

## MATERIAL SAFETY DATA SHEET

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name:	<b>Capping Solution A (For Pac Chemistry)</b>
Chemical Name /Combination	Phenoxyacetic anhydride /Pyridine/ THF (10:10:80)
Catalog No.	<b>DN-3305-A</b>
Synonym/Trade Name:	DNA Synthesis Cap A Reagent, Phenoxyacetic anhydride/ Pyridine/ THF Solution
Product Use:	For Research Use Only Manufacturer Information
Manufacturer or supplier's	ChemGenes India Pvt. Ltd 207, Regency Plaza, 5-Park Road Lucknow-226 001,U.P, India, Ph: +91 86874 21036, Email: info@chemgenesindia.com

### SECTION 2. HAZARDS IDENTIFICATION

Pictograms:



Signal Words: Danger

#### GHS Hazard Statements

- H225: Highly Flammable Liquid and Vapor.  
H302+313: Harmful if swallowed, in contact with skin.  
H315: Causes skin irritation.  
H319: Causes serious eye irritation  
H331: Toxic if inhaled.  
H335: May cause respiratory irritation.

#### GHS Precautionary Statements

- P103: Read label before use.  
P210: Keep away from heat/sparks/open flames/hot surfaces – No Smoking. P233: Keep container tightly closed.  
P260: Avoid breathing fumes or vapors.  
P270: Do not eat, drink or smoke when using this product. P271: Use only in a well ventilated area.  
P280: Wear protective gloves / protective clothing / eye protection / face protection.

#### GHS Response Statements

- P301+330: IF SWALLOWED: Rinse mouth with water. P302+350: IF ON SKIN: Gently wash with soap and water.  
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so - continue rinsing.  
P306+360: IF ON CLOTHING: Rinse contaminated clothing and skin immediately with plenty of water before removing clothes.

P312: Call a POISON CENTER or doctor/physician if you fell unwell. P362: Take off contaminated clothing and wash before use.

**GHS Storage and Disposal Phrases**

P403+233: Store in a well-ventilated place. Keep container tightly closed.

P501: Dispose of contents / container in a safe way in accordance with all federal, state and local regulations.

**Emergency Overview**

Flammable Liquid, Target organ effect, Harmful by ingestion, extremely destructive to mucous membranes and upper respiratory tract. Causes skin burns.

May form Explosive Peroxides.

Target Organs

Kidney, Liver, Central Nervous System, Bone Marrow, Eyes

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

Product Name	CAS #	EC-No	Concentration	M.W.	Formula
Phenoxyacetic Anhydride	14316-61-1	N/A	10%	286.3 g/mol	C <sub>16</sub> H <sub>14</sub> O <sub>5</sub>
Pyridine	110-86-1	203-809-9	10%	79.1 g/mol	C <sub>5</sub> H <sub>5</sub> N
Tetrahydrofuran	109-99-9	203-726-8	80%	72.1 g/mol	C <sub>4</sub> H <sub>8</sub> O

**SECTION 4. FIRST AID MEASURES****Emergency and First Aid Procedures****If inhaled:**

Remove to fresh air.

If not breathing, give artificial respiration. Get medical attention.

**In case of skin contact:**

Immediately wash skin with soap and plenty of water. Remove contaminated clothing.

Wash clothing before reuse. Get medical attention.

**If swallowed:**

Rinse mouth with water. Do not induce vomiting. Get medical attention.

**If in contact with eyes:**

Rinse cautiously with water for several minutes. Remove contact lenses if present and safe to do so.

Continue rinsing. Get medical attention.

**Signs and Symptoms of Exposure**

Acute exposure: Severe headache, Marked decrease in white blood cell count, Redness and inflammation of the eyes and eyelids; Coughing, Sneezing, Difficult breathing, Central Nervous System depression, Anesthetic effects.

**Treatment**

Treat symptomatically and supportively.

**SECTION 5. FIRE FIGHTING MEASURES****Suitable Extinguishing Media**

Use a Class A Extinguisher (Dry chemical, carbon dioxide, water or foam). For large fires, apply water from as far away as possible. Use very large quantities of water applied as mist or spray. Cool all affected containers with flooding quantities of water.

**Special protective equipment for fire fighters**

Wear self-contained breathing apparatus (SCBA) for firefighting if necessary. Wear protective clothing to prevent contact with skin and eyes.

#### **Flammable Properties and Hazards**

Highly flammable liquid and vapor. Vapor may travel distances to sources of ignition.

Flash Point: No data

### **SECTION 6. ACCIDENTAL RELEASE MEASURES**

#### **Personal Precautions**

Avoid breathing vapors. Evacuate personnel to safe areas.

#### **Protective equipment**

Use personal protective equipment. Avoid contact with skin, eyes, and clothing.

#### **Emergency procedures**

Remove all sources of ignition. Vapors may travel distances to sources of ignition.

Ensure adequate ventilation.

#### **Methods and Material for containment and cleaning up.**

Absorb spillage with sand, absorbent pads. Do not let product enter the drain. Wear impermeable gloves, safety glasses and a lab coat when cleaning up the spill. Dispose of absorbent and spillage in compliance with local and state regulations.

### **SECTION 7: HANDLING AND STORAGE**

#### **Precautions To Be Taken in Handling**

Handle using safe laboratory practices. Avoid all direct contact. Use explosion proof equipment. Keep away from sources of ignition – No Smoking. Take measures to prevent the build up of electrostatic charges.

#### **Recommended Storage**

Controlled room temperature.

#### **Precautions To Be Taken in Storing**

Keep container tightly closed. Store in well-ventilated place.

#### **Other Precautions**

Protect from sunlight.

### **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

<b>Product Name</b>	<b>CAS #</b>	<b>OSHA PEL (TWA)</b>	<b>ACGIH TLV</b>	<b>OSHA (STEL)</b>
Tetrahydrofuran	109-99-9	200 ppm	50 ppm	250 ppm
Phenoxyacetic Anhydride	14316-61-1	N/A	N/A	N/A
Pyridine	110-86-1	5 ppm	1 ppm	N/A

#### **Engineering Controls (Ventilation etc.)**

Local exhaust ventilation is usually sufficient.

#### **Respiratory Equipment (Specify Type)**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi- purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Eye Protection**

Safety glasses with side shields. Wear splash resistant goggles or face shield if splashes are likely to occur.

**Protective Gloves**

Impermeable, chemically resistant gloves.

**Other Protective Clothing**

Lab coat, chemical resistant lab coat, protective chemical suit, based on risk assessment of activities.

**Work/Hygienic/Maintenance Practices**

Wash hands after handling. Do not eat, drink, or smoke when using this product.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical State:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance:	Liquid, clear to yellow color.
Odor:	Pungent, sweet, ether-like odor
Odor Threshold:	No data
pH:	No data
Melting Point:	No data
Initial Boiling Point and Boiling Range:	No data
Flash Point:	No data
Specific Gravity:	0.92 g/mL
Evaporation Rate:	No data
Flammability:	Highly flammable
Explosive Limits:	LEL: No data UEL: No data
Vapor Pressure (vs. Air or mm Hg):	No data
Vapor Density (vs. Air = 1):	No data
Solubility in Water:	Fully soluble
Partition Coefficient (n-octanol/water):	LogPow: No data
Auto-ignition Temperature:	No data
Decomposition Temperature:	No data
Viscosity:	No data
Percent Volatile:	No data
Compound Density	0.928 g/ml

**SECTION 10. STABILITY AND REACTIVITY****Reactivity**

Stable material, hazardous polymerization will not occur.

**Chemical Stability:**      Unstable       Stable

**Possibility of Hazardous Reactions:**

Vapors may form explosive mixture with air.

**Conditions To Avoid - Instability**

Heat, flames, and sparks. Extremes of temperature and direct sunlight. Avoid exposure to moisture or water.

**Incompatibility - Materials To Avoid**

Oxidizing agents, Oxygen, Acids, Alcohols, Bases, and Powdered Metals. May attack plastics, rubber, and coatings.

**Hazardous Decomposition or Byproducts**

Oxides of carbon and nitrogen. Contains BHT stabilizer

**SECTION 11. TOXICOLOGICAL INFORMATION****Route(s) of Entry:**

Inhalation? Yes      Skin? Yes      Eyes? Yes      Ingestion? Yes

**Acute Toxicity**

No data

**Skin corrosion/irritation**

Serious skin burns

**Serious eye damage/ eye irritation**

Serious eye damage

**Respiratory or skin sensitization**

No data available

**Germ Cell mutagenicity**

No data available

<b>Carcinogenicity</b>				
<b>Product Name</b>	<b>CAS #</b>	<b>NTP</b>	<b>IARC</b>	<b>OSHA</b>
Tetrahydrofuran	109-99-9	Not listed	Not listed	Not listed
Phenoxyacetic Anhydride	14316-61-1	Not listed	Not listed	Not listed
Pyridine	110-86-1	Not listed	Group 3	Not listed

Confirmed animal carcinogen with unknown relevance to humans (Tetrahydrofuran).

**Reproductive toxicity**

No data available

**Specific target organ toxicity – single exposure (GHS)**

May cause respiratory irritation

**Specific target organ toxicity – repeated exposure (GHS)**

No data available

**Aspiration hazard**

No

**Medical Conditions Generally Aggravated By Exposure**

No data available.

To the best of our knowledge, the toxicological properties of this substance have not been investigated. This product should be handled with the usual care when dealing with chemicals.

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity**

Pimephales promelas (fathead minnow) 96-hour LC50 2,160mg/L (Tetrahydrofuran)

Pimephales promelas (fathead minnow) 96-hour LC50 93.8mg/L (Pyridine)

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available.

**Mobility in soil**

No data available

**Other adverse effects**

No data available

### SECTION 13. DISPOSAL CONSIDERATIONS

#### Waste Disposal Method

Observe all federal, state and local regulations. For Contaminated Packaging - dispose of in compliance with regulations. Contact a licensed professional waste disposal service for proper disposal. Burn in a chemical incinerator equipped with afterburner and scrubber.

### SECTION 14. TRANSPORT INFORMATION

#### LAND TRANSPORT (49CFR)

UN Number – UN1993, Class 3, Packing Group II  
Proper Shipping Name: Flammable Liquid N.O.S. (Tetrahydrofuran, Pyridine)  
Reportable Quantity (RQ) 1000 lbs  
Marine Pollutant: No  
Poison Inhalation Hazard (PIH): No

#### AIR TRANSPORT (ICAO/IATA)

UN Number – UN1993, Class 3, Packing Group II  
Proper Shipping Name: Flammable Liquid N.O.S. (Tetrahydrofuran, Pyridine)

#### MARINE TRANSPORT (IMDG/IMO)

UN Number – UN1993, Class 3, Packing Group II,  
EMS-No: F-E, S-E  
Proper Shipping Name: Flammable Liquid N.O.S. (Tetrahydrofuran, Pyridine)  
Marine Pollutant: No

### SECTION 15. REGULATORY INFORMATION

#### SARA 302 Components

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

#### SARA 313 Components

Pyridine 110-86-1

#### SARA 311/312

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

#### Massachusetts Right to Know Components

Tetrahydrofuran 109-99-9

Pyridine 110-86-1

#### Pennsylvania Right to Know Components

Tetrahydrofuran 109-99-9

Phenoxyacetic Anhydride 14316-61-1

Pyridine 110-86-1

#### New Jersey Right to Know Components

Tetrahydrofuran 109-99-9

Phenoxyacetic Anhydride 14316-61-1

Pyridine 110-86-1

#### California Prop. 65 Components

Warning! This product contains a chemical known to the State of California to cause cancer. Pyridine 110-86-1

**SECTION 16. OTHER INFORMATION**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. ChemGenes India Pvt. Ltd. shall not be held liable for any damage resulting from handling or from contact with the above product.

-----End of MSDS-----