

Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

MSDS Name: Razoxane
Synonyms: 4,4'-Propylenebis(piperazine-2,6-dione)
Company Identification: MICScientific Ltd.
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Dongxin Road, East Lake Hi-tech Development Zone
Wuhan430074, China
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Section 2 - Product Information

Catalog Number: AP110003
CAS Number: 21416-67-1
MDL Number: Not available
EC Number: Unlisted
Molecular Formula: $C_{11}H_{16}N_4O_4$
Molecular Weight: 268.27
Purity: 97.0%

Section 3 - Physical and Chemical Properties

Physical state: Crystalline powder
Color: Off-white
Odor: Not available
Freezing/Melting Point: Not available
Boiling Point: Not available
Flash Point: Not available
Autoignition Temperature: Not available
Refractive Index (n_D^{20}): Not available
Density: Not available
Decomposition Temperature: Not available
Solubility: Insoluble in water

Section 4 - Hazards Identification

Eye: Causes eye irritation.
Skin: Causes skin irritation. Harmful if absorbed through the skin.
Ingestion: May cause irritation of the digestive tract. Toxic if swallowed.



Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.

Section 5 - First Aid Measures

Eye: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of water and soap for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops and persists.

Ingestion: Get medical aid immediately. Wash mouth out with water.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Section 6 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Materials to avoid: Strong oxidizing agents.

Conditions to Avoid: Incompatible materials.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, nitrogen oxides.

Hazardous Polymerization: Will not occur.

Section 7 - Handling and Storage

Handling: Avoid breathing dust, vapor, mist, or gas. Keep container tightly closed. Avoid contact with skin and eyes. Wash thoroughly after handling. Mechanical exhaust required.

Storage: Store in a cool, dry well ventilated place away from sources of heat and incompatible substances. Keep container tightly closed when not in use.

Section 8 - Personal Protection

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Fire and Explosion Hazard Data

General Information: As in any fire, wear a self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent) and protective clothing to prevent contact with skin and eyes.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Section 10 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.



Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container.

Section 11 - Toxicological Information

RTECS#: CAS#21416-67-1: Not available

LD50/LC50: RTECS: Not available.

Carcinogenicity: Razoxane - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Section 12 - Environmental information

Not available

Section 13 - Disposal Consideration

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local environmental regulations.

Section 14 - Transport Information

IATA: This substance is considered to be not restricted for transportation.

IMO: This substance is considered to be not restricted for transportation.

RID/ADR: This substance is considered to be not restricted for transportation.

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: Xi

Indication of Danger: Irritant

Risk Phrases:

R 22: Harmful if swallowed.

Safety Phrases:

S 24/25: Avoid contact with skin and eyes.

S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

WGK (Water Danger/Protection)

CAS#21416-67-1:3

Canada

CAS#21416-67-1: Not available

US Federal

TSCA

CAS# 21416-67-1 is not listed on the TSCA Inventory. It is for research and development use only.

Section 16 - Additional Information

MSDS Creation Date: February3, 2009



Update:

September 15, 2009

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