

# Material Safety Data Sheet

<b>NFPA</b>	<b>HMS</b>	<b>Personal Protective Equipment</b>						
	<table border="1" style="margin: auto;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center; border: 1px solid black;">3</td> </tr> <tr> <td style="background-color: #FFC0CB;">Fire Hazard</td> <td style="text-align: center; border: 1px solid black;">1</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center; border: 1px solid black;">0</td> </tr> </table>	Health Hazard	3	Fire Hazard	1	Reactivity	0	
Health Hazard	3							
Fire Hazard	1							
Reactivity	0							
		See Section 15.						

<b>Section 1. Chemical Product and Company Identification</b>		<i>Page Number: 1</i>
<b>Common Name/Trade Name</b>	<b>N,N'-Dicyclohexylcarbodiimide</b>	
<b>Manufacturer</b>	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	
<b>Commercial Name(s)</b>	DCC; DCCD; DCCI	
<b>Synonym</b>	1,3-Dicyclohexylcarbodiimide; Bis(cyclohexyl)carbodiimide; Cyclohexamine, N,N-methanetetraylbis-; Dicyclohexylcarbodiimide; N,N-Methanetetrayl biscyclohexanamine	
<b>Chemical Name</b>	Carbodiimide, dicyclohexyl-	
<b>Chemical Family</b>	Not available.	
<b>Chemical Formula</b>	C <sub>13</sub> H <sub>22</sub> N <sub>2</sub>	
<b>Supplier</b>	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	
	<b>Catalog Number(s)</b>	D2122
	<b>CAS#</b>	538-75-0
	<b>RTECS</b>	FF2160000
	<b>TSCA</b>	TSCA 8(b) inventory: N,N-Dicyclohexylcarbodiimide
	<b>CI#</b>	Not available.
<b><u>IN CASE OF EMERGENCY</u></b> <b><u>CHEMTREC (24hr) 800-424-9300</u></b>		
CALL (310) 516-8000		

<b>Section 2. Composition and Information on Ingredients</b>					
Name	CAS #	<i>Exposure Limits</i>			% by Weight
		TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )	CEIL (mg/m <sup>3</sup> )	
1) {N,N-}Dicyclohexylcarbodiimide	538-75-0				100
<b>Toxicological Data on Ingredients</b>					
<b>N,N-Dicyclohexylcarbodiimide:</b> ORAL (LD50): Acute: 400 mg/kg [Rat (RTECS)]. >800 mg/kg [Mouse]. 1110 mg/kg [Rat (Merck)]. DERMAL (LD50): Acute: 71 mg/kg [Rabbit (Merck)]. DUST (LC50): Acute: 159 mg/m <sup>3</sup> 6 hours [Rat].					

**Section 3. Hazards Identification**

<b>Potential Acute Health Effects</b>	Very hazardous in case of skin contact (irritant, permeator), of eye contact (irritant). Hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (sensitizer). Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
<b>Potential Chronic Health Effects</b>	Slightly hazardous in case of skin contact (sensitizer). <b>CARCINOGENIC EFFECTS:</b> Not available. <b>MUTAGENIC EFFECTS:</b> Not available. <b>TERATOGENIC EFFECTS:</b> Not available. <b>DEVELOPMENTAL TOXICITY:</b> Not available. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

**Section 4. First Aid Measures**

<b>Eye Contact</b>	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
<b>Skin Contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
<b>Serious Skin Contact</b>	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
<b>Serious Inhalation</b>	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. <b>WARNING:</b> It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
<b>Ingestion</b>	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
<b>Serious Ingestion</b>	Not available.

**Section 5. Fire and Explosion Data**

<b>Flammability of the Product</b>	May be combustible at high temperature.
<b>Auto-Ignition Temperature</b>	Not available.
<b>Flash Points</b>	CLOSED CUP: >110°C (230°F).
<b>Flammable Limits</b>	Not available.
<b>Products of Combustion</b>	These products are carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO, NO <sub>2</sub> ...).
<b>Fire Hazards in Presence of Various Substances</b>	Slightly flammable to flammable in presence of open flames and sparks, of heat.
<b>Explosion Hazards in Presence of Various Substances</b>	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
<b>Fire Fighting Media and Instructions</b>	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
<b>Special Remarks on Fire Hazards</b>	Not available.
<b>Special Remarks on Explosion Hazards</b>	Not available.

**Section 6. Accidental Release Measures**

<b>Small Spill</b>	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
<b>Large Spill</b>	Poisonous solid. Stop leak if without risk. If the product is in its solid form: Use a shovel to put the material into a convenient waste disposal container. If the product is in its liquid form: Do not get water inside container. Absorb with an inert material and put the spilled material in an appropriate waste disposal. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas, dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

**Section 7. Handling and Storage**

<b>Precautions</b>	Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.
<b>Storage</b>	Keep container tightly closed. Keep container in a cool, well-ventilated area.

**Section 8. Exposure Controls/Personal Protection**

<b>Engineering Controls</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
<b>Personal Protection</b>	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
<b>Personal Protection in Case of a Large Spill</b>	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
<b>Exposure Limits</b>	Not available.

**Section 9. Physical and Chemical Properties**

<b>Physical state and appearance</b>	Solid. (Low melting point solid)	<b>Odor</b>	Not available.
<b>Molecular Weight</b>	206.33 g/mole	<b>Taste</b>	Not available.
<b>pH (1% soln/water)</b>	Not applicable.	<b>Color</b>	Colorless. White.
<b>Boiling Point</b>	153.89°C (309°F) @ 11mmHg		
<b>Melting Point</b>	33°C (91.4°F) - 36 C.		
<b>Critical Temperature</b>	Not available.		
<b>Specific Gravity</b>	1.325 (Water = 1)		
<b>Vapor Pressure</b>	Not applicable.		
<b>Vapor Density</b>	Not available.		
<b>Volatility</b>	Not available.		
<b>Odor Threshold</b>	Not available.		
<b>Water/Oil Dist. Coeff.</b>	Not available.		
<b>Ionicity (in Water)</b>	Not available.		
<b>Dispersion Properties</b>	Not available.		
<b>Solubility</b>	Insoluble in cold water, hot water.		

**Section 10. Stability and Reactivity Data**

<b>Stability</b>	The product is stable.
<b>Instability Temperature</b>	Not available.
<b>Conditions of Instability</b>	Excess heat, incompatible materials
<b>Incompatibility with various substances</b>	Reactive with oxidizing agents
<b>Corrosivity</b>	Non-corrosive in presence of glass.
<b>Special Remarks on Reactivity</b>	Not available.
<b>Special Remarks on Corrosivity</b>	Not available.
<b>Polymerization</b>	Will not occur.

**Section 11. Toxicological Information**

<b>Routes of Entry</b>	Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
<b>Toxicity to Animals</b>	Acute oral toxicity (LD50): 400 mg/kg [Rat (RTECS)]. Acute dermal toxicity (LD50): 71 mg/kg [Rabbit (Merck)]. Acute toxicity of the dust (LC50): 159 mg/m <sup>3</sup> 6 hours [Rat].
<b>Chronic Effects on Humans</b>	Not available.
<b>Other Toxic Effects on Humans</b>	Very hazardous in case of skin contact (irritant, permeator). Hazardous in case of skin contact (sensitizer), of ingestion, of inhalation.
<b>Special Remarks on Toxicity to Animals</b>	Lethal Dose/Conc 50% Kill: LD50 [Guinea Pig] - Route: Skin; Dose: 10 mL/kg
<b>Special Remarks on Chronic Effects on Humans</b>	Not available.
<b>Special Remarks on other Toxic Effects on Humans</b>	Acute Potential Health Effects Skin: Causes severe irritation. It can be absorbed through the skin. Toxic if absorbed through the skin. Eyes: Causes severe irritation. Inhalation: Harmful if inhaled. Causes respiratory tract irritation and lacrimation. Symptoms may include nausea, vomiting, headache, coughing, wheezing, laryngitis, shortness of breath, inflammation, edema and chemical pneumonitis. Ingestion: Harmful if swallowed. Causes digestive/gastrointestinal tract irritation (irritation of the mouth, pharynx, esophagus and gastrointestinal tract), nausea, hypermotility, diarrhea. It may also affect hair, behavior/nervous system (muscle weakness, headache, convulsions), respiration (dyspnea, cyanosis). Chronic Potential Health Effects Skin: Prolonged or repeated skin contact may cause sensitization, an allergic reaction. Chronic Potential Health Effects Skin: Prolonged or repeated skin contact may cause skin sensitization, an allergic reaction.

**Section 12. Ecological Information**

<b>Ecotoxicity</b>	Not available.
<b>BOD5 and COD</b>	Not available.
<b>Products of Biodegradation</b>	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
<b>Toxicity of the Products of Biodegradation</b>	The products of degradation are less toxic than the product itself.

**Special Remarks on the Products of Biodegradation** Not available.

**Section 13. Disposal Considerations**

**Waste Disposal** Waste must be disposed of in accordance with federal, state and local environmental control regulations.

**Section 14. Transport Information**

**DOT Classification** CLASS 6.1: Poisonous material.

**Identification** UNNA: 2811 : Toxic Solid, organic, n.o.s (N,N-Dicyclohexylcarbodiimide) PG: II

**Special Provisions for Transport** Not available.

**DOT (Pictograms)**



**Section 15. Other Regulatory Information and Pictograms**

**Federal and State Regulations** TSCA 8(b) inventory: N,N-Dicyclohexylcarbodiimide

**California Proposition 65 Warnings** California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.  
California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

**Other Regulations** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).  
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 208-704-1).  
Canada: Listed on Canadian Domestic Substance List (DSL).  
China: Listed on National Inventory.  
Japan: Listed on National Inventory (ENCS).  
Korea: Listed on National Inventory (KECI).  
Philippines: Listed on National Inventory (PICCS).  
Australia: Listed on AICS.

**Other Classifications**

**WHMIS (Canada)** CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).  
CLASS D-2B: Material causing other toxic effects (TOXIC).

**DSCL (EEC)** R22- Harmful if swallowed. R24- Toxic in contact with skin. R41- Risk of serious damage to eyes. R43- May cause sensitization by skin contact.  
S24- Avoid contact with skin. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S37/39- Wear suitable gloves and eye/face protection. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**HMS (U.S.A.)**

Health Hazard	3
Fire Hazard	1
Reactivity	0
Personal Protection	E

**National Fire Protection Association (U.S.A.)**

Health Flammability  
Reactivity  
Specific hazard

WHMIS (Canada)  
(Pictograms)



DSCL (Europe)  
(Pictograms)



TDG (Canada)  
(Pictograms)



ADR (Europe)  
(Pictograms)



**Protective Equipment**



Gloves



Lab coat.



Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.



Splash goggles.

**Section 16. Other Information**

MSDS Code 5125D

References Not available.

Other Special Considerations Not available.

Validated by Sonia Owen on 10/30/2008.

Verified by Sonia Owen.  
Printed 11/10/2008.

CALL (310) 516-8000

[Notice to Reader](#)

*All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.*