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**MSDS**

**Material Safety Data Sheet**

from: Mallinckrodt Baker, Inc.  
222 Red School Lane  
Plympton, NJ 09855

**MALLINCKRODT**



24 Hour Emergency Telephone: 800-368-2151  
CHEMTREC: 1-800-426-9000

National Response In Canada  
CANUTEC: 015-887-4000

Outside U.S. and Canada  
Chemtreat 202 486 7816

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of an acute emergency involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service : 1-800-588-2537 for assistance

## 5-DIPHENYLCARBAZONE

SDS Number: D7808 --- Effective Date: 12/08/96

### Product Identification

**Synonyms:** Phenylazoformic acid 2-Phenylhydrazide, compounded with 1, 5-Diphenylcarbazide;  
Diazene-carboxylic acid, phenyl-,2-phenylhydrazide compounded with carbonic dihydrazide, 2, 2'-diphenyl-; sym-Diphenylbarbazone

**CAS No.:** Not applicable to mixtures.

**Molecular Weight:** 482.54

**Chemical Formula:** C<sub>6</sub>H<sub>5</sub>NHNHCO:NC<sub>6</sub>H<sub>5</sub> and C<sub>6</sub>H<sub>5</sub>NHNHCONHNHC<sub>6</sub>H<sub>5</sub>

**Product Codes:** J.T. Baker: K617 Mallinckrodt: 1841

### Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Diphenylcarbazone	538-62-5	> 50%	Yes
1,5-Diphenylcarbazide	140-22-7	< 50%	Yes

### Hazards Identification

#### Emergency Overview

**WARNING! MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN.  
MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.**

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

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**Health Rating: 2 - Moderate**

**Flammability Rating: 1 - Slight**

**Reactivity Rating: 1 - Slight**

**Contact Rating: 2 - Moderate**

**Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES**

**Storage Color Code: Orange (General Storage)**

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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:**

No information found, but compound should be handled as a potential health hazard. Inhalation of dust may be irritating to the respiratory tract. Symptoms may include sore throat, coughing, and labored breathing.

**Ingestion:**

No information found, but compound should be handled as a potential health hazard. May cause irritation to the mouth and gastrointestinal tract. Other effects from exposure are not known.

**Skin Contact:**

No information found, but compound should be handled as a potential health hazard. May cause irritation with redness and pain. May be absorbed through the skin with possible systemic effects.

**Eye Contact:**

No information found, but compound should be handled as a potential health hazard. May cause irritation, redness and pain.

**Chronic Exposure:**

No information found.

**Aggravation of Pre-existing Conditions:**

No information found.

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**First Aid Measures**

**Inhalation:**

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

**Ingestion:**

Give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin Contact:**

Remove any contaminated clothing. Wash skin with soap or mild detergent and water for at least 15 minutes. Get medical attention if irritation develops or persists.

**Eye Contact:**

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

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## . Fire Fighting Measures

**Fire:**

As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

**Explosion:**

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.

**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.

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## . 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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## . Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from any source of heat or ignition. 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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## . 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 protective gloves and clean body-covering clothing.

**Eye Protection:**

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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## **. Physical and Chemical Properties**

**Appearance:**

Bulky, orange, crystalline powder.

**Odor:**

Odorless.

**Solubility:**

Insoluble in water.

**Specific Gravity:**

No information found.

**pH:**

No information found.

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

0

**Boiling Point:**

Not applicable.

**Melting Point:**

154 - 161C (309 - 322F)

**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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## 0. 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:**

No information found.

**Incompatibilities:**

Strong oxidizers.

**Conditions to Avoid:**

Heat, light, dusting and incompatibles.

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## 1. Toxicological Information

Investigated as a mutagen. No LD50/LC50 information found relating to normal routes of occupational exposure.

-----\Cancer Lists\-----

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
1,5-Diphenylcarbazine (140-22-7)	No	No	None
Diphenylcarbazone (538-62-5)	No	No	None

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## 2. Ecological Information

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

### 3. 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.

### 4. Transport Information

Not regulated.

### 5. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
1,5-Diphenylcarbazine (140-22-7)	Yes	Yes	Yes	Yes
Diphenylcarbazone (538-62-5)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----				
Ingredient	Korea	--Canada--		Phil.
		DSL	NDSL	
1,5-Diphenylcarbazine (140-22-7)	Yes	Yes	No	Yes
Diphenylcarbazone (538-62-5)	No	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
1,5-Diphenylcarbazine (140-22-7)	No	No	No	No
Diphenylcarbazone (538-62-5)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----			
Ingredient	CERCLA	-RCRA-	-TSCA-
		261.33	8 (d)
1,5-Diphenylcarbazine (140-22-7)	No	No	No
Diphenylcarbazone (538-62-5)	No	No	No

Chemical Weapons Convention: No      TSCA 12(b): No      CDTA: No  
RA 311/312: Acute: Yes      Chronic: No      Fire: No      Pressure: No  
Activity: No      (Mixture / Solid)

**Australian Hazchem Code: No information found.**

**Poison Schedule:** No information found.

**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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## 6. Other Information

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

**Label Hazard Warning:**

WARNING! MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

**Label Precautions:**

Avoid breathing dust. Avoid contact with eyes, skin and clothing. Use with adequate ventilation. Keep container closed. Wash thoroughly after handling.

**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, give large amounts of water to drink. Never give anything by mouth to an unconscious person. In all cases, get medical attention.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

Mixture. New 16 section MSDS format, all sections have been revised.

**Disclaimer:**

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