SECTION 1. IDENTIFICATION

Identification of the company:	Clariant Corporation 4000 Monroe Road Charlotte, NC, 28205 Telephone No.: +1 704 331 7000 **Information of the substance/preparation:** BU ICS Product Stewardship 1-704-331-7710 **Emergency tel. number:** +1 800-424-9300 CHEMTREC

Trade name:	**DEET (N,N-DIETHYL-M-TOLUAMIDE)**
Material number:	158523
CAS number:	134-62-3
Primary product use:	Insect repellent Microbiocide: use EPA FIFRA Registration #8340-39. It is a violation of federal law to use this product in a manner inconsistent with its labeling.
Chemical family:	N,N-Diethyl-3-methylbenzamide

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral)	:	Category 4
Skin irritation	:	Category 2
Eye irritation	:	Category 2B

GHS Label element

Hazard pictograms :

Signal word	:	Warning
Hazard statements	:	H302 Harmful if swallowed. H315 + H320 Causes skin and eye irritation.
Precautionary statements	:	**Prevention:** P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P280 Wear protective gloves. **Response:** P301 + P312 + P330 IF SWALLOWED: Call a POISON

CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of soap and 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 Take off contaminated clothing and wash before reuse.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
N,N-diethyl-m-toluamide	134-62-3	> 97

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

SECTION 4. FIRST AID MEASURES

General advice : Remove/Take off immediately all contaminated clothing.
Get medical advice/ attention if you feel unwell.

If inhaled : Remove person to fresh air. If signs/symptoms continue, get medical attention.

In case of skin contact : Wash thoroughly with soap and water for 15 minutes. If skin irritation occurs, seek medical attention.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Get medical attention immediately if irritation develops and persists.

If swallowed : If conscious, give the patient 1-2 glasses of water (8-16 oz.) and call a doctor. Never give anything by mouth to an unconscious person. Induce vomiting only at the instructions of a doctor or nurse.

Most important symptoms and effects, both acute and delayed : The possible symptoms known are those derived from the labelling (see section 2).
No additional symptoms are known.

Notes to physician : None known.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray jet Alcohol-resistant foam Dry powder Carbon dioxide (CO2)
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Emits toxic and corrosive fumes under fire conditions.
Further information	:	Exercise caution when fighting any chemical fire. Use NIOSH approved self-contained breathing apparatus and protective clothing. Cool containers with water to prevent rupture due to pressure buildup.
Special protective equipment for firefighters	:	Self-contained breathing apparatus

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Wear suitable protective equipment. Ensure adequate ventilation. Contain spill. All spills should be collected as liquid or absorbed on a suitable absorbant. Clean up should be accomplished by removal of contaminated soil or scrubbed with soap and water and cleaning wastes removed with absorbant materials. Wear proper protective equipment.
Environmental precautions	:	The product should not be allowed to enter drains, water courses or the soil.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Treat recovered material as described in the section "Disposal considerations".

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Observe the general rules of industrial fire protection
Advice on safe handling	:	Do not store or handle product in the presence of heat, sparks, or open flame. Ground or bond container when transferring. Keep container closed when not in use. Avoid breathing vapor. Wear proper protective equipment.

Conditions for safe storage	:	Keep only in the original container.
Technical measures/Precautions	:	Store in original container.
Materials to avoid	:	Do not store or transport together with foodstuffs

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

No level has been established by OSHA, NIOSH, ACGIH.

Engineering measures	:	Use with local exhaust ventilation.

Personal protective equipment

Respiratory protection	:	If airborne concentrations pose a health hazard, become irritating, or exceed recommended limits, use a NIOSH approved respirator in accordance with OSHA respiratory protection requirements under 29CFR1910.134.
Hand protection		
Remarks	:	Rubber or plastic gloves
Eye protection	:	Tightly fitting safety goggles
Skin and body protection	:	Wear suitable protective equipment. Wear suitable protective clothing.
Protective measures	:	Avoid contact with skin and eyes. Do not inhale vapours
Hygiene measures	:	Observe the usual precautions for handling chemicals. When using do not eat or drink. Clean skin thoroughly after work; apply skin cream.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	colourless to slightly yellow
Odour	:	characteristic
Odour Threshold	:	not tested.
pH	:	approx. 4.3, Concentration: 10 g/l (24 °C)Method: DIN 53996 Ethanol/Water 1:1

Melting point	:	approx. -20 °C
Boiling point	:	284 °C
Flash point	:	> 285 °C
Evaporation rate	:	not tested.
Upper explosion limit	:	not tested.
Lower explosion limit	:	not tested.
Vapour pressure	:	0.23 Pa (25 °C) 0.11 hPa (20 °C)
Relative vapour density	:	not tested.
Density	:	0.992 - 0.999 g/cm3
Bulk density	:	Not applicable
Solubility(ies)		
Water solubility	:	approx. 11.2 g/l (25 °C)
Solubility in other solvents	:	> 250 g/l (23 °C) Solvent: Ethanol > 250 g/l (23 °C) Solvent: n-Hexane
Partition coefficient: n-octanol/water	:	log Pow: 2.4 (22 °C) pH: 6
Auto-ignition temperature	:	not tested.
Decomposition temperature	:	Stable up to boiling point.
Viscosity		
Viscosity, dynamic	:	approx. 35 Pas (20 °C)
Viscosity, kinematic	:	not tested.
Explosive properties	:	There are no chemical groups associated with explosive properties present in the molecule.

Oxidizing properties	:	There are no chemical groups associated with oxidising properties present in the molecule.
Surface tension	:	0.06 N/m, 20 °C

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable
Possibility of hazardous reactions	:	Reactions with acids, alkalies and oxidizing agents. Stable
Conditions to avoid	:	Keep away from oxidizing agents. Keep away from strong bases. Keep away from strong acids.
Incompatible materials	:	not known
Hazardous decomposition products	:	When handled and stored appropriately, no dangerous decomposition products are known

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Eye contact
Skin contact
Ingestion

Acute toxicity

Product:

Acute oral toxicity	:	LD50 (Rat): ca. 1,892 mg/kg Method: OPPTS 870.1100
Acute inhalation toxicity	:	LC50 (Rat): 5.95 mg/l Exposure time: 4 h
Acute dermal toxicity	:	LD50 (Rabbit): 3,180 mg/kg

Components:

N,N-diethyl-m-toluamide:

Acute oral toxicity	:	LD50 (Rat): 2,000 mg/kg

Skin corrosion/irritation

Product:

Species: Rabbit
Result: irritating

Serious eye damage/eye irritation

Product:

Species: rabbit eye
Result: irritating

Respiratory or skin sensitisation

Product:

Test Type: Buehler Test
Method: OPPTS 870.2600
Result: non-sensitizing

Germ cell mutagenicity

Product:

Genotoxicity in vitro	:	Test Type: In vitro gene mutation study in bacteria Result: negative
	:	Test Type: In vitro gene mutation study in mammalian cells Result: negative
	:	Test Type: In vitro cytogenicity study in mammalian cells Result: negative
Germ cell mutagenicity - Assessment	:	In vitro tests did not show mutagenic effects

Carcinogenicity

Product:

Carcinogenicity - Assessment	:	No evidence of carcinogenicity in animal studies.

IARC	Not listed
OSHA	Not listed
NTP	Not listed

Reproductive toxicity

Product:

Reproductive toxicity - Assessment	:	Animal testing did not show any effects on fertility.
		No teratogenic effects to be expected.

STOT - single exposure

Product:

Assessment: The substance or mixture is not classified as specific target organ toxicant, single

exposure.

STOT - repeated exposure

Product:

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Product:

Species: Dog
NOAEL: 75 mg/kg
Application Route: Oral
Exposure time: 56 d

Species: Rat
NOAEL: >= 1,000 mg/kg
Application Route: Dermal
Exposure time: 90 d

Aspiration toxicity

Product:

no data available

Experience with human exposure

Product:

General Information : The possible symptoms known are those derived from the labelling (see section 2).

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 110 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): approx. 75 mg/l
Exposure time: 51 h
Method: US-EPA Ecological Research Series 660/3-75009

Toxicity to algae : IC50 (Selenastrum capricornutum (green algae)): approx. 43 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

Toxicity to bacteria : (activated sludge): > 1,000 mg/l
End point: Bacteria toxicity (respiration inhibition)

Exposure time: 3 h
Method: OECD Test Guideline 209

Persistence and degradability

Product:

Biodegradability : Test Type: aerobic
Biodegradation: 83.8 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
Remarks: Readily biodegradable, according to appropriate OECD test.

Bioaccumulative potential

Product:

Bioaccumulation : Bioconcentration factor (BCF): 22
Remarks: No bioaccumulation is to be expected (log Pow <= 4).

Mobility in soil

Product:

Distribution among environmental compartments : Koc: 43.3Method: OECD Test Guideline 121
Remarks: The substance will be preferentially distributed into the aqueous phase.

Other adverse effects

Product:

Results of PBT and vPvB assessment : The substance does not fulfill the criteria given in Annex XIII of Regulation (EC) 1907/2006 and is not identified as a PBT or as a vPvB substance.

Additional ecological information : no data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

RCRA - Resource Conservation and Recovery Authorization Act : No -- Not as sold.

Waste Code : NONE

Waste from residues : Disposal of waste product may be subject to federal, state, and local regulations. Refer to part 261 of 40 CFR for the applicability of federal regulations. Disposal of this material must be in a manner compliant with all federal, state and local regulations.

Contaminated packaging : Packaging that cannot be cleaned should be disposed of as product waste

SECTION 14. TRANSPORT INFORMATION

DOT not restricted

IATA not restricted

IMDG not restricted

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This product does not contain any toxic chemical listed under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986.

Clean Water Act

Contains no known priority pollutants at concentrations greater than 0.1%.

The components of this product are reported in the following inventories:

TSCA : All components of this product are listed on the TSCA Inventory. However, the primary use of this product is NOT subject to TSCA but rather to FIFRA and must comply with the FIFRA regulations.

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

Observe national and local legal requirements
This chemical is a pesticide product registered by the EPA and is subject to certain labeling requirements under FIFRA. FIFRA requirements differ from GHS classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the FIFRA label:
Warning
Causes substantial but temporary eye injury.
Harmful if swallowed.
Harmful if absorbed through skin.

Revision Date : 05/12/2015

This information is supplied under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, and is offered in good faith based on data available to us that we believe to be true and accurate. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable to the material. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate for that use. No warranty, express or implied, is made regarding the accuracy of this data, the hazards connected with the use of the material, or the results to be obtained from the use thereof. We assume no responsibility for damage or injury from the use of the product described herein. Data provided here are typical and not intended for use as product specifications.

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