

MATERIAL SAFETY DATA SHEET**AZADIRACHTIN****(NEEM BASED NATURAL PRODUCT)****SECTION I****MANUFACTURER INFORMATION**

E.I.D PARRY (INDIA) LIMITED Tel: 0091-44-5340251
 Bio Products Division Fax: 0091-44-5340858;5342381
 234, N.S.C. Bose Road
 Chennai - 600 001

Informing Department: Tel:0091-44-5340251

Date Prepared: June 2001 Fax No : 0091-44-5340858;5342381

SECTION II**HAZARDOUS INGREDIENTS/IDENTITY INFORMATION**

Hazardous Components	%	CAS No.	OSHA/PEL	ACGIH/TLV	OTHER LIMITS RECOMMENDED
Azadirachtin A Azadirachtin B	1.0	11141-17-6 95507-03-2	None known	None known	None known
Other neem compounds Azadirachtin F Azadirachtin H Azadirachtin I Salannin, Nimbin and fatty acids	3.0	118855-02-0 134788-15-1 134788-16-2 992-20-1 5945-86-8	Not known	Not known	Not known
Other proprietary mixture and formulation compounds	96.0	Not known	Not known	Not known	Not known

SECTION III**PHYSICAL/CHEMICAL CHARACTERISTICS**

Appearance : Brown viscous liquid
 Odour : Characteristic neem fragrant odour
 Solubility in water : Emulsifies with water
 Specific Gravity : 0.98
 Evaporation Rate : Not known

Vapour Density	: Not known
Molecular Weight	: 720 (Azadirachtin A) : 662 (Azadirachtin B)
Empirical Formula	: C ₃₅ H ₄₄ O ₁₆ (Azadirachtin A) : C ₃₃ H ₄₂ O ₁₄ (Azadirachtin B)
Acidity	: < 0.24
pH	: 7 ± 0.02
Corrosion Characteristics	: Non corrosive to HDPE containers

SECTION IV

FIRE AND EXPLOSION DATA

Flash Point	: > 171°C - No Fire Hazard
Flammable Limits	: Not known
Extinguishing Media	: Polymer foam or carbon dioxide
Special Fire Fighting Procedures	: Wear protective clothing and face shields
Unusual fire and explosion hazards	: No hazard

SECTION V

REACTIVITY DATA

Stability	: Stable at ordinary conditions of use and storage
Conditions to avoid	: High temperature or sunlight or light quickly degrade the material
Materials to Avoid	: Acids, alkali or oxidizing agents.
Hazardous Decomposition	: No hazardous materials are produced
Hazardous polymerization	: Not occur

SECTION VI

HEALTH HAZARD DATA

Mode of Entry : Inhalation - yes
Skin - yes
Ingestion- yes

Health Hazards:

Acute Toxicity	: Acute oral - Rat LD 50 >5000 mg/kg
	: Acute Dermal-Rat LD 50 >2000 mg/kg
	: Inhalation-Rat LC 50 >5.4 mg/L
	: Primary Eye Irritation-Rabbit >No Irritation
	: Primary skin Irritation-Rabbit >Mild
	: Skin Sensitization-Guinea Pig > No

sensitization

Chronic Toxicity	*: Mutation Assay-Non Mutagenic
	: Neurotoxicity-No Neurotoxicity
	: Reproductive Toxicity-NOAEL 5000 mg/kg
	: Carcinogenicity-Non Carcinogenic
	: Effect on spray operators-No adverse effects
	*: Based on TGAC data

SIGN AND SYMPTOMS OF EXPOSURE

Inhalation	: May be irritating to mucous membrane and excessive exposure may result in drowsiness
Ingestion	: May cause drowsiness
Skin Contact	: May cause mild irritation
Eye Contact	: May cause mild irritation
Chronic Exposure	: Chronic exposure may cause various implications

EMERGENCY AND FIRST AID PROCEDURE

Inhalation	: Remove to fresh air
Ingestion	: Induce vomiting by gastric lavage, call physician immediately
Skin Contact	: Wash skin with soap
Eye Contact	: Wash eyes with excessive water. Get medical attention if required

SECTION VII**ECOLOGICAL SAFETY**

- Effect on Honey Bees - Harmless
- Effect on Earthworm (LC50) - > 1000 mg/kg - safe
- Effect on predators - Harmless
- Hazard to soil Microflora - Non Hazardous
- Acute Daphnia Immobilisation Test (EC50)- > 1000 mg/ltr - safe
NOEL- 197.5 mg/ltr
- Acute toxicity to fish-Rainbow Trout (LC50) - 440 mg/ltr (24 hrs)
- 150 mg/ltr (96 hrs)
- 50 mg/ltr
NOEC
- Algal Inhibition Test - Non inhibitory/Non stimulant
NOEC-22 mg/ltr
- Metabolism in soil - Rapid Decomposition in soil
- Degradability in water - Readily Biodegradable in water

SECTION VIII**PRECAUTIONS FOR SAFE HANDLING AND USE**

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Flush the area with water. Do not allow water to contaminate surrounding area. Personnel in operation may wear protective clothing.

WASTE DISPOSAL METHOD

Do not contaminate water, food, or feed by storage or disposal. Disposal of containers in an approved disposal facility. Ensure compliance with local, state and federal regulations.

PRECAUTIONS FOR HANDLING AND STORAGE

Keep in tightly closed container. Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Dispose containers in an approved waste facility.

OTHER PRECAUTIONS

Shipping Name	: Neem Based Insecticide
Shipping Containers Markings	: Neem Based Insecticide
Shipping Container Labels	: Neem Based Insecticide
Special Instructions	: No special instruction on handling required
Flammability	: Non flammable
Transport by Air	: Safe for Air Transport

SECTION IX**CONTROL MEASURES**

Respiratory Protection:	Use spraying clothings to avoid spray mist direct contact
Protective Gloves	: Wear protective gloves
Eye protection	: Wear safety goggles
Ventilation	: Thorough ventilation is recommended in case of accidental spillage
Work Practices	: Observe good personnel hygiene. Wash hands after usage of the product

SECTION X**Regulatory Information**

Designation : Eco-friendly Neem Based Pesticide of Plant Origin
: Non Hazardous Material

SECTION XI**Information Origin**

E.I.D Parry (India) Limited.
234, N.S.C Bose Road
"Dare House"
Post Box No.12
Chennai - 600 001 India

The information contained herein is provided in good faith and is believed to be correct as of the

date. However, E.I.D Parry (India) Limited makes no representation as to the comprehensives or accuracy of the information. It is expected that individuals receiving the information will exercise this independent judgment in deforming its appropriateness for a specific purpose. Accordingly, E.I.D Parry (India) Limited will not be responsible for damage of any kind resulting from the use of or reliance upon such information