

Amitraz Solid Formulation

Version 2.3 Revision Date: 09/13/2019 SDS Number: 1732052-00006 Date of last issue: 2019/04/24
 Date of first issue: 2017/06/06

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Amitraz Solid Formulation

Manufacturer or supplier's details

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

2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

Serious eye damage/eye irritation : Category 1

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

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H302 Harmful if swallowed.
 H318 Causes serious eye damage.
 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:**

Amitraz Solid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2019/04/24
2.3	09/13/2019	1732052-00006	Date of first issue: 2017/06/06

P260 Do not breathe dust.
 P264 Wash skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P273 Avoid release to the environment.
 P280 Wear eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
 P314 Get medical advice/ attention if you feel unwell.
 P391 Collect spillage.

Disposal:

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

Additional Labelling

The following percentage of the mixture consists of ingredient(s) with unknown acute oral toxicity: 10 %

The following percentage of the mixture consists of ingredient(s) with unknown acute dermal toxicity: 10 %

The following percentage of the mixture consists of ingredient(s) with unknown acute inhalation toxicity: 10 %

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 10 %

Other hazards which do not result in classification

Important symptoms and out- : May form explosive dust-air mixture during processing, han-
 lines of the emergency as- dling or other means.
 sumed

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)	ENCS No.
Amitraz (ISO)	33089-61-1	50	
Calcium carbonate	471-34-1	>= 10 - <= 20	1-122
Aluminium silicate	12141-46-7	>= 10 - <= 20	1-26, 1-26
Paraformaldehyde	30525-89-4	2.55	9-1941
Sodium bis(2-ethylhexyl)sulfosuccinate	577-11-7	1	2-1623, 2-1620

4. FIRST AID MEASURES

Amitraz Solid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2019/04/24
2.3	09/13/2019	1732052-00006	Date of first issue: 2017/06/06

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 if symptoms occur.
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 immediately.
If swallowed	:	If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel. Get medical attention. 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. Causes serious eye damage. 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	:	None known.
Specific hazards during fire-fighting	:	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Silicon oxides Metal oxides Nitrogen oxides (NO _x) Sulphur 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.

Amitraz Solid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2019/04/24
2.3	09/13/2019	1732052-00006	Date of first issue: 2017/06/06

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 and personal protective equipment recommendations.

Environmental precautions : Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. 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 : Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. 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 : Static electricity may accumulate and ignite suspended dust causing an explosion. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Do not get on skin or clothing. Do not breathe dust. Do not swallow. Do not get in eyes. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Keep container tightly closed. Minimize dust generation and accumulation. Keep container closed when not in use. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment.

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

Amitraz Solid Formulation

Version 2.3 Revision Date: 09/13/2019 SDS Number: 1732052-00006 Date of last issue: 2019/04/24
 Date of first issue: 2017/06/06

place.
 When using do not eat, drink or smoke.
 Wash contaminated clothing before re-use.

Storage

- Conditions for safe storage : Keep in properly labelled containers.
 Keep tightly closed.
 Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:
 Strong oxidizing agents
- 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 parameters / Permissible concentration	Basis
Amitraz (ISO)	33089-61-1	TWA	20 µg/m ³ (OEB 3)	Internal
		Wipe limit	200 µg/100 cm ²	Internal
Aluminium silicate	12141-46-7	TWA (Respirable fraction)	1 mg/m ³ (Aluminium)	ACGIH
Calcium carbonate	471-34-1	OEL-M (Respirable dust)	2 mg/m ³	JP OEL JSOH
Further information: Class 3 Dust				
		OEL-M (Total dust)	8 mg/m ³	JP OEL JSOH
Further information: Class 3 Dust				

- Engineering measures** : Ensure adequate ventilation, especially in confined areas.
 Minimize workplace exposure concentrations.
 Apply measures to prevent dust explosions.
 Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the 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 : Particulates type
- Hand protection

- Material : Chemical-resistant gloves

- Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not

Amitraz Solid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2019/04/24
2.3	09/13/2019	1732052-00006	Date of first issue: 2017/06/06

determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment: Chemical resistant goggles must be worn. If splashes are likely to occur, wear: Face-shield

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	powder
Colour	:	white
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	May form explosive dust-air mixture during processing, handling or other means.
Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available
Solubility(ies)	:	

Amitraz Solid Formulation

Version 2.3 Revision Date: 09/13/2019 SDS Number: 1732052-00006 Date of last issue: 2019/04/24
Date of first issue: 2017/06/06

Water solubility : insoluble

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

Auto-ignition 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 : No data available

10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : May form explosive dust-air mixture during processing, handling or other means.
Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.
Avoid dust formation.

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: 958.7 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Amitraz Solid Formulation

Version 2.3 Revision Date: 09/13/2019 SDS Number: 1732052-00006 Date of last issue: 2019/04/24
Date of first issue: 2017/06/06

Components:**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

Calcium carbonate:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 420
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
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

Aluminium silicate:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): 50 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 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

Paraformaldehyde:

Acute oral toxicity : LD50 (Rat): 592 mg/kg

Acute inhalation toxicity : LC50 (Rat): 1.07 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Amitraz Solid Formulation

Version Revision Date: SDS Number: Date of last issue: 2019/04/24
2.3 09/13/2019 1732052-00006 Date of first issue: 2017/06/06

Acute dermal toxicity : LD50 (Rabbit): > 10,000 mg/kg

Sodium bis(2-ethylhexyl)sulfosuccinate:

Acute oral toxicity : LD50 (Rat): 3,080 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Components:**Amitraz (ISO):**

Species : Rabbit
Result : No skin irritation

Calcium carbonate:

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

Aluminium silicate:

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

Paraformaldehyde:

Species : Rabbit
Result : Skin irritation

Sodium bis(2-ethylhexyl)sulfosuccinate:

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

Serious eye damage/eye irritation

Causes serious eye damage.

Components:**Amitraz (ISO):**

Species : Rabbit
Result : No eye irritation

Calcium carbonate:

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

Amitraz Solid Formulation

Version 2.3 Revision Date: 09/13/2019 SDS Number: 1732052-00006 Date of last issue: 2019/04/24
Date of first issue: 2017/06/06

Aluminium silicate:

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

Paraformaldehyde:

Species : Rabbit
Result : Irreversible effects on the eye

Sodium bis(2-ethylhexyl)sulfosuccinate:

Species : Rabbit
Result : Irreversible effects on the eye
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:**Amitraz (ISO):**

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

Calcium carbonate:

Test Type : Local lymph node assay (LLNA)
Exposure routes : Skin contact
Species : Mouse
Method : OECD Test Guideline 429
Result : negative

Aluminium silicate:

Test Type : Local lymph node assay (LLNA)
Exposure routes : Skin contact
Species : Mouse
Method : OECD Test Guideline 429
Result : negative
Remarks : Based on data from similar materials

Sodium bis(2-ethylhexyl)sulfosuccinate:

Test Type : Human repeat insult patch test (HRIPT)
Exposure routes : Skin contact
Species : Humans
Result : negative

Amitraz Solid Formulation

Version 2.3 Revision Date: 09/13/2019 SDS Number: 1732052-00006 Date of last issue: 2019/04/24
Date of first issue: 2017/06/06

Germ cell mutagenicity

Not classified based on available information.

Components:**Amitraz (ISO):**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

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

Calcium carbonate:

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

Aluminium silicate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Sodium bis(2-ethylhexyl)sulfosuccinate:

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: equivocal

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: Based on data from similar materials

Amitraz Solid Formulation

Version 2.3 Revision Date: 09/13/2019 SDS Number: 1732052-00006 Date of last issue: 2019/04/24
 Date of first issue: 2017/06/06

Carcinogenicity

Not classified based on available information.

Components:**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

Not classified based on available information.

Components:**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

Calcium carbonate:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
 Species: Rat
 Application Route: Ingestion
 Method: OECD Test Guideline 422
 Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
 Species: Rat
 Application Route: Ingestion

Amitraz Solid Formulation

Version 2.3 Revision Date: 09/13/2019 SDS Number: 1732052-00006 Date of last issue: 2019/04/24
Date of first issue: 2017/06/06

Method: OECD Test Guideline 414

Result: negative

Aluminium silicate:

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

Sodium bis(2-ethylhexyl)sulfosuccinate:

Effects on fertility : Test Type: Three-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

STOT - single exposure

Not classified based on available information.

Components:**Paraformaldehyde:**

Assessment : May cause respiratory irritation.

STOT - 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.

Repeated dose toxicity**Components:****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

Amitraz Solid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2019/04/24
2.3	09/13/2019	1732052-00006	Date of first issue: 2017/06/06

Application Route : Oral
 Exposure time : 90 Days
 Target Organs : Central nervous system, Liver

Calcium carbonate:

Species : Rat
 NOAEL : > 1,000 mg/kg
 Application Route : Ingestion
 Exposure time : 28 Days
 Method : OECD Test Guideline 422

Aluminium silicate:

Species : Rat
 NOAEL : >= 1,000 mg/kg
 Application Route : Ingestion
 Exposure time : 28 Days
 Remarks : Based on data from similar materials

Sodium bis(2-ethylhexyl)sulfosuccinate:

Species : Rat
 NOAEL : 750 mg/kg
 Application Route : Ingestion
 Exposure time : 90 Days

Aspiration toxicity

Not classified based on available information.

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

Ingestion : Target Organs: Central nervous system

12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****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 tox- : 10

Amitraz Solid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2019/04/24
2.3	09/13/2019	1732052-00006	Date of first issue: 2017/06/06

icity)
 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

Calcium carbonate:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
 Exposure time: 96 h
 Test substance: Water Accommodated Fraction
 Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 100 mg/l
 Exposure time: 48 h
 Test substance: Water Accommodated Fraction
 Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : NOELR (Pseudokirchneriella subcapitata (green algae)): 50 mg/l
 Exposure time: 72 h
 Test substance: Water Accommodated Fraction
 Method: OECD Test Guideline 201

EL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
 Exposure time: 72 h
 Test substance: Water Accommodated Fraction
 Method: OECD Test Guideline 201

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

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

Aluminium silicate:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
 Exposure time: 48 h
 Method: OECD Test Guideline 202
 Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201
 Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50: > 1,000 mg/l
 Exposure time: 3 h

Amitraz Solid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2019/04/24
2.3	09/13/2019	1732052-00006	Date of first issue: 2017/06/06

Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

Paraformaldehyde:

- Toxicity to fish : LC50: 6.7 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 5.8 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials
- Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 4.89 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 (Orange-red killifish)): >= 48 mg/l
Exposure time: 28 d
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : (Daphnia magna (Water flea)): >= 6.4 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
- Toxicity to microorganisms : EC50: 34.1 mg/l
Exposure time: 120 h
Remarks: Based on data from similar materials

Sodium bis(2-ethylhexyl)sulfosuccinate:

- Toxicity to fish : LC50 (Danio rerio (zebra fish)): 49 mg/l
Exposure time: 96 h
Method: Directive 67/548/EEC, Annex V, C.1.
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 6.6 mg/l
Exposure time: 48 h
- Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 82.5 mg/l
Exposure time: 72 h
- EC10 (Desmodesmus subspicatus (green algae)): 22 mg/l
Exposure time: 72 h
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): 9 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
- Toxicity to microorganisms : EC50 (Pseudomonas putida): 164 mg/l
Exposure time: 16 h

Amitraz Solid Formulation

Version 2.3 Revision Date: 09/13/2019 SDS Number: 1732052-00006 Date of last issue: 2019/04/24
Date of first issue: 2017/06/06

Persistence and degradability**Components:****Paraformaldehyde:**

Biodegradability : Result: Readily biodegradable.

Sodium bis(2-ethylhexyl)sulfosuccinate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 91.2 %
Exposure time: 28 d

Bioaccumulative potential**Components:****Amitraz (ISO):**

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 1,333

Partition coefficient: n-octanol/water : log Pow: 5.5

Paraformaldehyde:

Bioaccumulation : Bioconcentration factor (BCF): < 500

Sodium bis(2-ethylhexyl)sulfosuccinate:

Partition coefficient: n-octanol/water : log Pow: 1.998
Remarks: Calculation

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.
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.

Amitraz Solid Formulation

Version 2.3 Revision Date: 09/13/2019 SDS Number: 1732052-00006 Date of last issue: 2019/04/24
 Date of first issue: 2017/06/06

Chemical Substance Control Law

Priority Assessment Chemical Substance

Chemical name	Number
Sodium 1,4-bis[(2-ethylhexyl)oxy]-1,4-dioxobutane-2-sulfonate	213

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

Chemical name
poly(oxymethylene)

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	Number	Concentration (%)
Formaldehyde	548	>=1 - <10

Substances Subject to be Indicated Names

Article 57 (Enforcement Order Article 18)

Chemical name	Number
formaldehyde	548

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

Not applicable

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

Not applicable

Poisonous and Deleterious Substances Control Law

Deleterious substance

Chemical name	Cabinet Order Number
Preparations containing formaldehyde	97

Amitraz Solid Formulation

Version 2.3 Revision Date: 09/13/2019 SDS Number: 1732052-00006 Date of last issue: 2019/04/24
 Date of first issue: 2017/06/06

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	Number	Concentration (%)
3-methyl-1,5-di(2,4-xylyl)-1,3,5-triazapenta-1,4-diene	432	50

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 : Not classified as noxious liquid substance

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

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/>

Date format : yyyy/mm/dd

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

Amitraz Solid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2019/04/24
2.3	09/13/2019	1732052-00006	Date of first issue: 2017/06/06

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

AICS - Australian Inventory of Chemical Substances; 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; 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