

According to Regulation (EC) No 1907/2006

N,N-Diethyl-m-toluamide (DEET)



SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name

N,N-Diethyl-m-toluamide (DEET)

CAS number

134-62-3

EC number

205-149-7

Synonyms

Diethyltoluamide

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

Relevant identified uses

Research and development.

Not suitable for use in

Not suitable for human consumption or veterinary purposes.

1.3. Details of the supplier of the safety data sheet

Supplier

Molekula Group

Street address

Molekula Ltd, Lingfield Way, Darlington,
DL1 4XX Darlington
United Kingdom

Telephone

+44 (0) 3302 000 333

Email

info@molekula.com

Web site

www.molekula.com

Contact person

Kevin Banks

Email address

+44 (0) 7769276927

1.4. Emergency telephone number

Poison center/Additional emergency number

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

According to Regulation (EC) No 1907/2006

N,N-Diethyl-m-toluamide (DEET)



SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification

Hazardous to the aquatic environment — Chronic hazard category 3

Skin irritation, hazard category 2

Eye irritation, hazard category 2

Acute toxicity, oral, hazard category 4

Hazard statements

H302, H315, H319, H412

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms



Signal word

Warning

Hazard statements

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P264 Wash skin thoroughly after handling.

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

P273 Avoid release to the environment.

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

P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

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

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332 + P313 If skin irritation occurs: Get medical advice/attention.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

2.3. Other hazards

No data available

According to Regulation (EC) No 1907/2006

N,N-Diethyl-m-toluamide (DEET)



SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
N,N-Diethyl-m-toluamide (DEET)	134-62-3 205-149-7 - -	100%	Acute Tox. 4 - oral, Skin Irrit. 2, Eye Irrit. 2, Aquatic Chronic 3	- - -	-

Molecular weight

191.27

Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Get medical attention if any discomfort continues. Show this Safety Data Sheet (SDS) to medical personnel.

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.

Skin contact

IF ON SKIN: Wash with plenty of water. Continue to rinse for at least 15 minutes and seek medical attention. Get medical advice/attention if you feel unwell.

Eye contact

Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

Ingestion

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get medical advice/attention if you feel unwell.

Information for doctors

First aiders/ medical personnel need to protect themselves.

4.2. Most important symptoms and effects, both acute and delayed

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

According to Regulation (EC) No 1907/2006

N,N-Diethyl-m-toluamide (DEET)



Inhalation

Single exposure may cause the following adverse effects: Upper respiratory irritation. Difficulty in breathing.

Skin contact

Single exposure may cause the following adverse effects: Severe skin irritation.

Eye contact

Single exposure may cause the following adverse effects: Severe irritation.

Ingestion

Single exposure may cause the following adverse effects: Severe abdominal pain. Nausea, vomiting.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. No special treatment requirement.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

In case of fire: Use foam, carbon dioxide or dry powder to extinguish.

Unsuitable extinguishing media

No specific fire fighting procedure given.

5.2. Special hazards arising from the substance or mixture

Specific hazards:

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Carbon dioxide (CO₂). Carbon monoxide (CO).

Nitrous gases (NO_x).

Combustible.

Forms explosive mixtures with air on intense heating.

Vapours are heavier than air and may spread near ground to sources of ignition.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid inhalation of dust and contact with skin and eyes. Provide adequate ventilation. For personal protection, see section 8.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

According to Regulation (EC) No 1907/2006

N,N-Diethyl-m-toluamide (DEET)



6.3. Methods and material for containment and cleaning up

Collect with absorbent, non-combustible material into suitable containers.
Dispose of contents/container in accordance with local regulations.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities

Store in a dry place. Store in a closed container. Recommended storage temperature: 2 to 8°C (35.6 to 46.4°F)

7.3. Specific end use(s)

No specific usage precautions noted.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No data available

8.2. Exposure controls

Eye / face protection

Wear eye protection.

Hand protection

Wear protective gloves. Recommended gloves: Nitrile.

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash contaminated skin thoroughly after handling.

Other skin protection

Wash skin thoroughly after handling.

Respiratory protection

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

Environmental exposure controls

Avoid discharge into drains.

According to Regulation (EC) No 1907/2006

N,N-Diethyl-m-toluamide (DEET)



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Liquid

Colour

Light yellow

Odour

No data available

Melting point / freezing point

-45 °C

Boiling point or initial boiling point and boiling range

160 °C at 25 hPa - lit.

Flammability

No data available

Lower and upper explosion limit

No data available

Flash point

95 °C

Auto-ignition temperature

No data available

Decomposition temperature

No data available

pH

No data available

Kinematic viscosity

No data available

Solubility

No data available

Partition coefficient n-octanol/water

No data available

Vapour pressure

< 0.01 hPa at 25 °C

Density and/or relative density

0.998 g/cm³ at 20 °C - lit. / 1.27 at 20 °C

According to Regulation (EC) No 1907/2006

N,N-Diethyl-m-toluamide (DEET)



Relative vapour density

6.6 - (Air = 1.0)

Particle characteristics

No data available

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Forms explosive mixtures with air on intense heating. 15 (approx) Kelvin below the flash point is to be rated as critical.

10.2. Chemical stability

Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

strong heating

10.5. Incompatible materials

Strong oxidising agents. Strong acids. , Strong bases , Strong reducing agents.

10.6. Hazardous decomposition products

See section 5.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Test animals	Remarks
N,N-Diethyl-m-toluamide (DEET) 134-62-3 / 205-149-7	Acute Toxicity (Oral LD50):	1800 mg/kg	-	RTECS = Registry of Toxic Effects of Chem- ical Substances.
N,N-Diethyl-m-toluamide (DEET) 134-62-3 / 205-149-7	Acute Toxicity (Dermal LD50):	3174 mg/kg	Rabbit	RTECS = Registry of Toxic Effects of Chem- ical Substances.

Skin corrosion/irritation

According to Regulation (EC) No 1907/2006

N,N-Diethyl-m-toluamide (DEET)



Product / Substance name CAS / EC no.	Result	Species	Method / Guideline
N,N-Diethyl-m-toluamide (DEET) 134-62-3 / 205-149-7	Skin irritation.	Rabbit	Draize test:

Serious eye damage/irritation

Product / Substance name CAS / EC no.	Result	Species
N,N-Diethyl-m-toluamide (DEET) 134-62-3 / 205-149-7	Causes eye irritation.	Rabbit

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

No data available

SECTION 12: Ecological information

12.1. Toxicity

Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
N,N-Diethyl-m-toluamide (DEET) 134-62-3 / 205-149-7	LC50	110 mg/l	96 hours	Pimephales promelas (Fat-head Minnow)

Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
N,N-Diethyl-m-toluamide (DEET) 134-62-3 / 205-149-7	EC50	75 mg/l	48 hours	Daphnia magna

12.2. Persistence and degradability

No data available

According to Regulation (EC) No 1907/2006

N,N-Diethyl-m-toluamide (DEET)



12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

According to Regulation (EC) No 1907/2006

N,N-Diethyl-m-toluamide (DEET)



SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

This SDS is not mandated under REACH Regulation (EC) No 1907/2006 and is provided for information only.

National regulations

No data available

15.2. Chemical safety assessment

No data available

SECTION 16: Other information

Phrase meaning

Aquatic Chronic 3 - Hazardous to the aquatic environment — Chronic hazard category 3

Skin Irrit. 2 - Skin irritation, hazard category 2

Eye Irrit. 2 - Eye irritation, hazard category 2

Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H412 Harmful to aquatic life with long lasting effects.