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MSDS Number: **I0080** \* \* \* \* \* *Effective Date: 09/07/05* \* \* \* \* \* *Supersedes: 05/08/03*

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# IMIDAZOLE

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## 1. Product Identification

**Synonyms:** Glyoxaline; Iminazole; 1,3-Diaza-2,4-cyclopentadiene

**CAS No.:** 288-32-4

**Molecular Weight:** 68.08

**Chemical Formula:** C<sub>3</sub>H<sub>4</sub>N<sub>2</sub>

**Product Codes:**

J.T. Baker: N811

Mallinckrodt: 4337

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## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Hazardous		
-----	-----	-----
Imidazole	288-32-4	90 - 100%
Yes		

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## 3. Hazards Identification

### Emergency Overview

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**DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED.**

**SAF-T-DATA<sup>(tm)</sup>** Ratings (Provided here for your convenience)

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Health Rating: 3 - Severe

Flammability Rating: 1 - Slight

Reactivity Rating: 0 - None

Contact Rating: 3 - Severe (Corrosive)

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES

Storage Color Code: White (Corrosive)

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## Potential Health Effects

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Information on the human health effects from exposure to this substance is limited.

### **Inhalation:**

Extremely destructive to tissues of the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.

### **Ingestion:**

Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach, leading to death. Can cause sore throat, vomiting, diarrhea.

### **Skin Contact:**

Corrosive. Symptoms of redness, pain, and severe burn can occur.

### **Eye Contact:**

Corrosive. Can cause blurred vision, redness, pain, severe tissue burns and eye damage. Can cause blindness.

### **Chronic Exposure:**

Chronic exposure may cause respiratory system effects. Chronic exposure may cause skin effects.

### **Aggravation of Pre-existing Conditions:**

Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance.

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## 4. First Aid Measures

### **Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

### **Ingestion:**

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

### **Skin Contact:**

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse. DO NOT APPLY GREASES OR OINTMENTS!

### **Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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## 5. Fire Fighting Measures

### **Fire:**

Flash point: 146C (295F) CC

### **Explosion:**

Above the flash point, explosive vapor-air mixtures may be formed.

### **Fire Extinguishing Media:**

Water spray, dry chemical, alcohol foam, or carbon dioxide.

### **Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

## 6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

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## 7. Handling and Storage

Keep in a tightly closed container. Store in a cool, dry, ventilated area away from sources of heat or ignition. Protect against physical damage. Store separately from reactive or combustible materials, and out of direct sunlight. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

### **Airborne Exposure Limits:**

None established.

### **Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

### **Personal Respirators (NIOSH Approved):**

For conditions of use where exposure to the dust or mist is apparent, a half-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

### **Skin Protection:**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

### **Eye Protection:**

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

### **Appearance:**

White flakes.

### **Odor:**

No information found.

### **Solubility:**

Soluble in water.

### **Specific Gravity:**

0.60

**pH:**

No information found.

**% Volatiles by volume @ 21C (70F):**

0

**Boiling Point:**

256C (493F)

**Melting Point:**

89 - 91C (192 - 196F)

**Vapor Density (Air=1):**

No information found.

**Vapor Pressure (mm Hg):**

No information found.

**Evaporation Rate (BuAc=1):**

No information found.

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## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**

Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides.

**Hazardous Polymerization:**

This substance does not polymerize.

**Incompatibilities:**

Strong oxidizers.

**Conditions to Avoid:**

Heat, flames, ignition sources and incompatibles.

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## 11. Toxicological Information

Imidazole: Oral rat LD50: 220 mg/Kg. Investigated as a mutagen, reproductive effector.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
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Imidazole (288-32-4)	No	No	None

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## 12. Ecological Information

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

### Domestic (Land, D.O.T.)

**Proper Shipping Name:** CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. (IMIDAZOLE)

**Hazard Class:** 8

**UN/NA:** UN3263

**Packing Group:** III

**Information reported for product/size:** 5KG

### International (Water, I.M.O.)

**Proper Shipping Name:** CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. (IMIDAZOLE)

**Hazard Class:** 8

**UN/NA:** UN3263

**Packing Group:** III

**Information reported for product/size:** 5KG

## 15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----
Ingredient                                TSCA   EC     Japan  Australia
-----
Imidazole (288-32-4)                    Yes    Yes    Yes
Yes
```

```
-----\Chemical Inventory Status - Part 2\-----
Ingredient                                Korea  --Canada--
                                DSL    NDSL    Phil.
-----
Imidazole (288-32-4)                    Yes    Yes    No     Yes
```

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-----\Federal, State & International Regulations - Part 1\-----
Ingredient                                -SARA 302-    -----SARA 313-----
                                RQ    TPQ    List    Chemical Catg.
-----
Imidazole (288-32-4)                    No    No     No     No
```

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-----\Federal, State & International Regulations - Part 2\-----
                                -RCRA-    -TSCA-
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Ingredient	CERCLA	261.33	8(d)
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Imidazole (288-32-4)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No  
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No  
Reactivity: No (Pure / Solid)

**Australian Hazchem Code:** None allocated.

**Poison Schedule:** None allocated.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

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## 16. Other Information

**NFPA Ratings:** Health: **3** Flammability: **1** Reactivity: **0**

**Label Hazard Warning:**

DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED.

**Label Precautions:**

Do not get in eyes, on skin, or on clothing.

Wash thoroughly after handling.

Do not breathe dust.

Use only with adequate ventilation.

Keep container closed.

**Label First Aid:**

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In all cases get medical attention immediately.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

MSDS Section(s) changed since last revision of document include: 1, 3.

**Disclaimer:**

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**Prepared by:** Environmental Health & Safety

Phone Number: (314) 654-1600 (U.S.A.)