

# Material Safety Data Sheet

## Morpholino Phosphorodiamidate Oligomer

Revision Date: Apr 2002

**GENE TOOLS, LLC**

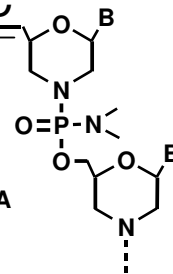
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### Section I: Product Identification

Product Name: Morpholino Oligos  
Chemical Name: Morpholino Phosphorodiamidate Oligomer  
Chemical Formula: N/A  
CASS #: None assigned

### Section II: Hazardous Ingredients

Hazardous Components: None

### Section III: Physical/Chemical Characteristics

Physical State: White Lyophilized Powder  
Odor: None  
Boiling Point: Does not boil  
Vapor Pressure: Negligible  
Vapor Density: N/A  
Solubility: Soluble in water  
Specific Gravity: Not determined  
Melting Point: Does not melt  
Evaporation Rate: Negligible

### Section IV: Fire and Explosion Hazard Data

Flash Point: No information available  
Unusual Fire or Explosion Hazards: None  
Extinguishing Media: Fire-Fighting Instructions: Use water

### Section V: Reactivity Data

Chemical Stability: Stable under normal temperatures and pressures  
Incompatibility: Strong acids cause non-hazardous degradation of product  
Conditions to Avoid: None reported  
Hazardous Polymerization: Will not occur

### Section VI: Health Hazard Data

Routes of Entry: May enter the body through ingestion, inhalation, skin and eye contact  
Carcinogenicity: No information available  
Toxicity: Intravenous injection of up to 800 mg/kg in mice causes no acute toxicity  
Health Hazards: Preliminary studies suggest this product is not a health hazard  
Signs and Symptoms of Exposure: Unknown, handle with care  
Emergency and First Aid Procedures: None required

### Section VII: Precautions for Safe Handling and Storage

Storage Precautions: Store at or below room temperature  
Steps to be taken in case material is released or spilled: Wash area with soap and water  
Waste Disposal Method: Observe all Federal, State and Local Environmental Regulations

### Section VIII: Control Measures

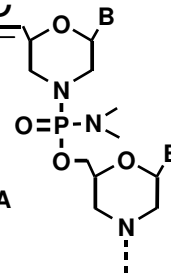
Respiratory Protection: None required  
Ventilation: General ventilation is sufficient  
Personal Protective Equipment: None required  
Work/Hygiene Practices: None required

The above information is correct to the best of our knowledge. This material is intended for research purposes only and must only be used under the supervision of a person experienced in handling hazardous materials. GENE TOOLS, LLC makes no guarantee of the accuracy or completeness of the information and shall not be held liable for any damage resulting from handling or from contact with the above material.

Morpholino Oligos are covered by European and United States Patents, including: 5,142,047 and 5,185,444.

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## STATEMENT OF CONFIDENTIALITY

Effective: 1 Dec 2000

**GENE TOOLS, LLC** hereby assures its customers that it will hold in strict confidence, and will not use for its own purposes, all non-public sequence information provided to GENE TOOLS by a customer for the purpose of GENE TOOLS using that sequence information for selecting a suitable target for a Morpholino antisense oligo.

In this context, “non-public sequence information” is defined as genetic sequence information which is not available in any publicly-available information source, such as data base or publication.

James Summerton, PhD.  
Manager