

NEEM OIL

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SECTION 1: IDENTIFICATION

1.1 GHS Product identifier:

NEEM OIL
Azadirachta indica seed oil; Margosa oil
CAS: 8002-65-1

Other means of identification:

Not relevant

1.2 Recommended use of the chemical and restrictions on use:

Relevant uses: Raw material for soaps, cosmetics, pesticide/biopesticide formulations, veterinary and agro-input products, and industrial lubricant blends. For industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3. Not for direct unformulated use as a pesticide without appropriate regulatory registration.

1.3 Supplier's details:

SURAJ CHEMICALS
No 92, Govindappa Naicken Street, Shiva Complex, Chennai – 600001, Tamil Nadu, India
Tel: +91 - 7092722822, +91 - 9840284032 / +91 - 44 - 25393652, 42130281
Email: sales@surajchemicals.com | Website: www.surajchemicals.com
GST No: 33ACEPV8190L1ZZ

1.4 Emergency phone number:

Emergency Contact No: +91 - 7092722822, +91 - 9840284032

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Skin Irrit. 2	Skin irritation, Category 2, H315
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic hazard, Category 2, H411

2.2 GHS label elements, including precautionary statements:

GHS: Warning
Hazard statements:
Skin Irrit. 2: H315 – Causes skin irritation.
Aquatic Chronic 2: H411 – Toxic to aquatic life with long lasting effects.

Precautionary statements:

P264: Wash hands thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection.
P302+P352: IF ON SKIN: Wash with plenty of water.
P332+P313: If skin irritation occurs: Get medical advice/attention.
P362+P364: Take off contaminated clothing and wash it before reuse.
P501: Dispose of contents/container in accordance with local regulations.

2.3 Other hazards which do not result in classification:

Strong, persistent characteristic odour. Biologically active botanical oil – avoid uncontrolled release into agricultural drains/waterways given insecticidal/pesticidal activity on non-target aquatic organisms.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances:

Chemical description: Botanical oil – triglyceride oil containing azadirachtin and related limonoid compounds, obtained by pressing/extraction of neem (Azadirachta indica) seed kernels.
In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 8002-65-1	Neem Oil – Skin Irrit. 2: H315; Aquatic Chronic 2: H411 – Warning	≥ 99%

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

3.2 Mixtures:

Non-applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of necessary first-aid measures:

Request medical assistance if irritation persists, showing the SDS of this product.

By inhalation:

Not a normal route of exposure. If mist/vapour is inhaled, remove to fresh air and keep at rest.

By skin contact:

Remove contaminated clothing. Wash skin thoroughly with soap and water. Seek medical attention if irritation persists.

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Remove contact lenses if present and easy to do. Seek medical advice if irritation persists.

By ingestion/aspiration:

Rinse mouth with water. Do not induce vomiting. Seek medical attention – neem oil may cause gastrointestinal upset if ingested in quantity.

4.2 Most important symptoms/effects, acute and delayed:

Causes skin irritation on contact. See Sections 2 and 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Treat symptomatically. No specific antidote.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:

Suitable: Water fog/spray, foam (AFFF), dry chemical powder (ABC), carbon dioxide (BC)
Unsuitable: High-pressure water jet (may splash and spread burning oil)

5.2 Specific hazards arising from the chemical:

Combustible liquid at elevated temperature. On heating/burning may produce irritating smoke, carbon monoxide and carbon dioxide.

5.3 Special protective actions for fire-fighters:

Evacuate non-essential personnel. Use self-contained breathing apparatus (SCBA) in enclosed/confined fire situations. Cool exposed containers with water spray.

Additional provisions:

Contain fire-fighting water run-off to prevent environmental contamination, given aquatic toxicity.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Avoid skin contact and slipping on spilled product. Use appropriate PPE (Section 8).

For emergency responders:

Wear suitable protective equipment. Prevent material from entering drains/watercourses.

6.2 Environmental precautions:

Avoid at all cost any discharge into drains, soil or water courses – the product is toxic to aquatic life with long-lasting effects. Bund/contain large spills and notify the relevant authority in case of significant release.

6.3 Methods and materials for containment and cleaning up:

Contain spill, absorb with inert absorbent material (sand, earth, vermiculite), sweep/shovel into suitable closed containers for disposal. Wash residual area with detergent and water; avoid run-off to drains.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A. General precautions for safe use:

Avoid skin contact. Use with adequate ventilation. Avoid contamination with strong oxidising agents.

B. Technical recommendations for the prevention of fires and explosions:

Keep away from open flame/sources of ignition when heated above flash point. Dispose of oil-soaked rags/absorbents in metal containers with lids.

C. Technical recommendations on general occupational hygiene:

Wash hands after handling. Do not eat or drink while handling the product.

D. Technical recommendations to prevent environmental risks:

Prevent spillage from entering drains or watercourses given aquatic toxicity. Store in banded areas where large volumes are held.

7.2 Conditions for safe storage, including any incompatibilities:

A. Specific storage requirements:

Minimum Temp.	5°C
Maximum Temp.	30°C
Maximum time	12 Months (in original sealed, cool/dark storage – azadirachtin content degrades with heat/light/time)

B. General conditions for storage:

Store in tightly closed containers, away from direct sunlight and heat sources, to minimise degradation of active constituents. Keep containers properly labelled, away from foodstuffs.

7.3 Specific end use(s):

Industrial raw material as described in Section 1.2. Except for the instructions already specified, no special recommendations are required.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:

No specific occupational exposure limit (OEL) has been established for Neem Oil under the Factories Act, 1948 (as amended).

Identification	Occupational Exposure Limit Type	Value
Neem Oil CAS: 8002-65-1	Not established	Typical value – refer to current specification sheet

8.2 Appropriate engineering controls:

General ventilation is normally adequate. Use local exhaust ventilation where mist/vapour is generated.

B. Respiratory protection:

Not normally required under ambient conditions. Use an organic vapour/mist respirator for heated or spraying operations.

C. Specific protection for the hands:

Chemical-resistant gloves (nitrile or neoprene) recommended given skin irritation potential.

D. Eye and face protection:

Safety glasses/goggles recommended where splashing is possible.

E. Bodily protection:

Chemical-resistant apron/overalls for bulk handling.

F. Additional emergency measures:

Eyewash station and washing facilities should be available in the work area.

Environmental exposure controls:

Avoid release to the environment given aquatic toxicity. See subsection 7.1.D.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance	
Physical state at 20°C	Liquid
Appearance	Oily liquid
Color	Yellow to brown

Odor	Strong, characteristic (garlic/sulphurous, pungent)
Odour threshold	Not established
Volatility	
Boiling point at atmospheric pressure	> 250°C (decomposes)
Vapour pressure at 20°C	Negligible
Evaporation rate at 20°C	Negligible
Product Description	
Density / Relative density at 20°C	0.91 – 0.93 g/cm³
Dynamic / Kinematic viscosity at 25°C	Typical value – refer to current specification sheet
Concentration	Non-applicable (single substance)
pH	Not relevant (water-insoluble oil)
Vapour density at 20°C	Not relevant
Partition coefficient n-octanol/water	Not established
Solubility in water at 20°C	Insoluble; soluble in most organic solvents
Decomposition temperature	Not established
Melting point/freezing point	Approx. 10 – 14°C (pour/cloud point, typical)
Flammability	
Flash Point	> 200°C (typical)
Flammability (solid, gas)	Non-applicable (liquid)
Autoignition temperature	Typical value – refer to current specification sheet
Lower / Upper flammability limit	Not established
Particle Characteristics	
Median equivalent diameter	Non-applicable (liquid)

Values are typical for commercial-grade Neem Oil – refer to current specification sheet for batch-specific figures.

9.2 Other information:

Explosive properties	Not relevant
Oxidising properties	Not an oxidiser
Corrosive to metals	Not corrosive
Heat of combustion	Typical value – refer to current specification sheet
Saponification value	175 – 205 (typical)
Iodine value	65 – 80 (typical)

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

Stable under normal conditions of use. Active constituents (e.g. azadirachtin) degrade progressively on exposure to heat, light and prolonged storage.

10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use when protected from heat/light.

10.3 Possibility of hazardous reactions:

Under specified conditions, hazardous reactions are not expected.

10.4 Conditions to avoid:

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Avoid prolonged exposure (oxidation)	Avoid prolonged heating (active-ingredient degradation)	Avoid direct exposure (UV degradation)	Not applicable

10.5 Incompatible materials:

Strong Oxidisers	Strong Acids/Alkalis	Heat Sources
Avoid contact	Avoid contact	Avoid prolonged exposure

10.6 Hazardous decomposition products:

Thermal decomposition/combustion may generate carbon monoxide, carbon dioxide and irritating sulphurous/aldehyde-type fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Neem oil is of low to moderate acute toxicity. Its principal recognised hazard is skin irritation on direct contact.

A. Ingestion (acute effect):

Low acute oral toxicity in animal studies; ingestion of large quantities (reported particularly in paediatric cases with neat neem oil) may cause vomiting, drowsiness and metabolic acidosis – medical attention should be sought.

B. Inhalation (acute effect):

Not a normal route of exposure. Mist/vapour may cause respiratory irritation.

C. Contact with skin and eyes (acute effect):

Causes skin irritation. May cause eye irritation on direct contact.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity):

Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data. IARC: Not listed.

E. Sensitizing effects:

Classification criteria for respiratory or skin sensitisation are not met based on available data.

F. Specific target organ toxicity (STOT) – single exposure:

Classification criteria are not met based on available data.

G. Specific target organ toxicity (STOT) – repeated exposure:

Classification criteria are not met based on available data.

H. Aspiration hazard:

Classification criteria are not met based on available data.

Product-specific toxicological information:

Identification	Acute Toxicity	Genus
Neem Oil CAS: 8002-65-1	LD50 oral: > 2000 mg/kg	Rat
	LD50 dermal: > 2000 mg/kg	Rabbit

SECTION 12: ECOLOGICAL INFORMATION

Toxic to aquatic life with long lasting effects.

12.1 Toxicity:

Acute Toxicity	Species	Genus
LC50: 1 – 10 mg/L (96h) (Typical value – refer to current specification sheet)	Non-applicable	Fish
EC50: 1 – 10 mg/L (48h) (Typical value – refer to current specification sheet)	Non-applicable	Crustacean

12.2 Persistence and degradability:

Active constituents (e.g. azadirachtin) are known to degrade relatively rapidly under environmental (UV/hydrolytic) conditions; base oil is expected to be biodegradable.

12.3 Bioaccumulative potential:

Low bioaccumulation potential expected; not established.

12.4 Mobility in soil:

Koc	Henry	Dry Soil	Moist Soil
Not established	Not relevant	Low mobility (viscous oil)	Low mobility

12.5 Results of PBT and vPvB assessment:

Does not meet PBT/vPvB criteria.

12.6 Other adverse effects:

Insecticidal/biopesticidal activity may affect non-target invertebrates (including beneficial insects and aquatic invertebrates) if released uncontrolled into the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

Dispose of via a licensed waste disposal contractor in accordance with national and local regulations. Do not discharge to drains, soil or watercourses given aquatic toxicity. Empty containers may retain residue; dispose of as per label instructions.

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023):

14.1 UN number	Non-applicable – not classified as dangerous goods
14.2 UN proper shipping name	Not applicable
14.3 Transport hazard class(es)	Not applicable
14.4 Packing group	N/A
14.5 Environmental hazard	No (below bulk ADR environmentally hazardous substance threshold in standard packaged form)
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by sea (IMDG 41-22):

14.1 UN number	Non-applicable – not classified as dangerous goods
14.2 UN proper shipping name	Not applicable
14.3 Transport hazard class(es)	Not applicable
14.4 Packing group	N/A
14.5 Marine pollutant	No
14.6 Special precautions for user	Non-applicable
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by air (IATA/ICAO 2024):

14.1 UN number	Non-applicable
14.2 UN proper shipping name	Not applicable
14.3 Transport hazard class(es)	Not applicable
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Non-applicable
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation:

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
The Insecticides Act, 1968 (where applicable to registered agro/pesticide-grade material)

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3:

H315: Causes skin irritation.
H411: Toxic to aquatic life with long lasting effects.

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

The United Nations Economic Commission for Europe (UNECE); publicly available GHS classification references for botanical/neem-based oils.

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Koc: Partition coefficient of organic carbon | IARC: International Agency for Research on Cancer

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

END OF SAFETY DATA SHEET