

MATERIAL SAFETY DATA SHEET

HONEYWELL CHEMICALS{PRIVAT } VALE ROAD ARKLOW CO WICKLOW IRELAND. TEL: 353 (402) 20300 FAX: 353 (402) 31147	SPECIALTY	MSDS NO: MS-011-4 SUPERSEDES: MS-011-3 VALID FROM: _____ APPROVED BY: _____ Health & Safety Manager
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COMMERCIAL PRODUCT NAME: DIETHYLCARBAMAZINE CITRATE

SECTION 1: IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY UNDERTAKING

Product Name	: N,N-Diethyl-4-Methyl-1-Piperazinecarboxamide Citrate.
Product Type	: Anthelmintic
Manufacturer/Supplier	: Honeywell Research & Life Science Solutions
Address	: Vale Road, Arklow, Co. Wicklow, Ireland.
Phone Number	: 353-402-20300
Fax Number	: 353-402-31147
Emergency Phone Number	: 353-402-20300

SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	: N,N-Diethyl-4-Methyl-1-Piperazinecarboxamide Citrate.
CAS No.	: 1642-54-2
Einecs No.	: 216-696-6
Weight %	: 100
Symbols	: T+
R. Phrases	: R36/37/38 Irritating to eyes, to respiratory system and Skin. R 22 Harmful if swallowed. R 26 Very toxic by inhalation. R 21 Harmful in contact with skin.

SECTION 3: HAZARDS IDENTIFICATION

Main Hazards	: Toxic if inhaled, Harmful if swallowed.
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Health Effects - Eye	: May cause irritation.
Health Effects - Skin	: May cause irritation.
Health effects - Ingestion	: May cause irritation.
Health Effects - Inhalation	: Toxic, may cause irritation of respiratory tract.

SECTION 4: FIRST AID MEASURES

Symptoms and Effects	: Exposure can cause headache and vomiting. Other symptoms include anorexia, dizziness, joint pains, weakness and convulsions.
First Aid - Inhalation	: Remove subject to fresh air.
First Aid - Skin	: Remove soaked clothing immediately and wash affected skin with copious quantities of water.
First Aid - Eyes	: Flush with copious quantities of water, separate eyelids with fingers. Obtain medical attention.
First Aid - Ingestion	: If swallowed and if victim is conscious, give large quantities of water to drink. Call a physician immediately.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing Media	: Use water spray, dry chemical, carbon dioxide or foam As appropriate for surrounding fire and materials.
Unsuitable Extinguishing Media	: None.
Special Hazards of Product	: Emits toxic fumes under fire conditions.
Hazardous Combustion Products	: Carbon monoxide, carbon dioxide and oxides of nitrogen.
Protective equipment for Fire Fighting	: As with all fires evacuate personnel to safe area. Fire fighters should use self-contained breathing apparatus and protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions	: Wear approved respirator and chemically compatible gloves. Vacuum or sweep up spillage. Avoid dust. Place spillage in appropriate container for waste disposal. Wash spill site.
Environmental Precautions	: Hose over spill to affect dilution. Consult an expert on disposal of any recovered material and ensure conformity to local disposal regulations. Dry: Sweep up, place in a bag and hold for hazardous waste disposal.

SECTION 7: HANDLING AND STORAGE

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| Handling | : Avoid contact with eyes, skin or clothing. Avoid breathing dust. Use with adequate dust control. Wash thoroughly after handling. Do not permit eating drinking or smoking near material. Ground all metal equipment in contact with dry material. |
| Storage | : Store the product indoors in well-sealed containers and with adequate ventilation in storage area. |

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

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| Occupational Exposure Standards | : No available information. |
| Engineering Control Measures | : Use adequate ventilation. The use of both local and general ventilation is recommended. |
| Respiratory Protection | : Use an approved dust respirator. |
| Hand Protection | : Wear rubber or vinyl gloves when handling. |
| Eye Protection | : Wear safety glasses/goggles. |
| Skin Protection | : Use appropriate apparel to protect exposed skin. Wear safety boots. |

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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| Physical State | : Solid. |
| Colour | : White. |
| Odour | : Characteristic odour. |
| Boiling Point (°C) | : N/A |
| Flash Point (°C) | : N/A |
| Water Solubility | : 750g/l AT 20°C. |
| Melting Point | : 136-141°C |
| Vapour Density (Air=1) | : N/A |
| Vapour Pressure | : N/A |

SECTION 10: STABILITY AND REACTIVITY

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| Stability | : Stable. |
| Conditions to Avoid Instability | : Material is stable from a safety point of view. |
| Materials to Avoid Incompatibility | : N/A |
| Hazardous Decomposition Products | : When heated to decomposition material emits toxic fumes. Emits toxic fumes under fire conditions. |

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity-Oral	: Oral-Rat LD ₅₀ : 1400mg/kg. Mouse LD ₅₀ :660 mg/kg.
Acute Toxicity-Dermal	: No data available.
Acute Toxicity-Inhalation	: IHL-Rat LC ₅₀ : 309 mg/m ³ /M for 4 Hr.
Eye Irritation	: May cause irritation.
Skin Irritation	: May cause irritation.
Skin Sensitisation	: No data available.
Health Warnings	: Effects on embryo or fetus CFE to toxicity.
Medical Symptoms	: No data available.
Acute and Chronic Health Hazards	: Exposure can cause nausea, headache and vomiting. Other symptoms may include anorexia, dizziness, joint pains, weakness and convulsions.

SECTION 12: ECOLOGICAL INFORMATION

Mobility	: Prevent product from entering sewers, watercourses or low areas as it may be toxic to fish life. Product is very soluble in water. Chemical oxygen demand: 1434 mg of oxygen consumed per gram of compound. Theoretical oxygen demand: 1880 mg/gram.
Persistence / Degradability	: No data available.
Bioaccumulation	: No data available.
Ecotoxicity	: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Precautions	: Dust can be irritating to skin, eyes or if inhaled. Avoid contact (see section 6).
Product/Waste Disposal	: Incinerate product and any contaminated packaging in approved equipment. Dispose of waste in accordance with all applicable federal, state and local laws.
Container Disposal	: Recycle containers if possible. Otherwise dispose as per applicable state and local laws.

SECTION 14: TRANSPORT REGULATIONS

UN Number (Road, Rail, Sea & Air)	: UN 2811
Hazard Class (Road, Rail, Sea & Air)	: Class 6.1
Packing Group (Road, Rail, Sea & Air)	: PG I
ADR Classification code (Road)	: T2
Required Hazard (Danger) labels (Road, Rail, Sea & Air)	: Label No. 6
ADR/RID Kemler Number (Hazard identification number) (Road & Rail)	: 66

Proper Shipping Name (Road, Rail, Sea & Air) : **Toxic Solid, Organic, NOS**
IMDG Marine Pollutant (Yes/No) : **No**
IMDG Symbol : **None.**
 Note: Road: ADR Rail: RID Sea: IMDG Air: IATA

SECTION 15: REGULATORY INFORMATION

EC Label Name : Diethylcarbamazine Citrate.
EC Classification : Very toxic.
EC Symbols : T+
EC Risk Phrases : R21/22. Harmful in contact with skin and if swallowed.
 R26, Very toxic by inhalation.
 R36/37/38 Irritating to eye, to respiratory system and skin.
EC Safety Phrases : S22, do not breathe dust.
 S24/25, Avoid contact with skin and eyes.
 S26, In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S28, After contact with skin, wash immediately with plenty of water.
 S62, If swallowed, do not induce vomiting, seek medical advice immediately and show this container as label.
 S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
 In case of accident or if you feel unwell seek medical advice immediately.
 S38, In case of insufficient ventilation, wear suitable respiratory equipment.
EINECS (EC) : 216-696-6

SECTION 16: OTHER INFORMATION

Training : Train all personnel handling product on safe handling procedures. Main source of key data for hazard data sheet was USPC material safety data sheet.
Revision Date : 28th January 2003
Notice : This information is based on our current knowledge and is intended to describe the product for the purpose of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product .