1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY UNDERTAKING

1.1 Product identifier: NeemAzal®-T/S

1.2 Relevant identified uses of the substance or mixture and uses advised against
Insecticide and Acaricide

1.3 Details of the supplier of the safety data sheet
Distributing company in EU
Trifolio-M GmbH
Dr.-Hans-Wilhelmi-Weg 1
35633 Lahnau
Telefon: 06441-20977-0
Telefax: 06441-20977-50

1.4 Emergency telephone number: Deutsche Vergiftungszentrale Mainz
Phone: +496131-19240

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Classification according to Regulation (EU) No. 1272/2008:
Aquatic chronic 3; H412

2.2 Label elements
Labelling according to Regulation (EU) No. 1272/2008:

Hazard Statements:
H412 harmful to aquatic life with long lasting effects.
EUH208-147 contains Azadirachtin- may cause an allergic reaction
EUH401 To avoid risks to human health and the environment, comply with the instructions for use

For the wording of the listed hazard statements refer to section 16
Precautionary Statements:
P501 Dispose of contents/container in accordance with local/ national/ regulation.

Other hazards
None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance
NeemAzal-T/S is a mixture.

3.2 Mixture
NeemAzal technical (Active ingredient)
Synonyms: Azadirachtin, Neem-kernel-extract; Leading compound: Azadirachtin A).
Concentration: 3-4%
4. FIRST AID MEASURES

4.1 Description of first aid measures:
Remove the exposed individual from source of risk. Consult a physician. Show this safety data sheet to the physician in attendance.

If inhaled:
Move person in to fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact:
Wash off with soap and plenty of warm water. Consult a physician.

In case of eye contact:
Rinse thoroughly with plenty of water for at least 15 min. Consult a physician.

If swallowed:
Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
NeemAzal®-TS consists of Azadirachtin. This may cause reversible skin sensitisation or allergic reactions.

4.3 Indication of any immediate medical attention and special treatment needed
If person is unconscious: Call an ambulance.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media: Alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media: Full water jet.

5.2 Special hazards arising from the substance or mixture
Carbon oxides.

5.3 Advice for firefighters
Keep containers cool with water spray. Stop influx of product. Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into environment must be avoided.
6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
Observe protective measures in sections 7 and 8.

* 7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Safe use
Keep out of reach of children.
Avoid leaks, risk of slipping, use collections trays
Advice on general occupational hygiene:
- Avoid contact with skin and eyes.
- Do not eat, drink or smoke.
- Keep away from food, drinks and feeding stuff.
- Wash hands after use.
- Remove contaminated clothing and protective equipment before entering eating areas

Precautions against fire and explosion
Avoid formation of aerosols. Keep away from source of ignition - for example, welding equipment.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage. Avoid exposure to direct sunlight.
Storage category: 12

7.3 Specific end uses
NeemAzal-T/S is a plant protection product which is used as insecticide and acaricide.

* 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
If handled appropriate exposure limit values (AGW [DE], OEL [EU]) are not exceeded.

8.2 Exposure controls
Appropriate engineering controls
Technical measures and the design of appropriate work processes go before the use of personal protective equipment; apply adequate ventilation.

Personal protective equipment
Personal protective equipment has to be selected specifically for the working place, depending on concentration and quantity of hazardous substance handled.

Respiratory protection
Not required

Skin protection

Hand protection
The selected protective gloves have to satisfy the specifications auf EU Directive 89/686/EEC and the standard EN 374 derived from it
Suitable gloves type for full contact:
Nitril rubber, - thickness ≥ 0,5 mm
Tightness of gloves shall be tested prior to use. Breakthrough time may vary, depending on
glove brand and application conditions.
Contact glove manufacturer for information on permeability and Breakthrough time.

**Eye/Face protection**
Tightly fitting safety goggles. Use equipment for eye protection tested and approved under
appropriate government standards such as EN 166 (EU).

**Environmental exposure controls**
See section 6 and 7.

---

*9. PHYSICAL AND CHEMICAL PROPERTIES*

**9.1 Information on basic physical and chemical properties**

- **Appearance**: Viscous honey-like fluid
- **Odour**: Typical Neem Odeur
- **Odour threshold**: No data available
- **pH-Value**: 7.00 ± 0.02
- **Melting point/freezing point**: No data available
- **Boiling point**: No data available
- **Flash point**: 171°C
- **Evaporation rate**: No data available
- **Flammability**: No data available
- **Lower/upper explosive limit**: Not explosive
- **Vapour pressure**: $3.6 \times 10^{-13}$ Pa (geschätzt für Azadirachtin A)
- **Vapour density**: No data available
- **Relative density**: 0,98g/l
- **Water solubility**: Emulsififiable in water
- **Partition coefficient**: log Pow (n-Octanol/Wasser) = 0,99 (Azadirachtin A)
- **Auto ignition temperature**: > 390°C
- **Zersetzungstemperatur**: No data available
- **Viscosity**: 281,4mm²/s (20°C)
- **Explosive properties**: No explosive properties
- **oxidizing properties**: No oxidizing properties

---

*10. Stability and Reactivity*

**10.1 Reactivity**
No data available.

**10.2 Chemical stability**
NeemAzal-T/S is chemically stable under normal conditions (room temperature).

**10.3 Possibility of hazardous reactions**
If used appropriate no hazardous reactions are expected.
10.4 Conditions to avoid
High temperatures and strong light sources. Keep away from sources of ignition.

10.5 Incompatible materials
Strong acids. Strong bases. Strong oxidizing or reducing agents.

10.6 Hazardous decomposition products
Carbon monoxide. Carbon dioxide.

* 11. TOXICOLOGICAL INFORMATION

11.1 Acute toxicity
- LD50 (oral, rat) > 5000 mg/kg
- LD50 (dermal, rat) > 2000 mg/kg

Skin corrosion/irritation
- Skin (rabbit): no irritations
- For NeemAzal® technical corrosion effects are not known

Serious eye damage/eye irritation
- Eye (rabbit): may cause mild irritation, classification criteria are not met

Respiratory or skin sensitization
- Guinea pig: not sensitizing

Mutagenicity
- Micronucleus test mouse: not mutagenic (NeemAzal®technical)
- Mutagenic tests: not mutagenic (NeemAzal®technical)

Carcinogenity
- NeemAzal®-T/S is not cancerogenic.

Reproductive toxicity
- Two generation reproduction study;
- Rat: NOAEL=50mg/kgbw/d (NeemAzal®technical)

Specific target organ toxicity - single exposure
- Rat NOAEL > 2380 mg/kgbw (NeemAzal®technical)

Specific target organ toxicity - repeated exposure
- Rat (90 days) NOAEL = 32 mg/kgbw (liver) (NeemAzal®technical)

Aspiration hazard
- No data available.

Potential health effects
- To the best of our knowledge there are no potential health effects.

Signs and Symptoms of Exposure
- To the best of our knowledge there are no known signs and symptoms of exposure.

* 12. ECOLOGICAL INFORMATION

12.1 Toxicity
- *Oncorynchnus mykiss*
- Acute toxicity LC50: 141mg/l (96h)
Daphnia magna
Acute Immobilisation: \(EC_{50} > 800\text{mg/l (48h)}\)
Reproduction: \(NOEC = 3.4\text{mg/l (21d)}\)

Chironomus riparius
Chronic toxicity \(NOEC = 0.573 \text{mg/l}

Scenedesmus subspicatus
Growth rate \(E_{r}C_{50} = >2494\text{mg/l (72h)}\)

Apis mellifera:
Acute oral toxicity: \(LD_{50} > 561 \mu g/\text{bee (}
Acute contact toxicity: \(LD_{50} > 2000 \mu g/\text{bee}

Eisenia fetida
Acute toxicity: \(EC_{50} >1000 \text{mg/kg}

12.2 Persistence and degradability
Rapid degradation in water and soil; readily biodegradable.

12.3 Bioaccumulation potential
BCF Azadirachtin A: 1,38

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
NeemAzal® technical is neither persistence nor has it bioaccumulation potential.

12.6 Other adverse effects
Harmful to syrphid flies (Episyrphus balteatus), ladybird (Coccinella septempunctata), green lacewings (Chrysoperla carnea), predatory mites (Amblyseius cucumeris)

* 13. Disposal considerations

13.1 Waste treatment methods
Offer surplus and non-recyclable solutions to a licensed disposal company in accordance with the Directive No. 2008/98/EC.

Waste code: 02 01 05.

Product and uncleaned packaging
Disposal in compliance with the regulation of special waste treatment.

Cleaned packaging
Empty containers should be recycled after washing out.

* 14. TRANSPORT INFORMATION

14.1 UN-Number
No dangerous goods: -
14.2 UN proper shipping name
ADR/RID
No dangerous goods.
IMDG-Code /ICAO-TI /IATA-DGR
No dangerous goods.

14.3 Transport hazard class(es)
No dangerous goods, classification not required-

14.4 Packaging group
No dangerous goods, classification not required

14.5 Environmental hazards
ADR/RDI: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user
See sections 6, 7 and 8

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
NeemAzal-T/S is only released in suitable containers in accordance with traffic laws.

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Regulation (EC) No. 1005/2009 (Substances that deplete the ozone layer):
Not applicable.

Regulation (EC) No. 850/2004 (Persistent organic pollutants):
Not applicable.

Regulation (EC) No. 649/2012 (Export and import of dangerous chemicals):
Not applicable.

Regulation (EC) No. 648/2004 on detergents
Not applicable.

National regulations

Water hazard class
WGK 1 (according AwSV Annex 1 No.4).

Directive No. 2004/42/EC (Volatile organic compounds)
Not applicable.

Plant protection Act (PflSchG)
For use instructions refer to registration documents (RR 2011)

15.2 Chemical Safety Assessment
Chemical Safety Assessment has not been carried out with NeemAzal-T/S.

16. OTHER INFORMATION
Changes compared to prior versions
This MSDS replaces Version 1.3 / EN from 24.03.2015. Chapters with changes are marked with an asterisk (*).
Bibliographical references and data sources

Regulations

Wording of hazard statements which are not fully stated in section 2-15
Classification and labeling is in accordance with Regulation (EC) No. 1272/2008:
H317 – skin sensitization category 1; May cause an allergic skin reaction.
H410 – aquatic chronic category 1; very toxic to aquatic life with long lasting effects.
H412 - aquatic chronic category 3, harmful to aquatic life with long lasting effects.

Methods of evaluating information referred to in Article 9 of Regulation (EC) No 1272/2008 was used for the purpose of classification
Environmental hazards: assessment of test data (Chironomus riparius).

Abbreviations
ADR European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS Chemical Abstracts Services
EC Effective concentration
EN European community
IATA-DGR International Air Transport Association-Dangerous Goods Regulation
ICAO-TI International Civil Aviation Organization - Technical Instructions
IMDG-Code International Maritime Code for Dangerous Goods
LC Lethal concentration
LD Lethal dose
MARPOL Maritime Pollution Convention
OECD Organisation for Economic Co-operation and Development
PBT persistent, bioaccumulateable, toxic
RID International Rule for Transport of Dangerous Substances by Railway
UN United Nations (Vereinte Nationen)
VOC Volatile organic compounds
vPvB very persistent, very bioaccumulateable

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall only be used as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Trifolio-M GmbH shall not be held liable for any damage resulting from handling or from contact with the above product.