

MATERIAL SAFETY DATA SHEET

NUMECTIN 1.9% EC

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT : NUMECTIN 1.9 EC

Product Use : Insecticide, Please refer to product label for further details.

COMPANY IDENTIFICATION:

PT. Nufarm Indonesia
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2. COMPOSITION / INFORMATION ON INGREDIENTS

Type of Formulation Emulsifiable Concentrate, (EC)

Ingradiant	Cas No	Proportion
Abamectin	71751-41-2	1.9% w/w
Inert ingredients		98.1% w/w

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance and Odour : Pale yellow to amber colour liquid with slight alcoholic odour

Warning Statements : Keep out of reach of children. WARNING. Hazards to humans and domestic animals. May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in the eyes. Harmful if inhaled or absorbed through skin. Avoid breathing spray mist. Avoid contact with eyes, skin and clothing.

Potential Health Effects

Ingestion : Moderately toxic based on toxicity studies.

Eye Contact : Moderately irritating based on toxicity studies. Vapour and mist can cause irritation.

Skin Contact : A sensitization (allergic) reaction may occur in some individuals.

Inhalation : Breathing of mists and vapors should be avoided.

Potential Environment Effect : This product is toxic to fish and wild life. This product is toxic to fish and wild life.
This product is toxic to bees exposed to direct treatment or residues on blooming crops or weeds.

4. FIRST AID MEASURES

Ingestion : Contact the doctor or National Poison Centre immediately. Do not give any liquid to the person.
Do NOT induce vomiting unless told to do so by doctor or National Poison Centre.
DO not give anything by mouth to an unconscious person.

Eye : Hold eyelids open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call National Poison Centre or doctor for treatment advice.

Skin : Remove contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Wash affected area with soap and water. Call National Poison Centre or doctor for treatment advice.

Inhalation : Remove affected person to fresh air until recovered. If the person is not breathing give artificial respiration, preferably by

mouth-to-mouth, if possible. Call National Poison Centre or doctor for further treatment advice.

Advice to Doctor

Symptom

: Early sign of intoxication include dilation of pupils, muscular in-coordination and muscular tremors.
Toxicity following accidental ingestion of this product can be minimized by early administration of chemical adsorbents (e.g. activated charcoal). If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged.
Appropriate supportive parental fluid replacement therapy should be given, along with other required supportive clinical signs, symptoms and measurements. In severe cases, observations should continue for at least several days until clinical condition is stable and normal. Since abamectin is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic abamectin exposure.

Treatment

: There is no specific antidote if this product ingested. Treat symptomatically. Product contains petroleum distillate-vomiting may cause aspiration pneumonia.
Person suffering a temporary allergic reaction may respond to treatment with antihistamines or steroid creams and /or systemic steroids.

5. FIRE FIGHTING MEASURES

Extinguishing Media

: Foam, carbon dioxide or dry chemical. Do not use high volume water jet.

Special Fire Fighting Procedures

: Fire-fighters should wear NIOSH/MHSA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Hazardous Decomposition Products

: May produce oxides of carbon, hydrogen and nitrogen.

6. ACCIDENTAL RELEASE MEASURES

- Spills and Disposal** : Clean up small spills immediately, use proper personal protection. Absorb spill with absorbent material such as earth, sand or clay. After removal, flush contaminated area thoroughly with water containing strong detergent. Sweep up and place in a chemical container. Seal the container and handle in an approved manner. Keep spills out of streams and domestic water supplies. Dike to prevent contamination of local water sources. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of waters. Dispose of waste and rinsate in the appropriate manner.
- Environmental Precaution** : Prevent material from entering public sewer systems or any waterways.

7. HANDLING AND STORAGE

- Handling** : Do not get in eyes. Avoid contact with skin or clothing. Avoid breathing vapour or spray mist. Users should wash hands before eating, chewing gum, using tobacco, or using the toilet. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
- Storage** : Store in the closed, original container in a well ventilated area out of direct sunlight. Store in a safe place away from foodstuffs, seeds or fertilizers. Store out of the reach of children. Do not contaminate water, food, or feed by storage or disposal.
- Other Information** : Always read the label and any attached leaflet before use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Engineering Controls** : Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.
- Personal Protective Equipment** : To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.
- Eye/ Face Protection**

- Skin Protection** : To avoid contact with skin, wear coveralls over with long- or short-sleeved shirt and long or short pants, chemical-resistant footwear plus socks and chemical resistant gloves. Wear chemical-resistant apron when cleaning equipment, mixing or loading. For overhead exposure, wear chemical-resistant headgear. An emergency eyewash or water supply should be readily accessible to the work area.
- Respiratory Protection** : Not normally required. If vapours or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.
- General Hygiene Considerations** : Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:
1. do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
 2. wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical State** : Liquid
- Appearance** : Pale yellow to amber colour clear liquid
- Odour** : Slight alcoholic odour
- Specific Gravity** : 0.919 (20°C)
- Boiling Point** : N/A
- Vapour Pressure** : N/A
- Solubility in Water** : Form an emulsion in the water

10. STABILITY AND REACTIVITY

- Storage Stability** : This material is stable under normal handling and storage conditions.
- Condition to Avoid** : Excessive heat, sparks and open flame
- Hazardous Decomposition** : Under fire conditions may produce oxides of carbon, hydrogen and nitrogen.

Hazardous Polymerization : Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology Information : No harmful effects are expected if the precautions on the label and this MSDS are followed.

Acute Toxicity - Oral LD₅₀ (rat) : 1046.13 mg/kg (male)
883.74 mg/kg (female)

Acute Toxicity - Dermal LD50 (rabbit) : > 5000 mg/kg

Acute Toxicity - Inhalation : LC50 (rat) : > 3.5 mg/l air – 4 hours

Eye Irritation : Moderately irritant (rabbit).

Skin Irritation : Slightly irritant (rabbit).

Skin Sensitization : Not a sensitizer (guinea pig).

12. ECOLOGICAL INFORMATION

Acute Toxicity - Fish : The following data is for the active ingredient, abamectin:
LC50 (96 hr) (rainbow trout) : 3.2 ug/L
LC50 (96 hr) (bluegill sunfish) : 9.6 ug/L

Acute Toxicity - Daphnia : EC50 (48 hr) (*Daphnia magna*) : 0.34 ppb

Acute Toxicity - Other Organisms : LD50 (Oral) (mallard ducks) : 84.6 mg/kg
LD50 (Oral) (bobwhite quail) : > 2000 mg/kg
Toxic to bees.
LC50 (28d) (earthworms) : 28 mg/kg soil

Environmental Fate : Abamectin binds tightly to soil, with rapid degradation by soil microorganisms. No bioaccumulation.

13. DISPOSAL CONSIDERATIONS

- Product Disposal** : Ideally the product should be used for its intended purpose. If there's a need to dispose of the product, approach local authorities who hold periodic collection of unwanted chemical. On site disposal of the product is not acceptable.
- Container Disposal** : Do not use this container for any other purpose. Triple rinse containers, add rinsate to the spray tank, then offer for recycling / reconditioning or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations. If no landfill is available, bury the containers below 500mm 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.

14. TRANSPORT INFORMATION

- Transport Information** : It is a good practice to separate this product from food, food related materials, animal feedstuffs, seed or fertilizers during transport.
- Storage and Transport** : Follow the precautions indicated in this MSDS, Section 7: HANDLING AND STORAGE.
- UN Number (Sea Transport)** : UN 2902
- IMO Class/Packing Group** : Class 6.1; Packing Group III
- IMO Marine Pollutant** : Marine Pollutant
- IMO Proper Shipping Name** : Pesticide, liquid, toxic, N.O.S (Abamectin) 6.1 PG III

15. REGULATORY INFORMATION

- Risk Phrase** : N/A
- Safety Phrase** : N/A
- Poisons Schedule** : No data
- Hazard Category** : Class II (Malaysia Regulation)



Packaging and Labeling : POISONOUS
KEEP AWAY FROM FOODSTUFF AND CHILDREN
READ THE LABEL BEFORE USE.

16. OTHER INFORMATION

NFPA Hazard

Health : 2

Flammability : 2

Instability : 0

HMIS Hazard Rating

Health : 2

Flammability : 2

Reactivity : 0

0 Minimal

1 Slight

2 Moderate

3 Serious

4 Extreme