

MATERIAL SAFETY DATA SHEET

PIC X-100 INSECT REPELLENT

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT CODE: 439000
PRODUCT NAME: MGK® DIETHYLTOLUAMIDE
PRODUCT DESCRIPTION: Personal Insect Repellent
CHEMICAL NAME: [N,N-diethyl-m-toluamide]
CHEMICAL FORMULA: C₁₂H₁₇NO
CAS NUMBER: 134-62-3
SYNONYMS: DEET, DET
MANUFACTURER: McLaughlin Gormley King Company, 8810 Tenth Ave North,
Minneapolis MN 55427
TELEPHONE M-F, 8:00 – 4:30 CST, 14:00 – 22:30 GMT: (800) 646-6466 or (800) MGK-MINN
MSDS & Product Information, 8:00 – 4:30 CST, 14:00 – 22:30 GMT: (800) 646-6466 or (800) MGK-MINN

24-HOUR EMERGENCY PHONE (CHEMTREC) **CHEMTREC**
U.S. and CANADA: (800) 424-9300 **(ALL OTHER AREAS):**(703) 527-3887

2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT(s) % BY WT.	CAS#	EINECS	EXPOSURE LIMITS
DEET [N,N-diethyl-m-toluamide]	000134-62-3	205-149-7	not applicable 100.00

PEL = Permissible Exposure Limits. TWA = Time Weighted Average (8 hr).
TLV = Threshold Limit Value. STEL = Short Term Exposure
Limit (15 min.)

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS: EMERGENCY OVERVIEW

HUMAN: WARNING.
May cause eye injury
Harmful if swallowed.
Avoid contact with eyes and lips.
Do not apply to sunburned, damaged, or irritated skin.
Avoid contamination of food and feedstuffs.

EYES: WARNING. Can cause severe irritation, tearing and blurred vision, May cause permanent damage if not rinsed out immediately.

SKIN: Can cause irritation and redness of skin, especially on areas occluded from air. (inside gloves, under watch bands etc.)

INGESTION: WARNING. Can cause stomach irritation, resulting in nausea, cramps and vomiting. In extreme rare cases, can cause nervous system disorders such

as fatigue, dizziness, headaches, lack of coordination, tremors and unconsciousness.

INHALATION: Excessive inhalation can cause nasal and respiratory irritation. In extremely rare cases, can cause nausea and nervous disorders, such as fatigue, dizziness, headaches, lack of coordination, tremors and unconsciousness.

CHRONIC EFFECTS: None known.

See TOXICOLOGICAL INFORMATION (section 11)

4. FIRST-AID MEASURES

FIRST AID PROCEDURES:

EYES: Immediately flush with large amounts of water for at least 15 minutes. If irritation persists, get medical attention.

SKIN: Immediately flush affected area with large amounts of water. Remove contaminated clothing and wash affected areas with soap and water. If irritation persists, get medical attention.

INHALATION: Remove affected person to fresh air. Give oxygen, if necessary. If breathing has stopped, administer artificial respiration and get medical attention immediately.

INGESTION: If swallowed, drink one or two glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person. Get medical attention immediately.

NOTE TO PHYSICIANS: None

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT: 311 °F **METHOD:** TCC

This product is classified as a noncombustible liquid.

FLAMMABLE LIMITS:

LOWER FLAMMABLE LIMIT: not established

UPPER FLAMMABLE LIMIT: not established

AUTOIGNITION TEMPERATURE: not established

HAZARDOUS COMBUSTION PRODUCTS: Unknown

EXTINGUISHING MEDIA: Foam, carbon dioxide, or dry chemical

FIRE FIGHTING INSTRUCTIONS: Treat as a oil fire. Use a full-faced self-contained breathing apparatus along with full protective gear. Keep nearby containers and equipment cool with a water spray. Contain the run-off, if possible, for proper disposal.

6. ACCIDENTAL RELEASE MEASURES:

SMALL SPILL: Shut off ignition sources. Stop release, if possible without risk. Dike or contain release, if possible, and if immediate response can prevent further damage or danger. Isolate and control access to the release if immediate response can prevent further damage or danger. Isolate and control access to the release area. Take

actions to reduce vapors. Absorb with appropriate absorbent. Clean spill area of residues and absorbent.

LARGE SPILL: Shut off ignition sources. Stop release, if possible without risk. Dike or contain release, if possible, and if immediate response can prevent further damage or danger. Isolate and control access to the release area. Take actions to reduce vapors. Collect product into drums, etc. via drains, pumps, etc. Absorb with appropriate absorbent. Clean spill area of residues and absorbent

WASTE DISPOSAL METHOD: contaminated absorbent and wash water should be disposed of according to local state and federal regulations.

7. HANDLING AND STORAGE

HANDLING: Wear rubber gloves. Wear an OSHA-approved safety glasses, goggles or face shield. Mechanical ventilation should be used when handling this product in enclosed spaces. Wearing a respirator is not required when handling this product. Do not contaminate water, feed or food by storage, handling or disposal. Read and observe all precautions and instructions on the label

STORAGE: Store containers upright and closed. Store in areas that are cool, dry and well-ventilated. Keep away from heat, ignition sources and strong oxidizers. Emptied containers may retain product residues.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Mechanical ventilation should be used when handling this product in enclosed spaces or when product is heated above ambient temperature.

RESPIRATORY PROTECTION: Wearing a respirator is not required when handling this product.

SKIN PROTECTION: Wear rubber gloves and protective clothing.

EYE PROTECTION: Wear and OSHA-approved safety glasses, goggles or face shield.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Clear oil liquid
ODOR:	Mild characteristic odor.
PHYSICAL STATE:	Liquid.
VAPOR PRESSURE:	1.67 x 10 ⁻³ mm Hg @ 25°C
VAPOR DENSITY:	6.7
BOILING POINT:	160°C @ 19mm Hg.
MELTING POINT:	Not applicable
SOLUBILITY IN WATER:	<0.1%
SPECIFIC GRAVITY @ 25°C:	0.996
COLOR, (GARDNER):	1
pH:	Not applicable
REFRACTIVE INDEX @ 25°C:	1.512

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

INCOMPATIBILITY: Strong acidic or alkaline materials (strong oxidizing materials).

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion will produce carbon dioxide, carbon monoxide and oxides of nitrogen

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

ACUTE STUDIES:

EYE:	Primary eye irritation (rabbit):	A potential eye irritant
SKIN:	Primary skin irritation (rabbit):	Index=0 to 2
	Dermal Sensitization (guinea pig):	Not a sensitizer
	Acute Dermal LD ₅₀ (rabbit)	=3180 mg/kg
INGESTION:	Acute Oral LD ₅₀ (rat)	=1950 mg/kg
INHALATION:	Acute Inhalation LC ₅₀ (rat)	=5950 mg/m ³

SUBCHRONIC:

DERMAL TOXICITY STUDY: 3 month rat.	Reduced body weight gain was observed at the 1000mg/kg/day dosage level. Other than slight dermal irritation, there were no clinical signs of toxicity noted in treated animals.
INHALATION TOXICITY STUDY: 3 month rat	Not available

CHRONIC:

1 Year feeding (dog) 100mg/kg/day (NOEL) and 400 mg/kg/day clear effect levels were determined. There was no specific target organ toxicity attributed to treatment with DEET.

CARCINOGENICITY: No test article related carcinogenic effects were observed.
24 Month (albino rat)

ONCOGENICITY: ≤ 500 mg/kg/day (NOEL) and 1000 mg/kg/day (clear effect level) were determined for systemic toxicity. Treatment did not have any effect on survival or the incidence of tumors
18 Month (mouse)

2 Year feeding (rat) 100mg/kg/day (NOEL) and 400 mg/kg/day clear effect level for females and 100 mg/kg/day (NOEL) for males. Treatment had no effect on survival or tumor incidences.

TERATOGENICITY: 325 mg/kg/day clear effect level and 100mg/kg/day (NOEL) for matotoxicity.
(rabbit) Treatment had no effect on the gestational parameters or the incidences of variations or malformations.

TERATOGENICITY: 750 mg/kg/day clear effect level and 250 mg/kg/day (NOEL) were determined for parental and neonatal toxicity. Treatments had no effect on the gestational parameters or on the incidences of variations of malformations.
(rat)

REPRODUCTION: ≤ 2000ppm clear effect level and 500ppm (NOEL) were determined for parental and neonatal toxicity. Treatment had no effect on any of the reproductive parameters.

2 generation (rat)

MUTAGENICITY: (Ames Test, Structural chromosomal aberration assay {CHO cells}, Unscheduled DNA synthesis) No evidence of mutagenicity was noted with or without metabolic activation.

NEUROTOXICITY:(rat) Acute oral exposure and multigenerational exposure to DEET showed no signs of neurotoxicity.

12. ECOLOGICAL INFORMATION

PERSISTENCE IN THE ENVIRONMENT

BIODEGRADATION: Not available

CHEMICAL DEGRADATION: Not available

TOXIC EFFECT ON ORGANISMS:

48 HR EC₅₀ 75 mg/l (Daphnia Magna)

FISH: LC₅₀ Not available

BIRD: LC₅₀ 1375mg/kg (Bobwhite Quail)

TOXICITY TO USEFUL INSECTS: Not available

13. DISPOSAL CONSIDERATIONS

RCRA / CERCLA HAZARDOUS WASTE:

INGREDIENT	RCRA ID#:	CERCLA RQ-VALUE
None		

DISPOSAL METHOD: Product should be disposed of according to local, state and federal regulations. When disposing of waste or surplus avoid contact with eyes and skin. Wear impervious gloves/clothing and chemical safety goggles. Do not wash into drains. Do not mix with other waste materials.

14. TRANSPORT INFORMATION

U.S. DEPARMTENT OF TRANSPORATION (DOT) INFORMATION: Not considered hazardous by DOT Title 49 Regulations.

PROPER SHIPPING NAME:	N/A
HAZARD CLASS:	N/A
IDENTIFICATION NUMBER (UN or NA):	N/A
PACKING GROUP:	N/A

INTERNATIONAL TRANSPORTATION REGULATIONS:

ICAO / IATA DESCRIPTION: Not considered hazardous by IATA regulations for transportation via air.

IMO DESCRIPTION (IMDG CODE):

Not considered hazardous by
IMO regulations for
transportation via vessel.

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

SARA TITLE III:

SECTION 302: Not listed

SECTION 313: This product contains the following toxic chemicals of the subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

CAS#:	CHEMICAL NAME:	% BY WEIGHT:
	None	

EEC RISK PHRASES:

R22	Harmful if swallowed.
R36/R38	Irritating to the eyes and skin

EEC SAFETY PHRASES:

S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S46	If swallowed seek medical advice immediately and show this container or label.

16. OTHER INFORMATION

We assign HMIS ratings to this product based on the hazards of its ingredients(s). Since the customer is most aware of the application and conditions of use, he must ensure that the proper personal protective equipment is provided consistent with information contained in sections 7 and 8 of this MSDS.

HMIS RATINGS: Health	1
Flammability	1
Reactivity	0

The data contained herein is based on information currently available MGK Company, and believed to be factual and the opinions expressed to be those of qualified experts; however, this data is not to be taken as a warranty or representation for which MGK Company assumes legal responsibility.