occupational Exposure Limit-Mean

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; KECl - 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 - Trans-

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portation 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