



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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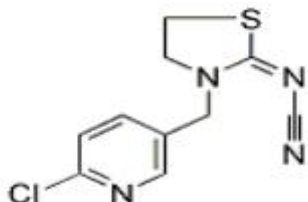
1. Chemical Product Identification

Product Name: Thiachloprid 48% SC

Molecular Formula: C₁₀H₉ClN₄S

Molecular Weight: 252.72 g/mol

Structural Formula:



Chemical Name: (Z)-3-(6-chloro-3-pyridylmethyl)-1,3-thiazolidin-2-ylidene cyanamide

Form: Liquid

Color: Off white

CAS No.: 111988-49-9

2. Composition / Information On Ingredients

| Composition | CAS No. | Content % |
|-------------------|-------------|-----------|
| Thiachloprid | 111988-49-9 | 48.0 |
| Other ingredients | | 52.0 |

3. Hazards Identification

Signal word: Danger



Hazard statements

H301 Toxic if swallowed.

H332 Harmful if inhaled.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H361 Suspected of damaging fertility or the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe mist.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/ physician.

P330 Rinse mouth.

P302 + P352 IF ON SKIN: Wash with plenty of water/ soap.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a POISON CENTER/doctor/physician if you feel unwell.

P363 Wash contaminated clothing before reuse.

4. First Aid Measures

General advice: Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.

Inhalation: Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.

Skin contact: Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

Ingestion: Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately.



Most important symptoms and effects, both acute and delayed: If large amounts are ingested, the following symptoms may occur: Breathing difficulties, Tremors, Blood disorders, Hypothermia.

5. Fire-Fighting Measures

Extinguishing media

Suitable: Water spray, Carbon dioxide (CO₂), Foam, Sand.

Unsuitable: High volume water jet.

Special hazards arising from the substance or mixture

In the event of fire the following may be released:, Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NO_x), Sulphur oxides.

Advice for firefighters

Special protective equipment for firefighters: Wear self-contained breathing apparatus and protective suit.

Further information: Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses. Avoid contact with spilled product or contaminated surfaces. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Whenever possible, contain fire-fighting water by diking area with sand or earth.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Precautions: Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke. Use personal protective equipment. Keep unauthorized people away.

Environmental precautions: Retain and dispose of contaminated wash water. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up



Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.

7. Handling And Storage

Precautions for safe handling

Advice on safe handling: Use only in area provided with appropriate exhaust ventilation.

Hygiene measures: Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only.

Advice on common storage: Keep away from food, drink and animal feedingstuffs.

8. Exposure Controls / Personal Protection

Respiratory protection: If product is handled while not enclosed, and if contact may occur: Wear respirator with an organic vapours and gas filter mask (protection factor 10) conforming to EN140 type A or equivalent. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Hand protection: Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Eye protection: Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

Skin and body protection: Wear standard coveralls and Category 3 Type 4 suit. If there is a risk of significant exposure, consider a higher protective type suit. Wear two layers of



clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently. If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.

General protective measures: In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the above mentioned recommendations would apply.

9. Physical And Chemical Properties

Appearance: Off white flowable ropy liquid

Odour: weak, characteristic

Boiling point/boiling range: ca. 100 °C

Flash point: No flash point - Determination conducted up to the boiling point.

pH: 4.0-7.0

Suspensibility: $\geq 85\%$

Thin Degree (through 44 μm sieve): $\geq 98\%$

Water solubility: miscible

Explosivity: Not explosive

10. Stability And Reactivity

Thermal decomposition: Stable under normal conditions.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: No hazardous reactions when stored and handled according to prescribed instructions.

Conditions to avoid: Elevated temperatures, freezing.

Incompatible materials: Acids, Bases.

Hazardous decomposition products: Thermal decomposition can lead to release of: Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide, Sulphur oxides, Nitrogen oxides (NO_x)

11. Toxicological Information

Acute oral LD₅₀ for for rats is 300-500 mg/kg.

Acute dermal LD₅₀ for rabbits is >4000 mg/kg.

Acute inhalatio LC₅₀ (4 h) for rat: 0.9-2.2 mg/L.



Skin irritation: Non-irritating to skin (rabbits).

Eye irritation: Non-irritating to eyes (rabbits).

Skin sensitization: Non-sensitizing (guinea pigs).

12. Ecological And Ecotoxicological Information

Effect on birds: acute oral LD₅₀ for Japanese quail is 49 a.i. mg/kg.

Effect on fish: acute 96 hour LC₅₀ for Rainbow trout is 24.5 a.i.mg/L.

Effect on aquatic invertebrates: acute 48 hour EC₅₀ for Daphnia magna is 85.1 a.i.mg/L.

Effect on algae: acute 72 hour EC₅₀ for Raphidocelis subcapitata is 60.6 a.i.mg/L.

Effect on honeybees: contact acute 48 hour LD₅₀ is 38.82 a.i.µg/bee, oral acute 48 hour LD₅₀ is 17.32 a.i.µg/bee.

Effect on earthworms: moderate toxicity to earthworms, acute 14 day LC₅₀ is 105 a.i.mg/kg.

13. Disposal Considerations

Metal drums and plastic containers:

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

Do not reuse container for any other purpose.

14. Transport Information

Not applicable

15. Regulatory Information

Not applicable

16. Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the



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present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.